

CITY OF SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

AGENDA REGULAR MEETING BOARD OF WATER COMMISSIONERS Tuesday, MAY 17, 2016 – 9:30 a.m. MARGARET H. CHANDLER WATER RECLAMATION PLANT 399 CHANDLER PLACE San Bernardino, California

BOARD OF WATER COMMISSIONERS

TONI CALLICOTT
President

Commissioners
LOUIS A. FERNANDEZ
WAYNE HENDRIX, P.E.
JUDITH VALLES
DAVID E. MLYNARSKI



STACEY R. ALDSTADT
General Manager
ROBIN L. OHAMA
Deputy General Manager
MIGUEL GUERRERO, P.E.
Director of Water Utility
JOHN A. CLAUS
Director of Water Reclamation
TERRI WILLOUGHBY
Director of Finance
JENNIFER L. SHEPARDSON
Director of Environmental &
Regulatory Compliance

“Trusted, Quality Service since 1905”

Welcome to a meeting of the Board of Water Commissioners of the City of San Bernardino.

- The City of San Bernardino Municipal Water Department recognizes its obligation to provide equal access to those individuals with disabilities. Please contact the General Manager’s Office (909-384-5191) two working days prior to the meeting for any requests for reasonable accommodation, to include interpreters.
- All documents for public review are on file with the Water Department located on the 5th floor of City Hall, 300 North “D” Street, San Bernardino or may be accessed online at http://www.ci.san-bernardino.ca.us/water/newsalerts/agendas_n_minutes.asp
- Please turn off or mute your cell phone while the meeting is in session.
- Any member of the public desiring to speak to the Board of Water Commissioners concerning any matter not on the agenda, but which is within the subject matter jurisdiction of the Board of Water Commissioners, may address the body at the end of the meeting during the period reserved for public comments. Said total period for public comments shall not exceed forty-five (45) minutes, unless such time limit is extended by the Board of Water Commissioners. A three-minute limitation shall apply to each member of the public, unless such time limit is extended by the Board of Water Commissioners. No member of the public shall be permitted to “share” his/her three minutes with any other member of the public.
- The Board of Water Commissioners may refer any item raised by the public to staff for appropriate action or have the item placed on the next agenda of the Board of Water Commissioners. However, no other action shall be taken nor discussion held by the Board of Water Commissioners on any item which does not appear on the agenda unless the action is otherwise authorized in accordance with the provisions of subdivision (b) of Section 54954.2 of the Government Code.
- Public comments will not be received on any item on the agenda when a public hearing has been conducted and closed.

CALL TO ORDER: _____ a.m./p.m.

Attendee Name	Present	Absent	Late	Arrived
President Toni Callicott				
Commissioner Louis Fernández				
Commissioner Wayne Hendrix				
Commissioner Judith Valles				
Commissioner David E. Mlynarski				
General Manager Stacey Aldstadt				
Deputy General Manager Robin Ohama				
Director of WRP John Claus				
Director of WU Miguel Guerrero				
Director of Finance Terri Willoughby				
Director of ERC Jennifer Shepardson				

OTHERS:

1. CLOSED SESSION: _____ a.m./p.m.

Pursuant to Government Code Section(s):

- A. Conference with legal counsel – existing litigation – pursuant to paragraph (1) of subdivision (d) of Government Code Section 54956.9: *In Re City of San Bernardino, California*, United States Bankruptcy Court, Central District of California (Riverside), Case No. 6: 12-bk-28006-MJ. *City of San Bernardino v. San Bernardino Valley Municipal Water District, et al.*, San Bernardino County Superior Court Case No. CIVDS1605532.
- B. Conference with legal counsel – anticipated litigation – significant exposure to litigation pursuant to paragraph (2) or (3) of subdivision (d) of Government Code Section 54956.9.
- C. Conference with legal counsel – anticipated litigation – initiation of litigation – pursuant to paragraph (4) of subdivision (d) of Government Code Section 54956.9.
- D. Public Employment pursuant to Government Code Section 54957.
- E. Consultation with legal counsel and security consultant on matters posing a threat to the security of essential public services, including water, drinking water, and wastewater treatment pursuant to Government Code Section 54957.
- F. Conference with labor negotiator – pursuant to Government Code Section 54957.6.

**END OF CLOSED SESSION
RECONVENE MEETING**

CALL TO ORDER: _____ a.m./p.m.

Attendee Name	Present	Absent	Late	Arrived
President Toni Callicott				
Commissioner Louis Fernández				
Commissioner Wayne Hendrix				
Commissioner Judith Valles				
Commissioner David E. Mlynarski				
General Manager Stacey Aldstadt				
Deputy General Manager Robin Ohama				
Director of WRP John Claus				
Director of WU Miguel Guerrero				
Director of Finance Terri Willoughby				
Director of ERC Jennifer Shepardson				

OTHERS:

2. ANNOUNCEMENTS BY MEMBERS OF THE BOARD OF WATER COMMISSIONERS:
3. CONSENT CALENDAR

MOTION: That the motions indicated by consent calendar items 3A through 3E2 be adopted, except for _____.

MOTION: _____ SECONDED: _____

A. WAIVE FULL READING OF RESOLUTIONS

MOTION: That full reading of the resolutions on the regular or supplemental agendas of the Board of Water Commissioners be waived.

B. PAYROLL

MOTION: Approve the payroll for the pay period May 2, 2016 through May 15, 2016.

C. CONTRACTS AND BILLS

MOTION: Approve the payment of contracts and bills to be presented at this meeting.

D. MINUTES

MOTION: Approve the minutes of the meetings of May 3, 2016 of the Board of Water Commissioners.

E. PERSONNEL ACTIONS:

1. REVISED JOB DESCRIPTIONS FOR WATER RECLAMATION SENIOR OPERATOR, WATER RECLAMATION LEAD OPERATOR, AND WATER RECLAMATION RIX SUPERVISOR; AND RANGE CHANGES FOR WATER RECLAMATION CLASSIFICATIONS REQUIRING GRADE III CERTIFICATION OR HIGHER: The Board of Water Commissioners (Board) originally approved the job description for Water Reclamation Senior Operator on May 4, 1999; the job description for Water Reclamation Lead Operator was originally approved by the Board on May 18, 1999; and the job description for Water Reclamation RIX Supervisor was originally approved by the Board on June 1, 1999. The above job descriptions have not been reviewed/updated since their original approval dates. They have been revised to reflect the current format and to reflect current duties and terminology.

The department's Water Reclamation Plant (WRP) and the Rapid Infiltration and Extraction (RIX) facility are classified as Grade 5 (V) waste water treatment plants, and as such are required to have a Chief Plant Operator at a Grade V certification level with a Designated Operator-in-Charge at a Grade 3 (III) certification level or higher on duty. The Water Reclamation classifications requiring a Grade III or higher certification are: Water Reclamation Operations Manager/Water

Reclamation Operations Superintendent – Flex (Grade V); Water Reclamation Plant Supervisor (Grade V); Water Reclamation Process Control Supervisor (Grade IV); Water Reclamation RIX Supervisor (Grade III); Water Reclamation Lead Operator (Grade III); and Water Reclamation Senior Operator (Grade III).

Recent recruitments for these positions have either resulted in extremely small numbers of candidates or failed to produce any viable candidates, despite enlisting the services of a recruitment agency to assist with higher level classifications. Retention has also been an issue within most of these classifications.

Human Resources conducted a salary survey for the classifications and because the market for these positions is very competitive, other agencies provide incentives, and recruitment/retention has been a problem, it is recommended that the ranges be increased to a level higher than the average maximum indicated by the salary survey in order to become competitive and attract qualified candidates for these positions.

Staff recommends the Board make the following motions:

- Approve the revised job description for Water Reclamation Senior Operator (21807);
- Approve the revised job description for Water Reclamation Lead Operator (21804);
- Approve the revised job description for Water Reclamation RIX Supervisor (51811);
- Approve the Range change for Water Reclamation Operations Superintendent (51800) from Range 270 (\$8,280.98/mo to \$10,568.86/mo) to Range 276 (\$9,603.40/mo to \$12,256.64/mo);
- Approve the Range change for Water Reclamation Operations Manager – Flex (51803) from Range 268 (\$7,881.96/mo to \$10,059.59/mo) to Range 274 (\$9,140.65/mo to \$11,666.05/mo);
- Approve the Range change for Water Reclamation Plant Supervisor (51802) from Range 264 (\$7,140.66/mo to \$9,113.50/mo) to Range 266 (\$7,502.16/mo to \$9,574.87/mo);
- Approve the Range change for Water Reclamation RIX Supervisor (51811) from Range 262 (\$6,796.59/mo to \$8,674.36/mo) to Range 264 (\$7,140.66/mo to \$9,113.50/mo);
- Approve the Range change for Water Reclamation Process Control Supervisor (51801) from Range 259 (\$6,311.31/mo to \$8,055.00/mo) to Range 261 (\$6,630.81/mo to \$8,462.79/mo);

- Approve the Range change for Water Reclamation Lead Operator (21804) from Range 155 (\$5,347.54/mo to \$6,845.31/mo) to Range 159 (\$5,902.69/mo to \$7,555.94/mo); and
- Approve the Range change for Water Reclamation Senior Operator (21807) from Range 151 (\$4,844.61/mo to \$6,201.51/mo) to Range 157 (\$5,618.26/mo to \$7,191.85/mo).

2. REVISED JOB DESCRIPTION SCADA ANALYST AND RANGE CHANGES FOR SCADA AND ELECTRICAL/INSTRUMENTATION CLASSIFICATIONS:

The job description for SCADA Analyst was originally approved by the Board on July 8, 2003 and a revision was approved on October 2012. The job description has been revised to accurately reflect current duties and terminology.

The salaries for Electrical/Instrumentation Technician, Senior Electrical/Instrumentation Technician, Electrical/Instrumentation Lead Worker, and SCADA Analyst classifications were last reviewed on July 2004. Recent recruitments for these positions have either resulted in extremely small numbers of candidates or failed to produce any viable candidates, despite enlisting the services of a recruitment agency to assist with the SCADA Analyst classification. Retention has also been an issue within most of these classifications.

Human Resources conducted a salary survey for the classifications and determined that they are varying percentages below the average maximum. In addition, many of the survey agencies currently provide incentives to employees who hold certifications above what is required for their jobs and personnel in difficult to fill/retain positions.

Staff recommends the Board make the following motions:

- Electrical/Instrumentation Technician from Range 144 (\$4,075.60/mo to \$5,217.12/mo) to Range 153 (\$5,089.87/mo to \$6,515.46/mo);
- Senior Electrical/Instrumentation Technician from Range 148 (\$4,498.70/mo to \$5,758.72/mo) to Range 157 (\$5,618.26/mo to \$7,191.85/mo);
- Electrical/Instrumentation Lead Worker from Range 152 (\$4,965.73/mo to \$6,356.55/mo) to Range 161 (\$6,201.51/mo to \$7,938.46/mo);
- Electrical Repairperson from Range 135 (\$3,263.45/mo to \$4,177.49/mo) to Range 139 (\$3,602.24/mo to \$4,611.17/mo);
- Electrical/Instrumentation Supervisor from Range 259 (\$6,311.31/mo to \$8,055.00/mo) to Range 268 (\$7,881.96/mo to \$10,059.59/mo);
- SCADA/Instrumentation Supervisor from Range 259 (\$6,311.31/mo to \$8,055.00/mo) to Range 268 (\$7,881.96/mo to \$10,059.59/mo);

- EI&S Superintendent from Range 268 (\$7,881.96/mo to \$10,059.59/mo) to Range 274 (\$9,140.65/mo to \$11,666.05/mo);
- SCADA Analyst from Range 158 (5,758.72/mo to \$7,371.65/mo) to Range 163 (\$6,515.46/mo to \$8,340.34/mo).

MOTION: Approve the Personnel Actions as submitted.

END OF CONSENT CALENDAR

4. ADDITIONS TO THE AGENDA: (if any) in accordance with Section 54954.2 (b) (2) of the Government Code (Brown Act), a two-thirds vote (or a unanimous vote if less than two-thirds are present) is required to add an item for action provided that there is a need to take immediate action and that the need for action came to the attention of the agency after the agenda was posted.

MOTION: Approve an additional item(s) to be added to the agenda in accordance with Government Code Section 54954.2(b) (2).

MOTION:_____ SECONDED:_____

5. ADOPTION OF CEQA CATEGORICAL EXEMPTION FOR BELLEVIEW STREET AND VINE STREET ALLEY MAINS REPLACEMENT PROJECT (CO 10636): The Belleview Street and Vine Street Alley Mains Replacement Project (Project) is a proposed Capital Improvement Project (CIP) in Fiscal Year 2016/17 to replace aging and undersized alleyway mains located north and south of Belleview Street and Vine Street. Replacement and relocation of these alleyway mains will eliminate the need for Water Department staff to enter the alleys. Approved water improvement plans have been produced with a total pipeline replacement length of approximately 2,340 linear feet of new 8” ductile iron pipeline and 1,050 linear feet of new 12” ductile iron pipeline.

Staff has reviewed the project as required by the California Environmental Quality Act (CEQA) and determined that the proposed improvements are Categorically Exempt as outlined in Section 15302 of the CEQA Guidelines.

The Belleview Street and Vine Street Alley Mains Replacement Project is proposed to be funded with \$1,000,000.00 in the Fiscal Year 2016/17 CIP budget. Sufficient funds are available to complete processing of the CEQA documentation.

MOTION: Adopt a Categorical Exemption as the CEQA determination for the Belleview Street and Vine Street Alley Mains Replacement Project; authorize the General Manager to execute the Notice of Exemption, and instruct staff to file the Notice of Exemption with the San Bernardino County Clerk of the Board of Supervisors and the State Clearinghouse Office of Planning and Research.

MOTION:_____ SECONDED:_____

6. EXTENSION NO. 2 TO CONTRACT NO. 1584 – PLAN CHECK AND INSPECTION AGREEMENTS: The Department utilizes outside consultants to perform plan check services and to inspect infrastructure installed through agreements with developers. The costs for these services are borne by the project applicant and are collected by the Department in accordance with Rule and Regulation No. 20, prior to initiation of any services.

The Board of Water Commissioners entered into a two (2) year contract, Contract No. 1584, with AEI-CASC Consulting, Inc., Engineering Resources of Southern California, Inc., and TKE Engineering, Inc., for Plan Check and Inspection Services on May 7, 2013. This contract had a provision for three (3) additional one (1) year extensions. Extension No. 1 expires on May 31, 2016. All three firms have provided excellent service, and have agreed to extend the contract for one year under the same terms and conditions.

MOTION: Approve Extension No. 2 to Contract No. 1584 with AEI-CASC Consulting, Inc., Engineering Resources of Southern California, Inc., and TKE Engineering, Inc., extending the contract from June 1, 2016 to May 31, 2017, under the same terms and conditions; authorize the President and Secretary to execute the extensions.

MOTION: _____ SECONDED: _____

7. REQUEST TO TRANSFER FUNDS FROM SLUDGE THICKENING & DEWATERING SYSTEM ENHANCEMENT PROJECT (CO 00188) TO WATER RECLAMATION PLANT FACILITIES ASPHALT REHABILITATION PROJECT (CO 00181): In October 2015, the Board entered into Contract 1641 with Hillcrest Contracting, Inc. (Hillcrest) for the work associated with the Water Reclamation Plant (WRP) Facilities Asphalt Rehabilitation Project. At bid time, unit costs were received for items that were anticipated to have increased quantities based upon actual field conditions.

In February 2016, Hillcrest completed the grinding of the front and rear parking lots at WRP. The underlying asphalt was severely damaged, and in order to remedy the problem, the department directed Hillcrest to remove and replace an additional two thousand two hundred and forty-five (2,245) square feet of asphalt at the established unit cost. As a result, a budget transfer of \$20,000.00 is necessary for the additional costs that were anticipated but not quantifiable until construction had commenced.

There are available funds for the proposed transfer from the following project: *Sludge Thickening and Dewatering System Enhancement Project (CO 00188)*, which has been delayed and will not be constructed until the FY 2016/2017 budget cycle.

MOTION: Approve the capital budget transfer in the amount of \$20,000.00 from the Sewer Fund capital project titled *Sludge Thickening and Dewatering System Enhancement Project (CO 00188)* to capital project titled *Facilities Asphalt Rehabilitation (CO 00181)*.

MOTION: _____ SECONDED: _____

8. CONTRACT NO. 1630 – CANYON SPRINGS ENTERPRISE, DBA RSH CONSTRUCTION SERVICES – CHANGE ORDER NO. 1 – ARROWHEAD PUMP STATION BACKUP ELECTRICAL PUMP SYSTEM: In April 2015, the Board of Water Commissioners entered into Contract No. 1630 with Canyon Springs Enterprise, DBA RSH Construction Services (RSH) for the Arrowhead Pump Station Backup Electrical Pump System Project. This project includes installation of a motor driven pump necessary to add system redundancy, maintain capacity, and allow the natural gas fueled engines to run at the appropriate load while maintaining the appropriate wetwell level.

Since the pump station's wetwell could not be drained prior to by-pass pumping being implemented by the contractor, the actual conditions of the well's interior were not fully known. As such, additional work on the project was anticipated.

This project was approved as part of the 2015/2016 Capital Improvements Budget. Change Order No. 1 in the amount of \$99,544.13 has been prepared for extra work to be performed by RSH under Contract No. 1630. The funding source for this Change Order is C.O. 00143 (Budget ID No. 12-211), which currently has an unencumbered balance of \$230,567.45.

MOTION: Approve Change Order No. 1 to Contract No. 1630 with Canyon Springs Enterprise, DBA RSH Construction Services, in the amount of \$99,544.13 and authorize the General Manager to execute the change order.

MOTION: _____ SECONDED: _____

9. APPROVAL OF FUEL MANAGEMENT SYSTEM: Department staff members have been reviewing options for replacing the current fuel management system, which is used to track fuel use on a per vehicle basis for the Department fleet. The Gasboy system was determined to be the only one of three vendors that would meet the Department's needs within the project budget of \$50,000.00. The total contract amount is \$37,500.00 which includes costs of \$7,500.00 for repair work for system wiring for the system and fuel pumps that are not up to current standard code requirements. Funding is available in the FY 2015/16 budget.

MOTION: Approve the purchase of the Gasboy system from Fuel Pros, Inc., at a cost of \$37,500.00.

MOTION: _____ SECONDED: _____

10. REPORT ON WATER DEPARTMENT INVESTMENTS – QUARTER ENDING MARCH 31, 2016: Staff recommends that the Board of Water Commissioners receive and file the Investment Report for the quarter ending March 31, 2016. **(INFORMATION ITEM ONLY)**

11. APRIL 2016 DROUGHT MONITORING REPORT: This report continues to monitor and track the effects of the ongoing drought by monitoring groundwater levels in select wells located in the Department's service area. The Board implemented Stage IIA extreme mandatory restrictions as a result of the State Water Resources Control Board (SWRCB) emergency regulations. **(INFORMATION ONLY)**

- 12. WATER RATE ADJUSTMENT PRESENTATION: Staff has prepared a detailed presentation and engaged our consultant, FG Solutions, to attend to discuss the process of developing water rates. The next step in the process would be for the Board of Water Commissioners to set a date for a Public Hearing.

MOTION: Approve the date of July 19, 2016 for a Public Hearing to be held in the Council Chambers at 10:00 a.m. to hear public comments relative to the proposed water rate increases, and authorize staff to send official notices of the proposed rates and notices of Public Hearing to all property owners;

Or

Continue discussion on this item until the next Regular Board of Water Commissioners Meeting on June 7, 2016.

MOTION:_____ SECONDED:_____

- 13. REPORTS:

- A. Report of the President:

- B. Report of the Commissioners:

- C. Report of the Directors:

- D. Report of the General Manager:

14. PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA:

15. ADJOURNMENT: The meeting adjourned at _____ a.m./p.m.

NOTE: The next regular meeting of the Board of Water Commissioners is scheduled for *9:30 a.m., June 7, 2016* in the Margaret H. Chandler Water Reclamation Plant Conference Room, 399 Chandler Place, San Bernardino, California, 92408.

MINUTES
BOARD OF WATER COMMISSIONERS
OF THE CITY OF SAN BERNARDINO

REGULAR MEETING
May 3, 2016
Water Reclamation Plant Conference Room
399 Chandler Place
San Bernardino, California
9:30 a.m.

The Regular Meeting of the Board of Water Commissioners of the City of San Bernardino was called to order by President Callicott at 9:30 a.m. on April 5, 2016 in the Water Reclamation Conference Room, 399 Chandler Place, San Bernardino, California.

ROLL CALL: Roll call was taken by the Secretary with the following being present: President Callicott; Commissioners Valles, Hendrix, and Mlynarski; staff Aldstadt, Ohama, Claus, Guerrero, and Shepardson; Steven Graham, City Attorney's Office; Patrick Sanchez, Sr. Business Systems Analyst; Amy Smith, Executive Secretary.

Absent: Commissioner Fernández
Director Willoughby

1. CLOSED SESSION: President Callicott adjourned the Regular Meeting of the Board of Water Commissioners to a Closed Session. At 10:03 a.m., the Regular Meeting of the Board of Water Commissioners was recessed and a Closed Session was called to order in accordance with the following Government Code Sections:

The Deputy City Attorney, Steven Graham, announced that there is one item under Section 1(C):

- C. Conference with legal counsel – anticipated litigation – initiation of litigation – pursuant to paragraph (4) of subdivision (d) of Government Code Section 54956.9. Upon motion by Commissioner Valles, duly seconded by Commissioner Hendrix, it was unanimously voted to authorize the General Manager to proceed with litigation discussed in Closed Session.

ROLL CALL: Roll call was taken with the following present: President Callicott; Commissioners Valles, Hendrix, and Mlynarski; staff Aldstadt, Ohama, Claus, Guerrero, and Shepardson; Steven Graham, City Attorney's Office; Amy Smith, Executive Secretary.

Absent: Commissioner Fernández
Director Willoughby

ADJOURN CLOSED SESSION: At 10:38 a.m., the Closed Session of the Board of Water Commissioners adjourned to the Regular Meeting of the Board of Water Commissioners in the Water Department Board Room.

ROLL CALL: Roll call was taken by the Secretary with the following being present: President Callicott; Commissioners Valles, Hendrix, and Mlynarski; staff Aldstadt, Ohama, Claus, Guerrero, and Shepardson; Steven Graham, City Attorney's Office; Patrick Sanchez, Sr. Business Systems Analyst; Amy Smith, Executive Secretary.

Absent: Commissioner Fernández
Director Willoughby

2. ANNOUNCEMENTS BY MEMBERS OF THE BOARD OF WATER

COMMISSIONERS: None

3. CONSENT CALENDAR: Upon motion by Commissioner Hendrix, duly seconded by Commissioner Valles, it was voted to approve the following Consent Calendar, Agenda Items 3A through 3F:

A. WAIVE FULL READING OF RESOLUTIONS: Waive full reading of the resolutions on the regular or supplemental agendas of the Board of Water Commissioners.

B. PAYROLL

	<u>Water Fund</u>	<u>Sewer Fund</u>	<u>Total</u>
Claims: 269640-270031			
Accounts Payable	\$646,813.32	\$456,164.26	\$1,102,977.58
Gross Payroll: 03/21/16 – 04/17/16	<u>258,910.09</u>	<u>185,931.36</u>	<u>444,841.45</u>
TOTALS	<u>\$905,723.41</u>	<u>\$642,095.62</u>	<u>\$1,547,819.03</u>

Payroll for the pay period April 18, 2016 through May 1, 2016.

C. CONTRACTS AND BILLS: Contracts and bills presented at this meeting.

D. MINUTES: April 19, 2016

E. PERSONNEL ACTIONS

1. APPOINTMENT: Francisco Vega, Engineering Student Intern, Section 3060, Range 100T, effective May 2, 2016. This position was in the budget and based on the needs and staffing for this section, the position was justifiable under the budget.

2. PROMOTION: Kimberly Bandel, Accounting Technician, Range 132, to the position of Senior Accounting Technician, Range 140, ratified effective April 18, 2016. This position was in the budget and based on the needs and staffing for this section, the position was justifiable under the budget.

3. REVISED JOB DESCRIPTION FOR CUSTOMER SERVICE SUPERVISOR: The Board originally approved the job description for Customer Service Supervisor on September 6, 1974. Revisions were approved on April 19, 1983, May 15, 2001, and January 18, 2013.

The Customer Service Supervisor positions perform critical functions vital to the operations of the Administrative Service division. These positions oversee medium

to large staffing units including Customer Service, and Central Cashiering, and ensure quality customer service to the Department's customers and the general public.

In order to attract a larger pool of qualified candidates for the Customer Service Supervisor position, the minimum experience requirements were revised and the job description was updated to remove refuse services from the duties since this service was outsourced by the City.

Due to the recent Civil Service Board action eliminating Oral Board interviews from the recruitment process, the testing standards were revised to reflect this change. The salary range remained the same at 258.

Staff requested the Board approve the revised job description for Customer Service Supervisor (51723), Mid-Management Unit, FLSA Exempt Status, Range 258.

- F. NOTICE OF COMPLETION – CONTRACT NO. 1566 – OVERHAUL OF WAUKESHA VHP MODEL DIGESTER GAS FUELED PRE-CHAMBERED SPARK IGNITED ENGINES PROJECT: The final acceptance date of July 9, 2015. Staff was directed to file a Notice of Completion, and release the retention in accordance with Contract No. 1566.

END OF CONSENT CALENDAR

4. ADDITIONS TO THE AGENDA: None.
5. CLAIMS SETTLEMENTS – QUARTERLY REPORT: In accordance with Policy 20.090 – Claims Handling, the Environmental and Regulatory Compliance Division prepared the Quarterly Claims Settlements Report detailing all claims processed for the period of JANUARY 2016 through MARCH 2016. **(INFORMATION ITEM ONLY)**
6. PRESENTATION OF SERVICE AWARDS: Toni Callicott, President of the Board of Water Commissioners, presented the following employees with service pins and awards acknowledging them for their years of service with the Department:

25 Years

Johnny Garcia

15 Years

Paul Morris
Dale Green
Derrell Miranda
Daryl Smith

10 Years

Gilbert Abarca
Grant VanHavermaat
Mark Dillon
Robin Ohama

5 Years

Jennifer Shepardson

11. REPORTS:

- A. Report of the President: None
- B. Report of the Commissioners: None
- C. Report of the Directors: None
- D. Report of the General Manager: None

12. PUBLIC COMMENTS: This is the time specified for public comments concerning specific items not on the agenda or matters of general interest. There being none, the matter was closed.

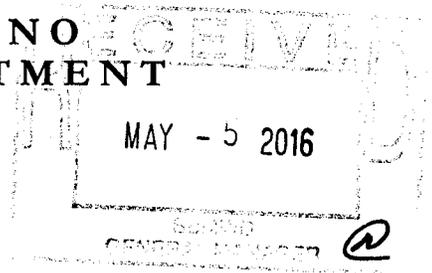
13. ADJOURN MEETING: The meeting adjourned at 10:39 a.m. to the next Regular Meeting to be held on Tuesday, May 17, 2016, at 9:30 a.m. in Margaret H. Chandler Water Reclamation Plant Conference Room, 399 Chandler Place, San Bernardino, California, 92408.

BY: _____
TONI CALLICOTT
President

BY: _____
ROBIN L. OHAMA
Deputy City Clerk & Ex-Officio Secretary

**CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT**

**BOARD OF WATER COMMISSIONERS
STAFF REPORT**



TO: Stacey R. Aldstadt, General Manager

FROM: Robin L. Ohama, Deputy General Manager

SUBJECT: REVISED JOB DESCRIPTIONS FOR WATER RECLAMATION SENIOR OPERATOR, WATER RECLAMATION LEAD OPERATOR, AND WATER RECLAMATION RIX SUPERVISOR; AND RANGE CHANGES FOR WATER RECLAMATION CLASSIFICATIONS REQUIRING GRADE III CERTIFICATION OR HIGHER

DATE: May 4, 2016

CC: John Claus, Human Resources, Payroll

BACKGROUND:

The job description for Water Reclamation Senior Operator was originally approved by the Board on May 4, 1999; the job description for Water Reclamation Lead Operator was originally approved by the Board on May 18, 1999; and the job description for Water Reclamation RIX Supervisor was originally approved by the Board on June 1, 1999. The above job descriptions have not been reviewed/updated since their original approval dates. They have been revised to reflect the current format and to reflect current duties and terminology.

Per California Code of Regulations, Title 23 – Waters, Division 3 – State Water Resources Control Board and Regional Water Control Boards, Chapter 26 – Wastewater Treatment Plant Classification, Operator Certification, and Contract Operator Registration, the Department’s Water Reclamation Plant and the Rapid Infiltration and Extraction (RIX) facility are classified as a Grade 5 (V) wastewater treatment plants, and as such are required to have a Chief Plant Operator at a Grade V certification level with a Designated Operator-in-Charge at a Grade 3 (III) certification level or higher on duty. The Water Reclamation classifications requiring a Grade III or higher certification are: Water Reclamation Operations Manager/Water Reclamation Operations Superintendent – Flex (Grade V); Water Reclamation Plant Supervisor (Grade V); Water Reclamation Process Control Supervisor (Grade IV); Water Reclamation RIX Supervisor (Grade III); Water Reclamation Lead Operator (Grade III); and Water Reclamation Senior Operator (Grade III). Therefore, it is crucial that all budgeted positions in these classifications are filled at all times in order to comply with regulations and avoid the possibility of fines and penalties.

Recent recruitments for the above classifications have either resulted in extremely small numbers of candidates or failed to produce any viable candidates, despite enlisting the services of a recruitment agency to assist with the higher level classifications. In addition, retention in these classifications has been an issue (refer to attached spreadsheet).

May 4, 2016

SUBJECT: REVISED JOB DESCRIPTIONS FOR WATER RECLAMATION SENIOR OPERATOR, WATER RECLAMATION LEAD OPERATOR, AND WATER RECLAMATION RIX SUPERVISOR; AND RANGE CHANGES FOR WATER RECLAMATION CLASSIFICATIONS REQUIRING GRADE III CERTIFICATION OR HIGHER

Human Resources conducted a salary survey for the above classifications and determined that they are varying percentages below the average maximum (anywhere from 2% to 22%). In addition, many of the survey agencies currently provide incentives to employees who hold certifications above what is required for their jobs, operators who maintain certifications above Grade III, and personnel in difficult to fill/retain positions. Since the market for these positions is very competitive, other agencies provide incentives, and recruitment/retention has been a problem, it is recommended that the ranges be increased to a level higher than the average maximum indicated by the salary survey in order to become competitive and attract qualified candidates for these positions. The recommended adjustments are as follows:

- Water Reclamation Operations Superintendent from Range 270 (\$8,280.98/mo to \$10,568.86/mo) to Range 276 (\$9,603.40/mo to \$12,256.64/mo). The current Mid-Management salary schedule ends at Range 274 and would have to be amended to include Ranges 275 and 276 (This change would be pending approval by the Association of Water Department Mid-Managers);
- Water Reclamation Operations Manager-Flex from Range 268 (\$7,881.96/mo to \$10,059.59/mo) to Range 274 (\$9,140.65/mo to \$11,666.05/mo);
- Water Reclamation Plant Supervisor from Range 264 (\$7,140.66/mo to \$9,113.50/mo) to Range 266 (\$7,502.16/mo to \$9,574.87/mo);
- Water Reclamation RIX Supervisor from Range 262 (\$6,796.59/mo to \$8,674.36/mo) to Range 264 (\$7,140.66/mo to \$9,113.50/mo);
- Water Reclamation Process Control Supervisor from Range 259 (\$6,311.31/mo to \$8,055.00/mo) to Range 261 (\$6,630.81/mo to \$8,462.79/mo);
- Water Reclamation Lead Operator from Range 155 (\$5,347.54/mo to \$6,845.31/mo) to Range 159 (\$5,902.69/mo to \$7,555.94/mo);
- Water Reclamation Senior Operator from Range 151 (4,844.61/mo to \$6,201.51/mo) to Range 157 (\$5,618.26/mo to \$7,191.85/mo).

Human Resources concurs with the above recommendations.

Per the Classification Compensation Plan Maintenance policy, No. 31.160, employees shall be placed in the new range at the rate closest to their rate in their current range. Therefore, there will be minimal financial impact for the 2015/2016 fiscal year. The above changes are included in the budget for fiscal year 2016/2017.

RECOMMENDATION:

Staff recommends that the Board of Water Commissioners make the following motions:

- Approve the revised job description for Water Reclamation Senior Operator (21807);
- Approve the revised job description for Water Reclamation Lead Operator (21804);

Stacey R. Aldstadt, General Manager

Page 3

May 4, 2016

SUBJECT: REVISED JOB DESCRIPTIONS FOR WATER RECLAMATION SENIOR OPERATOR, WATER RECLAMATION LEAD OPERATOR, AND WATER RECLAMATION RIX SUPERVISOR; AND RANGE CHANGES FOR WATER RECLAMATION CLASSIFICATIONS REQUIRING GRADE III CERTIFICATION OR HIGHER

- Approve the revised job description for Water Reclamation RIX Supervisor (51811);
- Approve the Range change for Water Reclamation Operations Superintendent (51800) from Range 270 (\$8,280.98/mo to \$10,568.86/mo) to Range 276 (\$9,603.40/mo to \$12,256.64/mo);
- Approve the Range change for Water Reclamation Operations Manager – Flex (51803) from Range 268 (\$7,881.96/mo to \$10,059.59/mo) to Range 274 (\$9,140.65/mo to \$11,666.05/mo);
- Approve the Range change for Water Reclamation Plant Supervisor (51802) from Range 264 (\$7,140.66/mo to \$9,113.50/mo) to Range 266 (\$7,502.16/mo to \$9,574.87/mo);
- Approve the Range change for Water Reclamation RIX Supervisor (51811) from Range 262 (\$6,796.59/mo to \$8,674.36/mo) to Range 264 (\$7,140.66/mo to \$9,113.50/mo);
- Approve the Range change for Water Reclamation Process Control Supervisor (51801) from Range 259 (\$6,311.31/mo to \$8,055.00/mo) to Range 261 (\$6,630.81/mo to \$8,462.79/mo);
- Approve the Range change for Water Reclamation Lead Operator (21804) from Range 155 (\$5,347.54/mo to \$6,845.31/mo) to Range 159 (\$5,902.69/mo to \$7,555.94/mo); and
- Approve the Range change for Water Reclamation Senior Operator (21807) from Range 151 (\$4,844.61/mo to \$6,201.51/mo) to Range 157 (\$5,618.26/mo to \$7,191.85/mo).

Respectfully submitted,



Robin L. Ohama
Deputy General Manager

Attachments: Revised job description for Water Reclamation Senior Operator, redline and final draft versions
Revised job description for Water Reclamation Lead Operator, redline and final draft versions
Revised job description for Water Reclamation RIX Supervisor, redline and final draft versions
Recruitment Results spreadsheet

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

WATER RECLAMATION SENIOR OPERATOR

**SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
CLASSIFICATION SPECIFICATION**

TITLE: WATER RECLAMATION SENIOR OPERATOR

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DATE: JOB CODE: 21807

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FLSA STATUS: NON-EXEMPT UNIT REPRESENTATION: GEN

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Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

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JOB DESCRIPTION DUTIES SUMMARY

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Under general supervision, to operate a variety of equipment utilized in the treatment of wastewater and the disposal of sludge; to control processes through adjustments to equipment and correction to biological/chemical balance; and to perform related work as required.

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DISTINGUISHING CHARACTERISTICS

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This is the advanced journey level class in the Water Reclamation Operator series. The incumbent participates in and may direct a crew in absence of the lead worker and provides operations training to less experienced operators. Supervision is received from a Water Reclamation Lead Worker, Process Control Supervisor, Water Reclamation RIX Supervisor, and Water Reclamation Plant Supervisor. The incumbent may be appointed by the Chief Plant Operator (CPO) as the Designated Operator-in Charge (DOIC), responsible for the overall operation of the wastewater treatment plants. Reports to the CPO when appointed DOIC.

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REPRESENTATIVE DUTIES EXAMPLES OF DUTIES

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The following duties are typical essential duties for positions in this classification. Any single position may not perform all of these duties and/or may perform similar related duties not listed here:

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- Provides courteous and expeditious customer service to the general public and City and Department staff.
- Routinely adhere to and maintain a positive attitude toward City and Department goals;
- Makes inspections of wastewater reclamation equipment according to established procedures;
- Mixes and adds chemicals;
- Reads and records meters and gauges, interpreting information into operating characteristics and regulates and adjusts equipment, including positive displacement and centrifugal pumps, blowers, valves, motors and sludge drying equipment to conform to process requirements;
- Checks engine driven equipment for vacuum, water, oil, and hot bearings;
- Administers proper quantities of chemicals and polymer solutions;
- Checks primary and secondary clarifiers, activated sludge systems, and digestion units, solids handling, filtration systems, and disinfection systems;
- Identifies/Identify equipment malfunctions and advises supervisor;
- Maintains operating logs of specified data necessary to document shift operations;
- Conducts minor process and chemical sampling and testing;
- Reviews laboratory analysis reports;
- Interprets data and makes adjustments to chemical balances through the manipulation of valves and feed control systems as required;
- Oils, lubricates, and/or cleans motors, grit collectors, bar screens, filters, and other equipment according to schedules or as required;
- Flushes pumps and washes down aeration tanks, sedimentation basins, and similar facilities;
- Personal computer and application software use as applicable to process control, records management, and S.C.A.D.A operation;
- To Direct crew in absence of lead operator;
- Provides operations training;
- Assists in mechanical repairs as required;
- Assure adherence to permit requirements, personnel Adheres to safety, cleanliness, and fire-prevention rules and standards;
- Direct and participate in the performance of routine and non-routine maintenance and operational activities;
- Develop Standard Operating Procedures (SOPs), adhere to SOPs, and actively promote the use of

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SOPs.

Routinely adheres to and maintains a positive attitude towards City and Department goals;

- Operates Department vehicles; and
- Performs related work as required.

MINIMUM QUALIFICATIONS

Any combination of education, training and experience equivalent to high school graduation or G.E.D.; Two (2) years experience in the operation of a wastewater treatment facility which incorporates preliminary, primary, secondary (activated sludge), anaerobic sludge digestion, and de-watering treatment processes. Possession of a valid Wastewater Treatment Plant Grade III Operator Certificate issued by the California State Water Resources Control Board and a valid California Class III Driver's License is required.

GENERAL QUALIFICATIONS

Any combination of education, training, and experience that would likely provide the knowledge, skills, and abilities to successfully perform in the position is qualifying. A typical combination includes;

Knowledge of;

- Regulations governing the operation of wastewater treatment plants;
- Principles, methods, procedures, equipment, tools, and processes of a water reclamation facility;
- Sewage treatment and sludge disposal;
- Simple Wastewater process and chemical testing methods;
- Bacteriological balances and solids digestion;
- Basic hydraulics valves, pumps, and hydraulic systems; and
- Appropriate safety precautions and procedures.

Ability to;

- Interpret results of simple wastewater process and chemical testing;
- Make procedural adjustments resulting from test data;
- Work in confined spaces;
- Operate large cumbersome valves;

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- Work in an environment of wastewater treatment;
- Assess from visual inspection the operational condition of wastewater;
- Read and write at a level sufficient for job success;
- Maintain moderately complex records;
- Make moderately complex arithmetic calculations with speed and accuracy;
- Perform mathematics related to the wastewater reclamation field;
- Write legibly;
- Operate a vehicle observing legal and defensive driving practices;
- Understand and carry out oral and written instructions;
- Establish and maintain effective relationships with those contacted in the course of work;
- Communicate clearly and concisely, orally and in writing;
See in the normal vision range with or without correction;
Hear in the normal audio range with or without correction;
Lift 10-50 pounds in normal duties;
- Work under moderate stress conditions;
- Perform frequent inspections of all plant equipment and processes to ensure proper operation;
- Ability to wear self-contained breathing equipment;
- Work shift work to include working weekends, holidays and rotating shifts; and
- Maintain a driving record which meets Vehicle Code Standards and is acceptable to the Department and its insurance carrier.

MINIMUM QUALIFICATIONS

- Education:** Graduation from high school, or equivalent.
- Experience:** Two (2) years of experience in the operation of a wastewater treatment facility which incorporates preliminary, primary, secondary (activated sludge), anaerobic sludge, and dewatering, filtration, and disinfection treatment processes.
- Certificate:** Must possess a valid Wastewater Treatment Plant Grade III Operator Certificate issued by the California State Water Resources Control Board.

NECESSARY SPECIAL REQUIREMENTS

Possession of a valid Class "C" California driver's license. For out of state applicants, a valid

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driver's license is required and a valid Class "C" California driver's license must be obtained within ten (10) days of appointment (CA Vehicle Code 12505c).

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PHYSICAL TASKS AND ENVIRONMENTAL CONDITIONS

Work involves exposure to potential physical harm, infectious disease and hazardous chemicals including smoke, fumes, gas, untreated wastewater, high frequency noise, dirt, dust, grease, oil, chemicals, solvents and toxic agents. -Incumbents need to be able to tolerate unpleasant odors, wet conditions and uncomfortable climate conditions. -There is frequent need to stand, stoop, walk, crawl, climb and perform other similar actions during the course of the workday. -Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

Incumbents require sufficient mobility to work in a field setting in varying weather conditions, to operate various equipment, transport materials and supplies weighing up to 50 pounds and to travel to various locations. -Must be able to see in the normal visual range with or without correction with vision sufficient to see color and read small print as well as distance. -Must be able to hear in the normal audio range with or without correction. -Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

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CAREER LADDER

From: Water Reclamation Senior Operator

To: Water Reclamation Lead Operator

Job Description:

BOWC Approved:	5/4/1999
Rev. Appr:	

Testing Standards: CS App Review/CS Supp App Review

CSB Approved:	6/8/1999
CS Oral Board removed by CSB Action	4/12/2016

ORGANIZATIONAL RELATIONSHIPS

The class of Water Reclamation Operations Technician is the journey level in the water reclamation operations series. Supervision is received from the Water Reclamation Lead Operator.

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SAN BERNARDINO MUNICIPAL WATER DEPARTMENT CLASSIFICATION SPECIFICATION

TITLE: WATER RECLAMATION SENIOR OPERATOR

DATE:

JOB CODE: 21807

FLSA STATUS: NON-EXEMPT

UNIT REPRESENTATION: GEN

Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

DUTIES SUMMARY

Under general supervision, to operate a variety of equipment utilized in the treatment of wastewater and the disposal of sludge; to control processes through adjustments to equipment and correction to biological/chemical balance; and to perform related work as required.

DISTINGUISHING CHARACTERISTICS

This is the advanced journey level class in the Water Reclamation Operator series. The incumbent participates in and may direct a crew in absence of the lead worker and provides operations training to less experienced operators. Supervision is received from a Water Reclamation Lead Worker, Process Control Supervisor, Water Reclamation RIX Supervisor, and Water Reclamation Plant Supervisor. The incumbent may be appointed by the Chief Plant Operator (CPO) as the Designated Operator-in Charge (DOIC), responsible for the overall operation of the wastewater treatment plants. Reports to the CPO when appointed DOIC.

EXAMPLES OF DUTIES

The following duties are typical essential duties for positions in this classification. Any single position may not perform all of these duties and/or may perform similar related duties not listed here:

- Provide courteous and expeditious customer service to the general public and City and Department staff;
- Routinely adhere to and maintain a positive attitude toward City and Department goals;
- Make inspections of wastewater reclamation equipment according to established procedures;
- Mix and add chemicals;

- Read and record meters and gauges, interpreting information into operating characteristics and regulate and adjust equipment, including positive displacement and centrifugal pumps, blowers, valves, motors and sludge drying equipment to conform to process requirements;
- Check engine driven equipment for vacuum, water, oil, and hot bearings;
- Administer proper quantities of chemicals and polymer solutions;
- Check primary and secondary clarifiers, activated sludge systems, digestion units, solids handling, filtration systems, and disinfection systems;
- Identify equipment malfunctions and advise supervisor;
- Maintain operating logs of specified data necessary to document shift operations;
- Conduct process and chemical sampling and testing;
- Review laboratory analysis reports;
- Interpret data and make adjustments to chemical balances through the manipulation of valves and feed control systems as required;
- Oil, lubricate, and/or clean motors, grit collectors, bar screens, filters, and other equipment according to schedules or as required;
- Flush pumps and wash down aeration tanks, sedimentation basins, and similar facilities;
- Personal computer and application software use as applicable to process control, records management, and S.C.A.D.A operation;
- Direct crew in absence of lead operator;
- Provide operations training;
- Assist in mechanical repairs as required;
- Assure adherence to permit requirements, personnel safety, cleanliness, and fire prevention rules and standards;
- Direct and participate in the performance of routine and non-routine maintenance and operational activities;
- Develop Standard Operating Procedures (SOPs), adhere to SOPs, and actively promote the use of SOPs.
- Operate Department vehicles; and
- Perform related work as required.

QUALIFICATIONS

Any combination of education, training, and experience that would likely provide the knowledge, skills, and abilities to successfully perform in the position is qualifying. A typical combination includes:

Knowledge of:

- Regulations governing the operation of wastewater treatment plants;
- Principles, methods, procedures, equipment, tools, and processes of a water reclamation facility;
- Sewage treatment and sludge disposal;
- Wastewater process and chemical testing methods;
- Bacteriological balances and solids digestion;
- Basic hydraulics valves, pumps, and hydraulic systems; and
- Appropriate safety precautions and procedures.

Ability to:

- Interpret results of wastewater process and chemical testing;
- Make procedural adjustments resulting from test data;
- Work in confined spaces;
- Operate large cumbersome valves;
- Work in an environment of wastewater treatment;
- Assess from visual inspection the operational condition of wastewater;
- Read and write at a level sufficient for job success;
- Maintain moderately complex records;
- Make moderately complex arithmetic calculations with speed and accuracy;
- Perform mathematics related to the wastewater reclamation field;
- Write legibly;
- Operate a vehicle observing legal and defensive driving practices;
- Understand and carry out oral and written instructions;
- Establish and maintain effective relationships with those contacted in the course of work;
- Communicate clearly and concisely, orally and in writing;

- Work under moderate stress conditions;
- Perform frequent inspections of all plant equipment and processes to ensure proper operation;
- Ability to wear self-contained breathing equipment;
- Work shift work to include working weekends, holidays and rotating shifts; and
- Maintain a driving record which meets Vehicle Code Standards and is acceptable to the Department and its insurance carrier.

MINIMUM QUALIFICATIONS

- Education:** Graduation from high school, or equivalent.
- Experience:** Two (2) years of experience in the operation of a wastewater treatment facility which incorporates preliminary, primary, secondary (activated sludge), anaerobic sludge, dewatering, filtration, and disinfection treatment processes.
- Certificate:** Must possess a valid Wastewater Treatment Plant Grade III Operator Certificate issued by the California State Water Resources Control Board.

NECESSARY SPECIAL REQUIREMENTS

Possession of a valid Class "C" California driver's license. For out of state applicants, a valid driver's license is required and a valid Class "C" California driver's license must be obtained within ten (10) days of appointment (CA Vehicle Code 12505c).

PHYSICAL TASKS AND ENVIRONMENTAL CONDITIONS

Work involves exposure to potential physical harm, infectious disease and hazardous chemicals including smoke, fumes, gas, untreated wastewater, high frequency noise, dirt, dust, grease, oil, chemicals, solvents and toxic agents. Incumbents need to be able to tolerate unpleasant odors, wet conditions and uncomfortable climate conditions. There is frequent need to stand, stoop, walk, crawl, climb and perform other similar actions during the course of the workday. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

Incumbents require sufficient mobility to work in a field setting in varying weather conditions, to operate various equipment, transport materials and supplies weighing up to 50 pounds and to travel to various locations. Must be able to see in the normal visual range with or without correction with vision sufficient to see color and read small print as well as distance. Must be able to hear in the normal audio range with or without correction. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

CAREER LADDER

From: Water Reclamation Senior Operator

To: Water Reclamation Lead Operator

Job Description:

BOWC Approved:

5/4/1999

Rev. Appr:

Testing Standards: CS App Review/CS Supp App Review

CSB Approved:

6/8/1999

CS Oral Board removed by CSB Action

4/12/2016

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SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

WATER RECLAMATION LEAD OPERATOR

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**SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
CLASSIFICATION SPECIFICATION**

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DATE: JOB CODE: 21804

FLSA STATUS: NON-EXEMPT UNIT REPRESENTATION: GEN

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Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

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JOB DESCRIPTION DUTIES SUMMARY

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Under general supervision, to participates in the work of and leads a staff of operators engaged in the day-to-day operation activities at the a Water Reclamation facility; Leads, guides, Motivates, trains, instructs, and corrects the work of assigned staff members in the performance of specific tasks. The Lead operator is directly responsible for the implementation and adherence to weekly work schedules and coordination with other sections; Directs assigned operations staff during emergency situations, in the absence of supervision staff, or during assigned off-hour or weekend working shifts; Performs related work as required.

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DISTINGUISHING CHARACTERISTICS

This class is the lead level worker in the Water Reclamation Operator series. The incumbent is directly responsible for the implementation of and adherence to weekly work schedules and coordination with other sections. Incumbents also direct assigned operations staff during emergency situations, in the absence of supervisory staff, or during assigned off-hour or weekend working shifts. Supervision is received from the Process Control Supervisor, Water Reclamation RIX Supervisor, and Water Reclamation Plant Supervisor. Lead supervision is exercised over Water Reclamation Operators and Senior Operators. The incumbent may be appointed by the Chief Plant Operator (CPO) as the Designated Operator-in Charge (DOIC), responsible for the overall operation of the wastewater treatment plants. Reports to the CPO when appointed DOIC

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REPRESENTATIVE DUTIES EXAMPLES OF DUTIES

The following duties are typical essential duties for positions in this classification. Any single position may not perform all of these duties and/or may perform similar related duties not listed here:

- Provides courteous and expeditious customer service to the general public and City and Department staffs;
- Routinely adhere to and maintain a positive attitude toward City and Department goals;
- Under supervision of the Water Reclamation Plant Supervisor; Reviews and evaluates operating logs of equipment;
- Reviews laboratory data and assists in making operational adjustments;
- Assists in the review of operational data with supervision supervisory staff;
- Directs a crew of operators as assigned;
- Assists in the repair of process units of piping;
- Assists with personnel performance evaluations as required;
- Assists in the preparation of routine and special reports as required to ensure that wastewater is processed and discharged according to acceptable health and environmental standards;
- Assist in preparing chemical or slurry solutions;
- Assist in the evaluation of chemical use;
- Direct and participate in the performance of routine and non-routine maintenance and operational activities;
- Develop Standard Operating Procedures (SOPs), adhere to SOPs, and actively promote the use of SOPs.
- Assist in training on-process and safety training with operations staff;
- Assure adherence to permit requirements, personnel safety, cleanliness, and fire prevention rules and standards;
- Ensure staff adheres to Departmental procedures and policies; and
- Assist at RIX facility as required; Ability to work in confined space environment including the ability to wear self-contained breathing equipment;
- Operates Department vehicles; Routinely adheres to and maintains a positive attitude towards City and Department goals; Performs related work as required.

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MINIMUM QUALIFICATIONS

Training and education equivalent to a high school diploma or

G.E.D.; Four (4) years experience in the operation of a wastewater treatment facility which incorporates preliminary, primary, secondary (activated sludge), anaerobic sludge digestion, and dewatering treatment processes. Possession of a valid Wastewater Treatment Plant Grade III Operator Certificate issued by the California State Water Resources Control Board, and a valid California Class III Driver's License are required.

GENERAL QUALIFICATIONS QUALIFICATIONS

Any combination of education, training, and experience that would likely provide the knowledge, skills, and abilities to successfully perform in the position is qualifying. A typical combination includes:

Knowledge of:

- Regulations governing the operation of wastewater treatment plants;
- Operation and preventive maintenance of modern primary, secondary and advanced wastewater treatment principles and practices;
- Facility NPDES permit requirements;
- Safety rules, codes and regulations;
- Basic business organization and budgeting principles;
- Occupational hazards and standard safety precautions necessary in a wastewater treatment plant;
- Personal computer and application software use as applicable to process control, records management, and S.C.A.D.A operation; and
- Principles and practices of supervision, training and performance evaluation;

Ability to:

- Analyze and interpret operational data problems as related to process control, evaluating alternative proposals, making sound recommendations, and troubleshooting all types of wastewater process systems;
- Analyze emergency situations accurately and take effective action;
- Recommend changes to improve the safety, efficiency or effectiveness of plant operation and equipment;
- Establish and maintain effective working relationships with employees and public;
- Supervise and coordinate all staff, training and work activities assigned to the plant;
- Prepare reports and maintain records;

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• _____ Communicate clearly and concisely, orally and in writing;

• _____ See in the normal vision range with or without correction;

Hear in the normal audio range with or without correction;
Lift 10-50 pounds in normal duties;

• _____ Work under moderate stress conditions;

• _____ Perform frequent inspections of all plant equipment and processes to ensure proper operation;

• _____ Work in confined space environments including the ability to wear self-contained breathing equipment (SCBA);

• _____ Work shift work to include working weekends, holidays and rotating shifts; and

• _____ Maintain a driving record which meets Vehicle Code Standards and is acceptable to the Department and its insurance carrier.

MINIMUM QUALIFICATIONS

Education: Graduation from high school or equivalent.

Experience: Four (4) years of experience in the operation of a wastewater treatment facility which incorporates preliminary, primary, secondary (activated sludge), anaerobic sludge digestion, and dewatering, filtration, and disinfection treatment processes.

Certificate: Must possess of a valid Wastewater Treatment Plant Grade III Operator certificate issued by the California State Water Resources Board.

NECESSARY SPECIAL REQUIREMENTS

Possession of a valid Class "C" California driver's license. For out of state applicants, a valid driver's license is required and a valid Class "C" California driver's license must be obtained within ten (10) days of appointment (CA Vehicle Code 12505c).

PHYSICAL TASKS AND ENVIRONMENTAL CONDITIONS

Work involves exposure to potential physical harm, infectious disease and hazardous chemicals including smoke, fumes, gas, untreated wastewater, high frequency noise, dirt, dust, grease, oil, chemicals, solvents and toxic agents. Incumbents need to be able to tolerate unpleasant odors, wet conditions and uncomfortable climate conditions. There is frequent need to stand, stoop, walk, crawl, climb and perform other similar actions during the course of the workday. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

Incumbents require sufficient mobility to work in a field setting in varying weather conditions, to operate various equipment, transport materials and supplies weighing up to 50 pounds and to travel to various locations. Must be able to see in the normal visual range with or without correction with vision sufficient to see color and read small print as well as distance. Must be able to hear in the normal audio range with or without correction.

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Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

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CAREER LADDER

From: Water Reclamation Lead Operator

To: Water Reclamation Process Control Supervisor
Water Reclamation RIX Supervisor
Water Reclamation Plant Supervisor

Job Description:

BOWC Approved: 5/18/1999
Rev. Appr:

Testing Standards: CS App Review/CS Supp App Review

CSB Approved: 6/22/1999
CS Oral Board removed by CSB Action 4/12/2016

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ORGANIZATIONAL RELATIONSHIPS

The Water Reclamation Lead Operator is the lead supervisory level of the Water Reclamation facility Operations Section. Supervision is received from the Water Reclamation Plant Supervisor. Supervision is exercised over WR Senior Operators, WR Truck Driver, and WR Operators.

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT CLASSIFICATION SPECIFICATION

TITLE: WATER RECLAMATION LEAD OPERATOR

DATE:

JOB CODE: 21804

FLSA STATUS: NON-EXEMPT

UNIT REPRESENTATION: GEN

Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

DUTIES SUMMARY

Under general supervision, to participate in the work of and lead a staff of operators engaged in the day-to-day operation activities at a Water Reclamation facility; lead, guide, motivate, train, instruct, and correct the work of assigned staff members in the performance of specific tasks. Perform related work as required.

DISTINGUISHING CHARACTERISTICS

This class is the lead level worker in the Water Reclamation Operator series. The incumbent is directly responsible for the implementation of and adherence to weekly work schedules and coordination with other sections. Incumbents also direct assigned operations staff during emergency situations, in the absence of supervisory staff, or during assigned off-hour or weekend working shifts. Supervision is received from the Process Control Supervisor, Water Reclamation RIX Supervisor, and Water Reclamation Plant Supervisor. Lead supervision is exercised over Water Reclamation Operators and Senior Operators. The incumbent may be appointed by the Chief Plant Operator (CPO) as the Designated Operator-in Charge (DOIC), responsible for the overall operation of the wastewater treatment plants. Reports to the CPO when appointed DOIC

EXAMPLES OF DUTIES

The following duties are typical essential duties for positions in this classification. Any single position may not perform all of these duties and/or may perform similar related duties not listed here:

- Provide courteous and expeditious customer service to the general public and City and Department staff;
- Routinely adhere to and maintain a positive attitude toward City and Department goals;
- Review and evaluate operating logs of equipment;

- Review laboratory data and assist in making operational adjustments;
- Assist in the review of operational data with supervisory staff;
- Direct a crew of operators as assigned;
- Assist in the repair of process units;
- Assist with personnel performance evaluations as required;
- Assist in the preparation of routine and special reports as required to ensure that wastewater is processed and discharged according to acceptable health and environmental standards;
- Assist in preparing chemical or slurry solutions;
- Assist in the evaluation of chemical use;
- Direct and participate in the performance of routine and non-routine maintenance and operational activities;
- Develop Standard Operating Procedures (SOPs), adhere to SOPs, and actively promote the use of SOPs.
- Assist in process and safety training with operations staff;
- Assure adherence to permit requirements, personnel safety, cleanliness, and fire prevention rules and standards;
- Ensure staff adheres to Department procedures and policies;
- Operate Department vehicles; and
- Perform related work as required.

QUALIFICATIONS

Any combination of education, training, and experience that would likely provide the knowledge, skills, and abilities to successfully perform in the position is qualifying. A typical combination includes:

Knowledge of:

- Regulations governing the operation of wastewater treatment plants;
- Operation and preventive maintenance of modern primary, secondary and advanced wastewater treatment principles and practices;
- Facility NPDES permit requirements;
- Safety rules, codes and regulations;
- Basic business organization and budgeting principles;

- Occupational hazards and standard safety precautions necessary in a wastewater treatment plant;
- Personal computer and application software use as applicable to process control, records management, and S.C.A.D.A operation; and
- Principles and practices of supervision, training and performance evaluation;

Ability to:

- Analyze and interpret operational data problems as related to process control, evaluating alternative proposals, making sound recommendations, and troubleshooting all types of wastewater process systems;
- Analyze emergency situations accurately and take effective action;
- Recommend changes to improve the safety, efficiency or effectiveness of plant operation and equipment;
- Establish and maintain effective working relationships with employees and public;
- Supervise and coordinate all staff, training and work activities assigned to the plant;
- Prepare reports and maintain records;
- Communicate clearly and concisely, orally and in writing;
- See in the normal vision range with or without correction;
- Work under moderate stress conditions;
- Perform frequent inspections of all plant equipment and processes to ensure proper operation;
- Work in confined space environments including the ability to wear self-contained breathing equipment (SCBA);
- Work shift work to include working weekends, holidays and rotating shifts; and
- Maintain a driving record which meets Vehicle Code Standards and is acceptable to the Department and its insurance carrier.

MINIMUM QUALIFICATIONS

Education: Graduation from high school, or equivalent,

Experience: Four (4) years of experience in the operation of a wastewater treatment facility which incorporates preliminary, primary, secondary (activated sludge), anaerobic sludge digestion, dewatering, filtration, and disinfection treatment processes.

Certificate: Must possess of a valid Wastewater Treatment Plant Grade III Operator certificate issued by the California State Water Resources Board.

NECESSARY SPECIAL REQUIREMENTS

Possession of a valid Class "C" California driver's license. For out of state applicants, a valid driver's license is required and a valid Class "C" California driver's license must be obtained within ten (10) days of appointment (CA Vehicle Code 12505c).

PHYSICAL TASKS AND ENVIRONMENTAL CONDITIONS

Work involves exposure to potential physical harm, infectious disease and hazardous chemicals including smoke, fumes, gas, untreated wastewater, high frequency noise, dirt, dust, grease, oil, chemicals, solvents and toxic agents. Incumbents need to be able to tolerate unpleasant odors, wet conditions and uncomfortable climate conditions. There is frequent need to stand, stoop, walk, crawl, climb and perform other similar actions during the course of the workday. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

Incumbents require sufficient mobility to work in a field setting in varying weather conditions, to operate various equipment, transport materials and supplies weighing up to 50 pounds and to travel to various locations. Must be able to see in the normal visual range with or without correction with vision sufficient to see color and read small print as well as distance. Must be able to hear in the normal audio range with or without correction. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

CAREER LADDER

From: Water Reclamation Lead Operator

To: Water Reclamation Process Control Supervisor
Water Reclamation RIX Supervisor
Water Reclamation Plant Supervisor

Job Description:

BOWC Approved:
Rev. Appr:

5/18/1999

Testing Standards: CS App Review/CS Supp App Review

CSB Approved:
CS Oral Board removed by CSB Action

6/22/1999

4/12/2016

APPROVED BY
C.S.B.
07/13/99

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SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
WATER RECLAMATION RIX SUPERVISOR

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
CLASSIFICATION SPECIFICATION

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TITLE: WATER RECLAMATION RIX SUPERVISOR

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DATE: JOB CODE: 51811

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FLSA STATUS: NON-EXEMPT UNIT REPRESENTATION: MID-MGMT

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Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

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JOB DESCRIPTION DUTIES SUMMARY

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Under general direction of the Water Reclamation Operations Manager or Superintendent, to plans, schedules, monitors, trains, supervises, and administers the day-to-day operation activities of the Rapid Infiltration and Extraction (RIX) facility; supervises and coordinates the activities of operations personnel; coordinates maintenance work; cCoordinates construction/project work; and performs related work as required.

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DISTINGUISHING CHARACTERISTICS

This is a working supervisory level class in the Water Reclamation Operations series. Incumbents supervise RIX facility operations staff, including Water Reclamation Plant staff when assigned. Supervision is received from the Water Reclamation Operations Manager or Superintendent.

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REPRESENTATIVE DUTIES EXAMPLES OF DUTIES

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The following duties are typical essential duties for positions in this classification. Any single position may not perform all of these duties and/or may perform similar related duties not listed here.

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- Provides courteous and expeditious customer service to the general public and City and Department staffs;
- Routinely adhere to and maintain a positive attitude toward City and Department goals;
- under general direction of Water Reclamation Operations Superintendent; aAssists in administrative duties;
- eConducts personnel performance evaluations as required;
- Recommend and participate in hiring and disciplinary actions;
- pPlans, schedules, supervises, monitors, and administers the operation of equipment utilized in the tertiary treatment of wastewater that utilizes ultraviolet disinfection;
- pPrepares and ensures compliance with schedules and procedures for inspecting and operating plant equipment;
- rReviews and evaluates logs of routine facility inspections and reports of laboratory analyses;
- rReviews plans and specifications for construction projects; recommends changes or modifications to plant flow and processes;
- rRequisitions materials and parts as needed;
- pPrepares and maintains records of plant operations;
- pPrepares routine and special reports related to plant operation;
- eConducts studies and investigations as required regarding facility operation, process efficiency, and energy conservation;
- aAssures adherence to permit requirements, personnel safety, cleanliness, and fire prevention rules and standards;
- mMakes critical decisions to resolve emergency situations;
- mMonitors the operating budget;
- uUnderstands and utilizes the S.C.A.D.A. computer system, including specific knowledge of Wonderware application software, in monitoring and controlling operation of facility equipment;
- aAbility to uUtilize Excel spread-sheet application software;
- eCompiles information for a variety of narrative and statistical reports including the monthly Discharge Monitoring Report (DMRPI);
- eComposes correspondence requiring use of judgment based upon a thorough knowledge of the functions and procedures of the unit;

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- Occupational hazards and standard safety precautions necessary in a wastewater treatment plant;
- Personal computer and application software use as applicable to process control, records management, and S.C.A.D.A. system operation;
- Human-Machine-Interface and supervisory control; Experience use of Wonderware application software (Wonderware); and
- Principles and practices of supervision, training and performance evaluation.

Ability to:

- Analyze and interpret operational data problems as related to process control, evaluating alternative proposals, making sound recommendations, and troubleshooting all types of wastewater process systems;
- Analyze emergency situations accurately and take effective action;
- Recommend changes to improve the safety, efficiency or effectiveness of plant operation and equipment;
- Operate heavy machinery used in maintaining infiltration basing performance optimization;
- Establish and maintain effective working relationships with employees and public;

Water Reclamation RIX Supervisor
Page 3

- Supervise and coordinate all staff, training and work activities assigned to the plant;
 - Prepare reports and maintain records; communicate clearly and concisely, orally and in writing;
- See in the normal vision range with or without correction;
Hear in the normal audio range with or without correction;
- Must maintain a driving record which meets Vehicle Code Standards and is acceptable to the Department and its insurance carrier; and
- Lift 10 – 50 pounds in normal duties; Work under moderate stress conditions;
 - Ability to walk long distances when performing frequent inspections of all plant equipment and processes.

MINIMUM QUALIFICATIONS

Education: Graduation from high school, or equivalent.

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Experience: Four (4) years of experience in the operation of a wastewater treatment facility which incorporates preliminary, primary, secondary (activated sludge), anaerobic sludge, digestion-on, dewatering, and tertiary treatment processes and disinfection processes.

Certificate: Must possess a valid Wastewater Treatment Plant Grade III Operator Certificate issued by the California State Water Resources Control Board.

NECESSARY SPECIAL REQUIREMENTS

Possession of a valid Class "C" California driver's license. For out of state applicants, a valid driver's license is required and a valid Class "C" California driver's license must be obtained within ten (10) days of appointment (CA Vehicle Code 12505c).

PHYSICAL TASKS AND ENVIRONMENTAL CONDITIONS

Work involves exposure to potential physical harm, infectious disease and hazardous chemicals including smoke, fumes, gas, untreated wastewater, high frequency noise, dirt, dust, grease, oil, chemicals, solvents and toxic agents. -Incumbents need to be able to tolerate unpleasant odors, wet conditions and uncomfortable climate conditions. -There is frequent need to stand, stoop, walk, crawl, climb and perform other similar actions during the course of the workday. -Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

Incumbents require sufficient mobility to work in a field setting in varying weather conditions, to operate various equipment, transport materials and supplies weighing up to 50 pounds and to travel to various locations. -Must be able to see in the normal visual range with or without correction with vision sufficient to see color and read small print as well as distance. -Must be able to hear in the normal audio range with or without correction. -Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

CAREER LADDER

From: Water Reclamation RIX Supervisor

To: Water Reclamation Reclamation Plant Supervisor

Job Description:

BOWC Approved: 6/1/1999
Rev. Appr.

Testing Standards: CS App Review/CS Supp App Review

CSB Approved: 7/13/1999
CS Oral Board removed by CSB Action 4/12/2016

ORGANIZATIONAL RELATIONSHIPS

The Water Reclamation Plant Supervisor is a working supervisor level of the Water Reclamation facility Operations Section, and receives direct supervision from the Water Reclamation Operations Superintendent. Supervision is exercised over RIX facility operations staff including WRP staff when assigned.

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WR RIX Supervisor
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SAN BERNARDINO MUNICIPAL WATER DEPARTMENT CLASSIFICATION SPECIFICATION

TITLE: WATER RECLAMATION RIX SUPERVISOR

DATE: JOB CODE: 51811

FLSA STATUS: NON-EXEMPT UNIT REPRESENTATION: MID-MGMT

Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

DUTIES SUMMARY

Under general direction of the Water Reclamation Operations Manager or Superintendent, to plan, schedule, monitor, train, supervise, and administer the day-to-day operation activities of the Rapid Infiltration and Extraction (RIX) facility; supervise and coordinate the activities of operations personnel; coordinate maintenance work; coordinate construction/project work; and perform related work as required.

DISTINGUISHING CHARACTERISTICS

This is a working supervisory level class in the Water Reclamation Operations series. Incumbents supervise RIX facility operations staff, including Water Reclamation Plant staff when assigned. Supervision is received from the Water Reclamation Operations Manager or Superintendent.

EXAMPLES OF DUTIES

The following duties are typical essential duties for positions in this classification. Any single position may not perform all of these duties and/or may perform similar related duties not listed here:

- Provide courteous and expeditious customer service to the general public and City and Department staff;
- Routinely adhere to and maintain a positive attitude toward City and Department goals;
- Assist in administrative duties;
- Conduct personnel performance evaluations as required;
- Recommend and participate in hiring and disciplinary actions;

- Plan, schedule, supervise, monitor, and administer the operation of equipment utilized in the tertiary treatment of wastewater that utilizes ultraviolet disinfection;
- Prepare and ensure compliance with schedules and procedures for inspecting and operating plant equipment;
- Review and evaluate logs of routine facility inspections and reports of laboratory analyses;
- Review plans and specifications for construction projects; recommends changes or modifications to plant flow and processes;
- Requisition materials and parts as needed;
- Prepare and maintain records of plant operations;
- Prepare routine and special reports related to plant operation;
- Conduct studies and investigations as required regarding facility operation, process efficiency, and energy conservation;
- Assure adherence to permit requirements, personnel safety, cleanliness, and fire prevention rules and standards;
- Make critical decisions to resolve emergency situations;
- Monitor the operating budget;
- Understand and utilize the S.C.A.D.A. computer system, including specific knowledge of Wonderware application software, in monitoring and controlling operation of facility equipment;
- Utilize Excel spreadsheet application software;
- Compile information for a variety of narrative and statistical reports including the monthly Discharge Monitoring Report (DMR);
- Compose correspondence requiring use of judgment based upon a thorough knowledge of the functions and procedures of the unit;
- Operate Department vehicles; and
- Perform related work as required.

QUALIFICATIONS

Any combination of education, training, and experience that would likely provide the knowledge, skills, and abilities to successfully perform in the position is qualifying. A typical combination includes:

Knowledge of:

- Regulations governing the operation of wastewater treatment plants;
- Operation and preventive maintenance of modern primary, secondary, and advanced wastewater treatment principles and practices;

- Ultraviolet disinfection system operation;
- Secondary and advanced wastewater treatment principles and Facility NPDES permit requirements;
- Safety rules, codes, and regulations;
- Basic business organization and budgeting principles;
- Occupational hazards and standard safety precautions necessary in a wastewater treatment plant;
- Personal computer and application software use as applicable to process control, records management, and S.C.A.D.A. system operation;
- Human-Machine-Interface and supervisory control application software (Wonderware); and
- Principles and practices of supervision, training and performance evaluation.

Ability to:

- Analyze and interpret operational data problems as related to process control, evaluating alternative proposals, making sound recommendations, and troubleshooting all types of wastewater process systems;
- Analyze emergency situations accurately and take effective action;
- Recommend changes to improve the safety, efficiency or effectiveness of plant operation and equipment;
- Operate heavy machinery used in maintaining infiltration basin performance optimization;
- Establish and maintain effective working relationships with employees and public;
- Supervise and coordinate all staff, training and work activities assigned to the plant;
- Prepare reports and maintain records; communicate clearly and concisely, orally and in writing;
- Maintain a driving record which meets Vehicle Code Standards and is acceptable to the Department and its insurance carrier; and
- Walk long distances when performing frequent inspections of all plant equipment and processes.

MINIMUM QUALIFICATIONS

Education: Graduation from high school, or equivalent.

Experience: Four (4) years of experience in the operation of a wastewater treatment facility which incorporates preliminary, primary, secondary (activated sludge), anaerobic sludge digestion, dewatering, tertiary treatment and disinfection processes.

Certificate: Must possess a valid Wastewater Treatment Plant Grade III Operator Certificate issued by the California State Water Resources Control Board.

NECESSARY SPECIAL REQUIREMENTS

Possession of a valid Class "C" California driver's license. For out of state applicants, a valid driver's license is required and a valid Class "C" California driver's license must be obtained within ten (10) days of appointment (CA Vehicle Code 12505c).

PHYSICAL TASKS AND ENVIRONMENTAL CONDITIONS

Work involves exposure to potential physical harm, infectious disease and hazardous chemicals including smoke, fumes, gas, untreated wastewater, high frequency noise, dirt, dust, grease, oil, chemicals, solvents and toxic agents. Incumbents need to be able to tolerate unpleasant odors, wet conditions and uncomfortable climate conditions. There is frequent need to stand, stoop, walk, crawl, climb and perform other similar actions during the course of the workday. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

Incumbents require sufficient mobility to work in a field setting in varying weather conditions, to operate various equipment, transport materials and supplies weighing up to 50 pounds and to travel to various locations. Must be able to see in the normal visual range with or without correction with vision sufficient to see color and read small print as well as distance. Must be able to hear in the normal audio range with or without correction. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

CAREER LADDER

From: Water Reclamation RIX Supervisor

To: Water Reclamation Plant Supervisor

Job Description:

BOWC Approved: 6/1/1999
Rev. Appr: _____

Testing Standards: CS App Review/CS Supp App Review

CSB Approved: 7/13/1999
CS Oral Board removed by CSB Action 4/12/2016

WR Operations Supt

April 18, 2016

Single Position Class - Position Currently Open

Recruitment/ Interview Date	# of Candidates	Interview Results	Comments
2008	Unk	1 hired	Candidate hired effective 9/8/08; voluntarily demoted effective 2/14/12
11/4/2013	0	N/A	No viable candidates, despite 25K sign-on bonus
1/28/2016	2	None Qual	No viable candidates, despite use of recruitment agency and 25K sign-on bonus

WR Plant Supv
 April 18, 2016

Single Position Class - Position Currently Open

Recruitment/

Interview Date	# of Candidates	Interview Results	Comments
3/22/2011	4; all external	N/A	Never got to Dept Interview; During CS process 2 accepted other positions; 1 declined; 1 left in middle of oral exam - no viable candidates; no list
6/28/2011	4; all external	1 hired; 1 not qual	Candidate hired effective 8/15/11 - resigned 7/11/13
4/8/2014	4; 2 internal	1 external hired	Candidate hired effective 5/5/14 - resigned effective 1/29/15
6/25/2015	4; 1 internal	1 no show; 1 not qual	No candidate selected

WR Proc Control Supv

April 18, 2016

2 budgeted positions; 2 positions currently open

Recruitment/ Interview Date	# of Candidates	No of Open Positions	Interview Results	Comments
6/6/2011	5	1	1 hired; 2 not qual	Candidate hired effective 9/6/11 - resigned effective 3/1/13
6/6/2013	2 candidates; both internal	1	None promoted	
2/6/2014	5 candidates; 3 internal	1	None hired/promoted	
8/8/2015	4 candidates; 1 internal	1	1 promoted; 3 external candidates declined	Candidate promoted effective 9/1/15 - voluntarily demoted effective 2/8/16

**WR Lead Operator
April 18, 2016**

5 Budgeted Positions; all currently filled

Recruitment/ Interview Date	# of Candidates	No of Open Positions	Interview Results	Comments
4/28/2010	5	Unk	Unk	
7/21/2011	5; 2 internal	2	1 promoted; 3 not qual	Candidate promoted effective 8/10/09; resigned effective 10/17/13
10/31/2012	9; 5 internal	2	1 no show; 1 took another position; 1 hired	Candidate hired effective 1/14/13 - resigned effective 2/1/15
4/8/2014	8; 2 internal	1	1 promoted; 1 declined; 1 no show; 1 took another position	Candidate promoted effective 6/30/14, still in position
5/6/2015	8; 3 internal	1	2 promoted; 4 not qual	2 candidates promoted effective 6/15/15; both still in positions

WR Sr Operator

April 18, 2016

7 Budgeted Positions; 4 currently unfilled

Recruitment/ Interview Date	# of Candidates	# of Open Positions	Interview Results	Comments
4/28/2010	5	Unk	Unk	No viable candidates
4/10/2013	0	2	N/A	3 candidates hired effective 7/21/14, 6/30/14, 6/16,14 - 1 released from probation 8/27/14; 2 promoted to Lead 6/15/15
4/14/2014	9; 1 internal	3	3 hired; 3 declined; 1 not interested	
5/12/2015	8; 2 internal	3	2 promoted; 3 no show/response	2 candidates promoted effective 6/15/15, still in positions

**CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT**

**BOARD OF WATER COMMISSIONERS
STAFF REPORT**

MAY - 5 2016

TO: Stacey R. Aldstadt, General Manager

FROM: Robin L. Ohama, Deputy General Manager

SUBJECT: **REVISED JOB DESCRIPTION FOR SCADA ANALYST AND RANGE CHANGES FOR SCADA AND ELECTRICAL/INSTRUMENTATION CLASSIFICATIONS**

DATE: May 4, 2016

CC: John Claus, Human Resources, Payroll

BACKGROUND:

The job description for SCADA Analyst was originally approved by the Board on July 8, 2003 and a revision was approved on October 12, 2012. This position performs network and programming functions that are not included in the current duties. The job description has been revised to accurately reflect current duties and terminology.

The salaries for Electrical/Instrumentation Technician, Senior Electrical/Instrumentation Technician, Electrical/Instrumentation Lead Worker, and SCADA Analyst classifications were last reviewed in July 2004. Recent recruitments for these classifications have either resulted in extremely small numbers of candidates or failed to produce any viable candidates, despite enlisting the services of a recruitment agency to assist with the SCADA Analyst classification. In addition, retention in these classifications has been an issue (refer to attached spreadsheet).

The Department relies heavily on electrical, instrumentation, and SCADA devices/systems/applications to ensure consistent operations in compliance with regulatory requirements, and the demand for electrical work is only expected to increase as the Department expands and upgrades its facilities. In addition, with the technological advances and opportunity for greater efficiency offered by the SCADA systems, coupled with the size, complexity, and automation of Water Utility and Water Reclamation (which are continuously increasing to meet demands and ensure safe and reliable service to the City of San Bernardino), it is vital that these positions remain filled.

Human Resources conducted a salary survey for the above classifications and determined that they are varying percentages below the average maximum (anywhere from 8% to 20%). In addition, many of the survey agencies currently provide incentives to employees who hold certifications above what

May 4, 2016

SUBJECT: REVISED JOB DESCRIPTION FOR SCADA ANALYST AND RANGE CHANGES FOR SCADA AND ELECTRICAL/INSTRUMENTATION CLASSIFICATIONS

is required for their jobs and personnel in difficult to fill/retain positions. Since recent recruitments for the above classifications have either been unsuccessful, or only marginally successful, and the market for these positions is very competitive, it is recommended that the ranges be increased to a level slightly higher than the average maximum indicated by the salary survey in order to become competitive and attract qualified candidates for these vital positions.

As a result of recommended range changes to the above classifications, it will be necessary to adjust the ranges of the Electrical Repairperson, Electrical/Instrumentation Supervisor, SCADA/Instrumentation Supervisor, and EI&S Superintendent classifications in order to maintain appropriate salary differential between classifications.

The recommended range changes are as follows:

- Electrical/Instrumentation Technician from Range 144 (\$4,075.60/mo to \$5,217.12/mo) to Range 153 (\$5,089.87/mo to \$6,515.46/mo);
- Senior Electrical/Instrumentation Technician from Range 148 (\$4,498.70/mo to \$5,758.72/mo) to Range 157 (\$5,618.26/mo to \$7,191.85/mo);
- Electrical/Instrumentation Lead Worker from Range 152 (\$4,965.73/mo to \$6,356.55/mo) to Range 161 (\$6,201.51/mo to \$7,938.46/mo);
- Electrical Repairperson from Range 135 (\$3,263.45/mo to \$4,177.49/mo) to Range 139 (\$3,602.24/mo to \$4,611.17/mo);
- Electrical/Instrumentation Supervisor from Range 259 (\$6,311.31/mo to \$8,055.00/mo) to Range 268 (\$7,881.96/mo to \$10,059.59/mo);
- SCADA/Instrumentation Supervisor from Range 259 (\$6,311.31/mo to \$8,055.00/mo) to Range 268 (\$7,881.96/mo to \$10,059.59/mo);
- EI&S Superintendent from Range 268 (\$7,881.96/mo to \$10,059.59/mo) to Range 274 (\$9,140.65/mo to \$11,666.05/mo);
- SCADA Analyst from Range 158 (5,758.72/mo to \$7,371.65/mo) to Range 163 (\$6,515.46/mo to \$8,340.34/mo).

Human Resources concurs with the above recommendations.

Per the Classification Compensation Plan Maintenance policy, No. 31.160, employees shall be placed in the new range at the rate closest to their rate in their current range. Therefore, there will be minimal financial impact for the 2015/2016 fiscal year. The above changes are included in the budget for fiscal year 2016/2017.

May 4, 2016

SUBJECT: REVISED JOB DESCRIPTION FOR SCADA ANALYST AND RANGE CHANGES FOR SCADA AND ELECTRICAL/INSTRUMENTATION CLASSIFICATIONS

RECOMMENDATION:

Staff recommends that the Board of Water Commissioners make the following motions:

- Approve the revised job description for SCADA Analyst (21828);
- Approve the Range change for Electrical/Instrumentation Technician (21848) from Range 144 (\$4,075.60/mo to \$5,217.12/mo) to Range 153 (\$5,089.87/mo to \$6,515.46/mo);
- Approve the Range change for Senior Electrical/Instrumentation Technician (21850) from Range 148 (\$4,498.70/mo to \$5,758.72/mo) to Range 157 (\$5,618.26/mo to \$7,191.85/mo);
- Approve the Range change for Electrical/Instrumentation Lead Worker (21852) from Range 152 (\$4,965.73/mo to \$6,356.55/mo) to Range 161 (\$6,201.51/mo to \$7,938.46/mo);
- Approve the Range change for Electrical Repairperson (21823) from Range 135 (\$3,263.45/mo to \$4,177.49/mo) to Range 139 (\$3,602.24/mo to \$4,611.17/mo);
- Approve the Range change for Electrical/Instrumentation Supervisor (51815) from Range 259 (\$6,311.31/mo to \$8,055.00/mo) to Range 268 (\$7,881.96/mo to \$10,059.59/mo);
- Approve the Range change for SCADA/Instrumentation Supervisor (51835) from Range 259 (\$6,311.31/mo to \$8,055.00/mo) to Range 268 (\$7,881.96/mo to \$10,059.59/mo);
- Approve the Range change for EI&S Superintendent (51834) from Range 268 (\$7,881.96/mo to \$10,059.59/mo) to Range 274 (\$9,140.65/mo to \$11,666.05/mo); and
- Approve the Range change for SCADA Analyst (21828) from Range 158 (\$5,758.72/mo to \$7,371.65/mo) to Range 163 (\$6,515.46/mo to \$8,340.34/mo).

Respectfully submitted,



Robin L. Ohama

Deputy General Manager

Attachments: Revised job description for SCADA Analyst, redline and final draft versions
Recruitment Results spreadsheet

**SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
CLASSIFICATION SPECIFICATION**

TITLE: SCADA ANALYST

DATE: ~~10/2/2012~~

JOB CODE: 21828

FLSA STATUS: NON-EXEMPT

UNIT REPRESENTATION: GENERAL

Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

DUTIES SUMMARY

Under general direction, ~~assist in~~ perform highly skilled work in the areas of planning, design, implementation, testing, operation, documentation, security, troubleshooting, hardware and software maintenance, and monitoring of the Department's Supervisory Control and Data Acquisition (SCADA) system(s), the Department's Distribution System Hydraulic Model (DSHM), human machine interfaces (HMI), and the Department's security systems, including remote hardware, software, and communications; work in and around low voltage (600V or less) panels and circuits; work under the appropriate applicable provisions of the National Electric Code, approved plans, specifications, and standard industry practices; maintain the SCADA system's Remote Terminal Units (RTUs), Programmable Logic Controllers (PLCs), and associated control equipment and systems; supports network communications and associated hardware, from process Input/Output (I/O) networks to the Local Area Networks (LANS) and Wide Area Network (WAN) used in the plant information networks; train, instruct, correct, and document the work of assigned contractors and/or crew members in the performance of specific tasks; and perform other related work as required.

DISTINGUISHING CHARACTERISTICS

This class is the advanced journey level working crew leader in the instrumentation/SCADA series. In addition to fully performing the duties of the senior level class, incumbents are responsible for training, instructing, and evaluating the work of assigned crew members. Incumbents in this class may also oversee the inspection of work performed by contractors and will perform more complex troubleshooting and diagnosis of SCADA and electronic problems and develop solutions to complex SCADA and electronic problems. Incumbents are expected to work under general direction using good judgment and discretion in carrying out work assignments and directing the work of others. Incumbents also possess greater skill and expertise in the operation and maintenance of SCADA equipment/systems,

instrumentation equipment/systems, and electrical equipment/systems. Supervision is received from a the SCADA/Instrumentation Supervisor.

EXAMPLES OF DUTIES

The following duties are typical essential duties for positions in this classification. Any single position may not perform all of these duties and/or may perform similar related duties not listed here:

- Provide courteous and expeditious customer service to the general public and City and Department staff;
- Design, develop, implement, modify, install, and maintain hardware, software, electrical and electronic apparatuses, and communication components of the Department's computer-based SCADA, DSHM, HMI, and security systems, and plant information LAN/WAN networks;
- Create complex and detailed applications, scripts, and other programming functions for various SCADA, automation, and Oracle database projects; work with software vendors to develop unique and specific applications to support complex needs of WRPthe water utility and water reclamation divisions;
- Administer and create complex programs for integrating SCADA and other systems with connected computer systems (external and internal to the SCADA network); utilize standard protocols and computer language to create these interfaces;
- Lead and participate in troubleshooting and repairing instrumentation systems, control and process loops, PID, and associated equipment;
- Ensure work quality and adherence to professional codes, standards, and Department specifications;
- Design, develop, and write programs for new automation enhancements to existing PLCs, computers, configurations, and applications to facilitate operational requirements of the water utility and water reclamation divisionsWRP;
- Design, implement, and test system disaster recovery strategies and procedures intended to assure "mission critical" system components of SCADA remain operational at all times;
- Manage vendor licensing and support contract issues related to SCADA and its associated computer operating systems;
- Diagnose control and network hardware malfunctions; perform maintenance and repair; replace components and parts and change out equipment when necessary to ensure timely and accurate completion of preventative maintenance activities;
- Assist in developing plans for future expansions and enhancements concerning plant automation and data communication, including budgeting for acquisition, installation, maintenance, and adapting plans for changing technology;
- Administer data backup & archiving procedures for real-time SCADA generated data;
- Automate the collection of information and the generation of reports produced by the system;

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- Effectively utilize test equipment;
- Perform a variety of difficult and complex tasks in the diagnoses, calibration, installation, and troubleshooting of communication system equipment, security equipment, telemetry based controllers, PLCs and RTUs, primary sensors, and related systems;
- Develop documentation and online help for end users;
- Maintain water distribution system hydraulic model and database;
- Perform journey level installation, maintenance, and repair of control circuits, pressure switches, floats, underground cables, motors, telemetry, copper lines and power output frequency regulators, and transducer recorders;
- Inspect tele-metering, electric controllers, programmable controllers, process meters, analyzers, flow systems, and a variety of other types of instrumentation for proper operation;
- Lead and participate in performing installations, repairs, modifications, calibrations, and preventative maintenance on a wide variety of complex digital, analog, programmable, and other auxiliary equipment used in the collection, transmission, and treatment of water/wastewater;
- Read and interpret electrical and instrumentation plans, specifications, blueprints, sketches, wiring diagrams, and schematics;
- Pull, install, splice, and terminate wiring; work on cables underground or from ladder, tower, or truck;
- Thread, bend, and operate portable power drill and other power tools commonly used in water/wastewater utility work;
- Operate and maintain electrical instruments and tools; clean and maintain tools and supplies;
- Inspect equipment installation work performed by contractors and other personnel for workmanship and compliance;
- Estimate labor and material for SCADA/security installations and repairs; lay out work on the project site; prepare reports of time and material expended;
- Maintain an inventory of parts, materials, and supplies used in the SCADA section and in performing everyday tasks;
- Document and record all programming, testing, and updates performed;
- Maintain network communication between equipment, controls, field hardware, and SCADA system;
- Respond to emergency situations during off hours as required;
- Review and provide input and suggestions on new system requirements;

- Provide training, instruction, inspection, and evaluation to entry and journey level electricians/instrumentation technicians; direct the work of assigned workers on a crew;
- Work effectively with others;
- Required to wear respiratory protective equipment to include Self Contained Breathing Apparatus (SCBA);
- Operate Department vehicles;
- Routinely adhere to and maintain a positive attitude toward City and Department goals; and
- Perform related work as required.

QUALIFICATIONS

Knowledge of:

- Principles, theory, and practices of electricity, electronics, pneumatics, hydraulics, and mechanics as they apply to maintenance and repair of equipment and instruments commonly found in water/wastewater treatment facilities;
- Principles, practices, and methods of process automation, process control, and computer systems/network maintenance, including configuration, performance tuning, components and devices, operating systems, characteristics and configuration settings;
- Linux, Unix, and Windows operating systems, programming and application software;
- Standard programming languages and protocols, such as Java, C, Perl, Visual Basic, Oracle PL/SQL, and Linux shell scripting;
- Network architectures and methods of network design and integration, including topologies and protocols;
- Fiber-optics technology;
- SCADA theory at an advanced level;
- PLC programming theory at an advanced level for testing, troubleshooting, and repairing PLC components and data highway systems;
- Information Technology (IT) related functions (computer operating systems, hardware, network administration, etc.) at an advanced level
- Human-machine interface (HMI) software packages, such as Wonderware, Intellution, or OASIS;
- Data radio systems, wireless network repeaters, Ethernet & serial wireless data radio/modems;

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- Terminology used in networking and desktop computer support;
- Principles, methods, and techniques in the design and operation of SCADA and its associated systems equivalent to those used by the Water Department;
- Applicable codes and regulations;
- Industrial electricity and safety practices, precautions, and procedures;
- Tools, materials, methods, and practices of electrical, electronic, and instrumentation trade;
- Symbols and standard practices used in the preparation of process and instrument flow diagrams;
- Electrical installations and maintenance in water utility or reclamation facilities including low voltage (600V or less) electrical circuit;
- Shop mathematics applicable to the electric/electronics trades;
- Software (Microsoft Word, Excel, Access, PowerPoint, Outlook, Internet Explorer, Adobe Acrobat);
- Instrumentation calibration concepts and procedures;
- Appropriate safety precautions and procedures;
- Complex record keeping, documentation, and practices;
- English usage, spelling, grammar, and punctuation;
- General principles of supervision and training.

Ability to:

- Plan, organize, schedule, and monitor work for efficiency, quality, and timeliness;
- Operate PCs, PLCs, HMIs, communications and network test equipment and devices;
- Recognize, analyze, and define a variety of routine to complex programming, communication, electrical, chlorination, and instrumentation problems without close supervision;
- Make sound, independent decisions within established guidelines;
- Apply in-depth understanding of theories and concepts of process automation and control to water utility and water reclamation WRP processes;

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- Understand technical specifications of SCADA and apply toward developing special programs related to SCADA;
- Lead and train others in the daily technical and administrative support activities of the SCADA system;
- Correct instrument operating problems and make recommendations for system modifications to meet operational needs without close supervision;
- Perform SCADA network, equipment, software, and hardware configurations accurately and efficiently;
- Troubleshoot hardware and software problems and make or recommend modifications;
- Operate power tools, hand tools and light equipment used in electrical activities; operate specialized test equipment such as milliamp and millivolt calibrators, multimeters, power supplies, and oscilloscopes;
- Perform a wide range of skilled water utility or reclamation security/SCADA/electrical/instrumentation installation, wiring, repair, and maintenance work on low voltage circuits in accordance with safety standards;
- Read, understand, interpret, and apply moderately complex materials including technical manuals, drawings, specifications, layouts, diagrams, blueprints, plans, and schematics;
- Plan and schedule construction and maintenance work assignments;
- Keep accurate records;
- Recognize, report, and/or correct unsafe working conditions;
- Understand and carry out routine to complex instructions furnished in oral, written, or diagrammatic form;
- Make arithmetical calculations involving fractions, decimals, and percentages with speed and accuracy;
- Communicate clearly and concisely, both orally and in writing;
- Establish and maintain effective relationships with those contacted in the course of work;
- Operate a vehicle observing legal and defensive driving practices;
- Respond to call-out or emergencies as required; handle emergency situations as directed;
- Be physically capable of entering permit required confined spaces and wearing Self Contained Breathing Apparatus (SCBA) equipment;

- Operate an atmospheric tester for entry into confined spaces;
- Wear protective respiratory equipment to include SCBA and personal escape respirator;
- Assign tasks, train, and evaluate progress of assigned employees;
- Maintain a driving record that meets vehicle code standards and is acceptable to the Department and its insurance carrier.

MINIMUM QUALIFICATIONS

An employee within this classification may be designated as a "key responder" and as such shall be required to respond to non-normal working hour emergency operational conditions.

Education and Experience:

At least two (2) years of journey level experience in the use of proprietary human-machine interface (HMI) software packages such as Wonderware, Intellution, or OASIS. Must be proficient in the design and operation of SCADA and its associated systems equivalent to those used by the Water Department.

AND

Associate Degree in Computer Science, Electrical Engineering, Electronics, or Instrumentation and Control Systems, or closely related science **and** two (2) years of journey level experience in SCADA systems design, installation, maintenance, and/or repair (utility/industrial applications preferred) including at least one (1) year of experience in the programming of programmable logic controllers (PLCs).

OR

High School graduation or equivalent **and** six (6) years of journey level experience in SCADA systems design, installation, maintenance, and/or repair (utility/industrial applications preferred) including at least one (1) year of experience in the programming of programmable logic controller (PLCs).

OR

Trade/Military Technical School graduation **and** four (4) years of journey level experience in SCADA systems design, installation, maintenance, and/or repair (utility/industrial applications preferred) including at least one (1) year of experience in the programming of programmable logic controllers (PLCs).

Certificates:

Possession of a valid California Class "C" driver's license is required upon application. For out-of-state applicants, a valid driver's license is required and a valid California Class "C" license is required within ten (10) days of appointment (CA Vehicle Code 12505c).

Possession of a Grade II Control Systems Technician certificate, issued by the Instrument Society of America (ISA) or Grade III Electrical Instrumentation Technologist certificate, issued by California Water Environment Association (CWEA) is highly desirable.

NECESSARY SPECIAL REQUIREMENTS

Must be able to respond to call-outs or emergencies including being on-call.

Must be clean shaven or have trimmed facial hair in order to properly use personal respirators and SCBA equipment. Must pass a respirator medical exam and be physically able to wear SCBA equipment. Must be able to work in enclosed spaces while wearing protective clothing and under extreme temperatures and hazardous environment.

PHYSICAL TASKS AND ENVIRONMENTAL CONDITIONS

Work involves exposure to potential physical harm, hazardous chemicals and infectious disease. There is frequent need to stand, sit, stoop, walk, and perform other similar actions during the course of the workday. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

Incumbents require sufficient mobility to work in a variety of environmental and weather conditions, transport materials and supplies weighing up to 100 pounds, work in boom truck with lift of 30 to 60 feet, and work to heights of 150 feet. Must be able to see in the normal visual range with or without correction. Must be able to hear in the normal audio range with or without correction. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

CAREER LADDER

From: SCADA Analyst

To: SCADA/Instrumentation Supervisor

Job Description:

BOWC Approved: 7/8/2003
Rev: 10/02/2012

Testing Standards: ~~Open/Promotional/Supplemental Application/Civil Service Ora~~CS App Review/CS Supp App Review:

CSB Approved: 9/14/2004
CS Oral Board removed by CSB Action 4/12/2016

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT CLASSIFICATION SPECIFICATION

TITLE: SCADA ANALYST

DATE:

JOB CODE: 21828

FLSA STATUS: NON-EXEMPT

UNIT REPRESENTATION: GENERAL

Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

DUTIES SUMMARY

Under general direction, perform highly skilled work in the areas of planning, design, implementation, testing, operation, documentation, security, troubleshooting, hardware and software maintenance, and monitoring of the Department's Supervisory Control and Data Acquisition (SCADA) system(s), the Department's Distribution System Hydraulic Model (DSHM), human machine interfaces (HMI), and the Department's security systems, including remote hardware, software, and communications; work in and around low voltage (600V or less) panels and circuits; work under the appropriate applicable provisions of the National Electric Code, approved plans, specifications, and standard industry practices; maintain the SCADA system's Remote Terminal Units (RTUs), Programmable Logic Controllers (PLCs), and associated control equipment and systems; supports network communications and associated hardware, from process Input/Output (I/O) networks to the Local Area Networks (LANS) and Wide Area Network (WAN) used in the plant information networks; train, instruct, correct, and document the work of assigned contractors and/or crew members in the performance of specific tasks; and perform other related work as required.

DISTINGUISHING CHARACTERISTICS

This class is the advanced journey level working crew leader in the instrumentation/SCADA series. In addition to fully performing the duties of the senior level class, incumbents are responsible for training, instructing, and evaluating the work of assigned crew members. Incumbents in this class may also oversee the inspection of work performed by contractors and will perform more complex troubleshooting and diagnosis of SCADA and electronic problems and develop solutions to complex SCADA and electronic problems. Incumbents are expected to work under general direction using good judgment and discretion in carrying out work assignments and directing the work of others. Incumbents also possess greater skill and expertise in the operation and maintenance of SCADA equipment/systems, instrumentation equipment/systems, and electrical equipment/systems. Supervision is received from the SCADA/Instrumentation Supervisor.

EXAMPLES OF DUTIES

The following duties are typical essential duties for positions in this classification. Any single position may not perform all of these duties and/or may perform similar related duties not listed here:

- Provide courteous and expeditious customer service to the general public and City and Department staff;
- Design, develop, implement, modify, install, and maintain hardware, software, electrical and electronic apparatuses, and communication components of the Department's computer-based SCADA, DSHM, HMI, security systems, and plant information LAN/WAN networks;
- Create complex and detailed applications, scripts, and other programming functions for various SCADA, automation, and Oracle database projects; work with software vendors to develop unique and specific applications to support complex needs of the water utility and water reclamation divisions;
- Administer and create complex programs for integrating SCADA and other systems with connected computer systems (external and internal to the SCADA network); utilize standard protocols and computer language to create these interfaces;
- Lead and participate in troubleshooting and repairing instrumentation systems, control and process loops, PID, and associated equipment;
- Ensure work quality and adherence to professional codes, standards, and Department specifications;
- Design, develop, and write programs for new automation enhancements to existing PLCs, computers, configurations, and applications to facilitate operational requirements of the water utility and water reclamation divisions;
- Design, implement, and test system disaster recovery strategies and procedures intended to assure "mission critical" system components of SCADA remain operational at all times;
- Manage vendor licensing and support contract issues related to SCADA and its associated computer operating systems;
- Diagnose control and network hardware malfunctions; perform maintenance and repair; replace components and parts and change out equipment when necessary to ensure timely and accurate completion of preventative maintenance activities;
- Assist in developing plans for future expansions and enhancements concerning plant automation and data communication, including budgeting for acquisition, installation, maintenance, and adapting plans for changing technology;
- Administer data backup & archiving procedures for real-time SCADA generated data;
- Automate the collection of information and the generation of reports produced by the system;

- Effectively utilize test equipment;
- Perform a variety of difficult and complex tasks in the diagnoses, calibration, installation, and troubleshooting of communication system equipment, security equipment, telemetry based controllers, PLCs and RTUs, primary sensors, and related systems;
- Develop documentation and online help for end users;
- Maintain water distribution system hydraulic model and database;
- Perform journey level installation, maintenance, and repair of control circuits, pressure switches, floats, underground cables, motors, telemetry, copper lines and power output frequency regulators, and transducer recorders;
- Inspect tele-metering, electric controllers, programmable controllers, process meters, analyzers, flow systems, and a variety of other types of instrumentation for proper operation;
- Lead and participate in performing installations, repairs, modifications, calibrations, and preventative maintenance on a wide variety of complex digital, analog, programmable, and other auxiliary equipment used in the collection, transmission, and treatment of water/wastewater;
- Read and interpret electrical and instrumentation plans, specifications, blueprints, sketches, wiring diagrams, and schematics;
- Pull, install, splice, and terminate wiring; work on cables underground or from ladder, tower, or truck;
- Thread, bend, and operate portable power drill and other power tools commonly used in water/wastewater utility work;
- Operate and maintain electrical instruments and tools; clean and maintain tools and supplies;
- Inspect equipment installation work performed by contractors and other personnel for workmanship and compliance;
- Estimate labor and material for SCADA/security installations and repairs; lay out work on the project site; prepare reports of time and material expended;
- Maintain an inventory of parts, materials, and supplies used in the SCADA section and in performing everyday tasks;
- Document and record all programming, testing, and updates performed;
- Maintain network communication between equipment, controls, field hardware, and SCADA system;
- Respond to emergency situations during off hours as required;
- Review and provide input and suggestions on new system requirements;

- Provide training, instruction, inspection, and evaluation to entry and journey level electricians/instrumentation technicians; direct the work of assigned workers on a crew;
- Work effectively with others;
- Required to wear respiratory protective equipment to include Self Contained Breathing Apparatus (SCBA);
- Operate Department vehicles;
- Routinely adhere to and maintain a positive attitude toward City and Department goals; and
- Perform related work as required.

QUALIFICATIONS

Knowledge of:

- Principles, theory, and practices of electricity, electronics, pneumatics, hydraulics, and mechanics as they apply to maintenance and repair of equipment and instruments commonly found in water/wastewater treatment facilities;
- Principles, practices, and methods of process automation, process control, and computer systems/network maintenance, including configuration, performance tuning, components and devices, operating systems, characteristics and configuration settings;
- Linux, Unix, and Windows operating systems, programming and application software;
- Standard programming languages and protocols, such as Java, C, Perl, Visual Basic, Oracle PL/SQL, and Linux shell scripting;
- Network architectures and methods of network design and integration, including topologies and protocols;
- Fiber-optics technology;
- SCADA theory at an advanced level;
- PLC programming theory at an advanced level for testing, troubleshooting, and repairing PLC components and data highway systems;
- Information Technology (IT) related functions (computer operating systems, hardware, network administration, etc.) at an advanced level
- Human-machine interface (HMI) software packages, such as Wonderware, Intellution, or OASIS;
- Data radio systems, wireless network repeaters, Ethernet & serial wireless data radio/modems;
- Terminology used in networking and desktop computer support;

- Principles, methods, and techniques in the design and operation of SCADA and its associated systems equivalent to those used by the Water Department;
- Applicable codes and regulations;
- Industrial electricity and safety practices, precautions, and procedures;
- Tools, materials, methods, and practices of electrical, electronic, and instrumentation trade;
- Symbols and standard practices used in the preparation of process and instrument flow diagrams;
- Electrical installations and maintenance in water utility or reclamation facilities including low voltage (600V or less) electrical circuit;
- Shop mathematics applicable to the electric/electronics trades;
- Software (Microsoft Word, Excel, Access, PowerPoint, Outlook, Internet Explorer, Adobe Acrobat);
- Instrumentation calibration concepts and procedures;
- Appropriate safety precautions and procedures;
- Complex record keeping, documentation, and practices;
- English usage, spelling, grammar, and punctuation;
- General principles of supervision and training.

Ability to:

- Plan, organize, schedule, and monitor work for efficiency, quality, and timeliness;
- Operate PCs, PLCs, HMIs, communications and network test equipment and devices;
- Recognize, analyze, and define a variety of routine to complex programming, communication, electrical, chlorination, and instrumentation problems without close supervision;
- Make sound, independent decisions within established guidelines;
- Apply in-depth understanding of theories and concepts of process automation and control to water utility and water reclamation processes;
- Understand technical specifications of SCADA and apply toward developing special programs related to SCADA;

- Lead and train others in the daily technical and administrative support activities of the SCADA system;
- Correct instrument operating problems and make recommendations for system modifications to meet operational needs without close supervision;
- Perform SCADA network, equipment, software, and hardware configurations accurately and efficiently;
- Troubleshoot hardware and software problems and make or recommend modifications;
- Operate power tools, hand tools and light equipment used in electrical activities; operate specialized test equipment such as milliamp and millivolt calibrators, multimeters, power supplies, and oscilloscopes;
- Perform a wide range of skilled water utility or reclamation security/SCADA/electrical/instrumentation installation, wiring, repair, and maintenance work on low voltage circuits in accordance with safety standards;
- Read, understand, interpret, and apply moderately complex materials including technical manuals, drawings, specifications, layouts, diagrams, blueprints, plans, and schematics;
- Plan and schedule construction and maintenance work assignments;
- Keep accurate records;
- Recognize, report, and/or correct unsafe working conditions;
- Understand and carry out routine to complex instructions furnished in oral, written, or diagrammatic form;
- Make arithmetical calculations involving fractions, decimals, and percentages with speed and accuracy;
- Communicate clearly and concisely, both orally and in writing;
- Establish and maintain effective relationships with those contacted in the course of work;
- Operate a vehicle observing legal and defensive driving practices;
- Respond to call-out or emergencies as required; handle emergency situations as directed;
- Be physically capable of entering permit required confined spaces and wearing Self Contained Breathing Apparatus (SCBA) equipment;
- Operate an atmospheric tester for entry into confined spaces;
- Wear protective respiratory equipment to include SCBA and personal escape respirator;
- Assign tasks, train, and evaluate progress of assigned employees;

- Maintain a driving record that meets vehicle code standards and is acceptable to the Department and its insurance carrier.

MINIMUM QUALIFICATIONS

An employee within this classification may be designated as a "key responder" and as such shall be required to respond to non-normal working hour emergency operational conditions.

Education and Experience:

At least two (2) years of journey level experience in the use of proprietary human-machine interface (HMI) software packages such as Wonderware, Intellution, or OASIS. Must be proficient in the design and operation of SCADA and its associated systems equivalent to those used by the Water Department.

AND

Associate Degree in Computer Science, Electrical Engineering, Electronics, or Instrumentation and Control Systems, or closely related science **and** two (2) years of journey level experience in SCADA systems design, installation, maintenance, and/or repair (utility/industrial applications preferred) including at least one (1) year of experience in the programming of programmable logic controllers (PLCs).

OR

High School graduation or equivalent **and** six (6) years of journey level experience in SCADA systems design, installation, maintenance, and/or repair (utility/industrial applications preferred) including at least one (1) year of experience in the programming of programmable logic controller (PLCs).

OR

Trade/Military Technical School graduation **and** four (4) years of journey level experience in SCADA systems design, installation, maintenance, and/or repair (utility/industrial applications preferred) including at least one (1) year of experience in the programming of programmable logic controllers (PLCs).

Certificates:

Possession of a valid California Class "C" driver's license is required upon application. For out-of-state applicants, a valid driver's license is required and a valid California Class "C" license is required within ten (10) days of appointment (CA Vehicle Code 12505c).

Possession of a Grade II Control Systems Technician certificate, issued by the Instrument Society of America (ISA) or Grade III Electrical Instrumentation Technologist certificate, issued by California Water Environment Association (CWEA) is highly desirable.

NECESSARY SPECIAL REQUIREMENTS

Must be able to respond to call-outs or emergencies including being on-call.

Must be clean shaven or have trimmed facial hair in order to properly use personal respirators and SCBA equipment. Must pass a respirator medical exam and be physically able to wear SCBA equipment. Must be able to work in enclosed spaces while wearing protective clothing and under extreme temperatures and hazardous environment.

PHYSICAL TASKS AND ENVIRONMENTAL CONDITIONS

Work involves exposure to potential physical harm, hazardous chemicals and infectious disease. There is frequent need to stand, sit, stoop, walk, and perform other similar actions during the course of the workday. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

Incumbents require sufficient mobility to work in a variety of environmental and weather conditions, transport materials and supplies weighing up to 100 pounds, work in boom truck with lift of 30 to 60 feet, and work to heights of 150 feet. Must be able to see in the normal visual range with or without correction. Must be able to hear in the normal audio range with or without correction. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

CAREER LADDER

From: SCADA Analyst

To: SCADA/Instrumentation Supervisor

Job Description:

BOWC Approved: 7/8/2003
Rev: 10/02/2012

Testing Standards: CS App Review/CS Supp App Review:

CSB Approved: 9/14/2004
CS Oral Board removed by CSB Action 4/12/2016

SCADA Analyst

SCADA Analyst

April 29, 2016

Single Position Class - Position Open Since 5/7/12 Due to Promotion

Recruitment/ Interview Date	# of Candidates	Interview Results	Comments
1/28/2013	5; 1 internal	None Qual	
4/1/2013	0	N/A	No viable candidates
10/1/2015	0	N/A	Despite use of recruitment consultant Oct to Dec 2015, no viable candidates

Elect-Instr Lead

Electrical/Instrumentation Lead Worker

April 29, 2016

One Position - Currently Filled

Recruitment/

Interview Date	# of Candidates	Interview Results	Comments
2/19/2013	3; all external	1 hired	1 hired, still in position

Senior Electrical/Instrumentation Tech

April 29, 2016

7 budgeted positions; 1 position currently open

Recruitment/ Interview Date	# of Candidates	No of Open Positions	Interview Results	Comments
4/12/2011	17; all external	1	12 no shows; 2 declines	None selected
8/27/2012	12; 2 internal	2	3 no show; 1 declined job offer	1 hired, 1 promoted; both still in positions
7/14/2014	9; all external	1	2 no show; 1 decline; 1 not qual	1 hired effective 9/15/14, resigned effective 11/24/14
8/4/2015	9; all external	1	1 no show; 4 declines; 1 not qual	1 hired, still in position

Electrical/Instrumentation Technician

April 29, 2016

1 Budgeted Position; currently open

Recruitment/ Interview Date	# of Candidates	No of Open Positions	Interview Results	Comments
6/3/2010	44; 1 internal	1	13 no show; 2 declines; 1 not qual	2 hired effective 11/28/11 to underfill vacant Sr. Electrical/Instrumentation Tech positions following unsuccessful Sr. recruitment/interviews in October 2011; 1 released from probation effective 11/6/12; 1 promoted to Sr. 2/11/13
6/10/2014	6; all external	1	2 declines; 2 not qual	1 hired effective 7/21/14 - resigned effective 9/10/15

**CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT**

BOARD OF WATER COMMISSIONERS
STAFF REPORT

APR 28 2016

TO: Stacey R. Aldstadt, General Manager

FROM: Miguel J. Guerrero, Director of Water Utility

SUBJECT: **ADOPTION OF CEQA CATEGORICAL EXEMPTION FOR BELLEVIEW STREET AND VINE STREET ALLEY MAINS REPLACEMENT PROJECT (CO 10636)**

DATE: April 27, 2016

COPIES: Greg Gage (w/o attach), Sally Duran (w/attach)

BACKGROUND:

The Belleview Street and Vine Street Alley Mains Replacement project (Project) is a proposed Capital Improvement Project (CIP) in Fiscal Year 2016/2017 to replace aging and undersized alleyway mains located north and south of Belleview Street and Vine Street. These segments of alley mains require Water Department staff to frequently enter alleyways for maintenance or meter reading purposes. Replacement and relocation of these alleyway mains will eliminate the need for Water Department staff to enter the alleys. Approved water improvement plans have been produced with a total pipeline replacement length of approximately 2,340 linear feet of new 8" ductile iron pipeline and 1,050 linear feet of new 12" ductile iron pipeline.

Staff has reviewed the project as required by the California Environmental Quality Act (CEQA) and determined that the proposed improvements are Categorically Exempt as outlined in Section 15302 of the CEQA Guidelines. Specifically, Section 15302 describes a class of Categorical Exemptions for Existing Facilities and states the following:

Class 2 projects consist of replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced.

Based on the above analysis, staff is recommending that the Board of Water Commissioners (BOWC) adopt a categorical exemption for the Belleview Street and Vine Street Alley Mains Replacement project and authorize filing with the San Bernardino County Clerk of the Board of Supervisors and the State Clearinghouse Office of Planning and Research.

The Belleview Street and Vine Street Alley Mains Replacement project is proposed to be funded with \$1,000,000.00 in the Fiscal Year 2016/2017 CIP budget. Sufficient funds are available to complete processing of the CEQA documentation.

Stacey R. Aldstadt, General Manager

Page 2

April 27, 2016

SUBJECT: ADOPTION OF CEQA CATEGORICAL EXEMPTION FOR BELLEVIEW STREET AND VINE STREET ALLEY MAINS REPLACEMENT PROJECT (CO 10636)

RECOMMENDATION:

Staff recommends that the Board of Water Commissioners make the following motion:

Adopt a Categorical Exemption as the CEQA determination for the Belleview Street and Vine Street Alley Mains Replacement project, authorize the General Manager to execute the Notice of Exemption, and instruct staff to file the Notice of Exemption with the San Bernardino County Clerk of the Board of Supervisors and the State Clearinghouse Office of Planning and Research.

Respectfully submitted,



Miguel J. Guerrero, P.E.
Director, Water Utility

MJG:FLJ:aew
Attach.

Notice of Categorical Exemption

To: Interested Individuals
 State Clearinghouse
 County Clerk, County of San Bernardino

From: San Bernardino Municipal Water Department
 397 Chandler Place,
 San Bernardino, CA 92408

Contact: Francisco Lopez-Jimenez, Associate Engineer
 (909) 522-3405

Project Title: Belleview Street and Vine Street Alley Mains Replacement

Project Locations: Location number one of the proposed project is located along Belleview Street between "K" Street and "I" Street in the City of San Bernardino, California 92410. Location number two is located along Vine Street between Roberds Avenue and Mount Vernon Avenue in the City of San Bernardino, California 92410.

Project Description: The San Bernardino Municipal Water Department has identified the need to replace the existing alleyway mains north and south of both Belleview Street between "K" and "I" Streets and Vine Street between Roberds Avenue and Mount Vernon Avenue. The project is needed to replace and upgrade existing aging and undersized water infrastructure and to eliminate the need of Department staff from entering the alleyways. The project consists of the installation of 8" diameter pipe approximately 1,280 linear feet along Belleview Street, 1,060 linear feet along Vine Street and 12" diameter pipe approximately 1,050 linear feet along Rialto Avenue. Other work includes the construction of associated appurtenances, relocation of 161 domestic services, abandonment of four (4) existing alley mains and associated pavement removal and replacement. All improvements will be contained within existing City streets and will not result in an expansion of the service area population.

Exemption Status: Categorical Exemption

Article 19, Categorical Exemptions, Sections 15300 to 15332 of the CEQA Guidelines contain a list of classes of projects that have been found by the State Resources Agency to have no significant effect on the environment and are declared to be categorically exempt from the provisions of CEQA. The proposed improvements are most closely related to Section 15302 which describes exemptions for Replacement or Reconstruction of Existing Structures and Facilities. This Section defines "Class 2" projects which consist of the replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced, including but not limited to:

- (a) Replacement or reconstruction of existing schools and hospitals to provide earthquake resistant structures which do not increase capacity more than 50 percent.
- (b) Replacement of a commercial structure with a new structure of substantially the same size, purpose, and capacity.
- (c) Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.**
- (d) Conversion of overhead electric utility distribution system facilities to underground including connection to existing overhead electric utility distribution lines where the surface is restored to the condition existing prior to the undergrounding.

Reasons for Exemption:

1. The proposed improvements consist of upgrades to replace aging water infrastructure. Since the proposed improvements involve replacement of existing utility systems, the project would be considered consistent with Section 15302(c), referenced above.
2. The proposed improvements will not result in significant environmental impacts since it will be constructed within existing City streets and would not result in an increase in customer base or lead to growth inducement. The San Bernardino Municipal Water Department and/or its contractor will, as standard construction practice, ensure that a traffic control plan is in place to minimize impacts on traffic flow. Construction would take place only during daylight hours to minimize noise impacts on adjacent residences and businesses.
3. The proposed improvements would not involve alteration to scenic highways or other scenic resources, damage to cultural resources including historic buildings or other such resources, nor would it be located on a hazardous waste site pursuant to Section 65962.5 of the Government Code.
4. The proposed improvements would not result in significant impacts due to cumulative projects of the same type in the same place.
5. There is not a reasonable possibility that the proposed improvements would have a significant environmental effect due to unusual circumstances at the project site or vicinity.

Lead Agency

Contact Person: Stacey Aldstadt Telephone: (909) 384-5091

Signature: _____ Title: General Manager Date: _____

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk

County of: _____

From: (Public Agency): _____

(Address)

Project Title: _____

Project Applicant: _____

Project Location - Specific:

Project Location - City: _____ Project Location - County: _____

Description of Nature, Purpose and Beneficiaries of Project:

Name of Public Agency Approving Project: _____

Name of Person or Agency Carrying Out Project: _____

Exempt Status: (check one):

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption. State type and section number: _____
- Statutory Exemptions. State code number: _____

Reasons why project is exempt:

Lead Agency

Contact Person: _____ Area Code/Telephone/Extension: _____

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? Yes No

Signature: _____ Date: _____ Title: _____

Signed by Lead Agency Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.

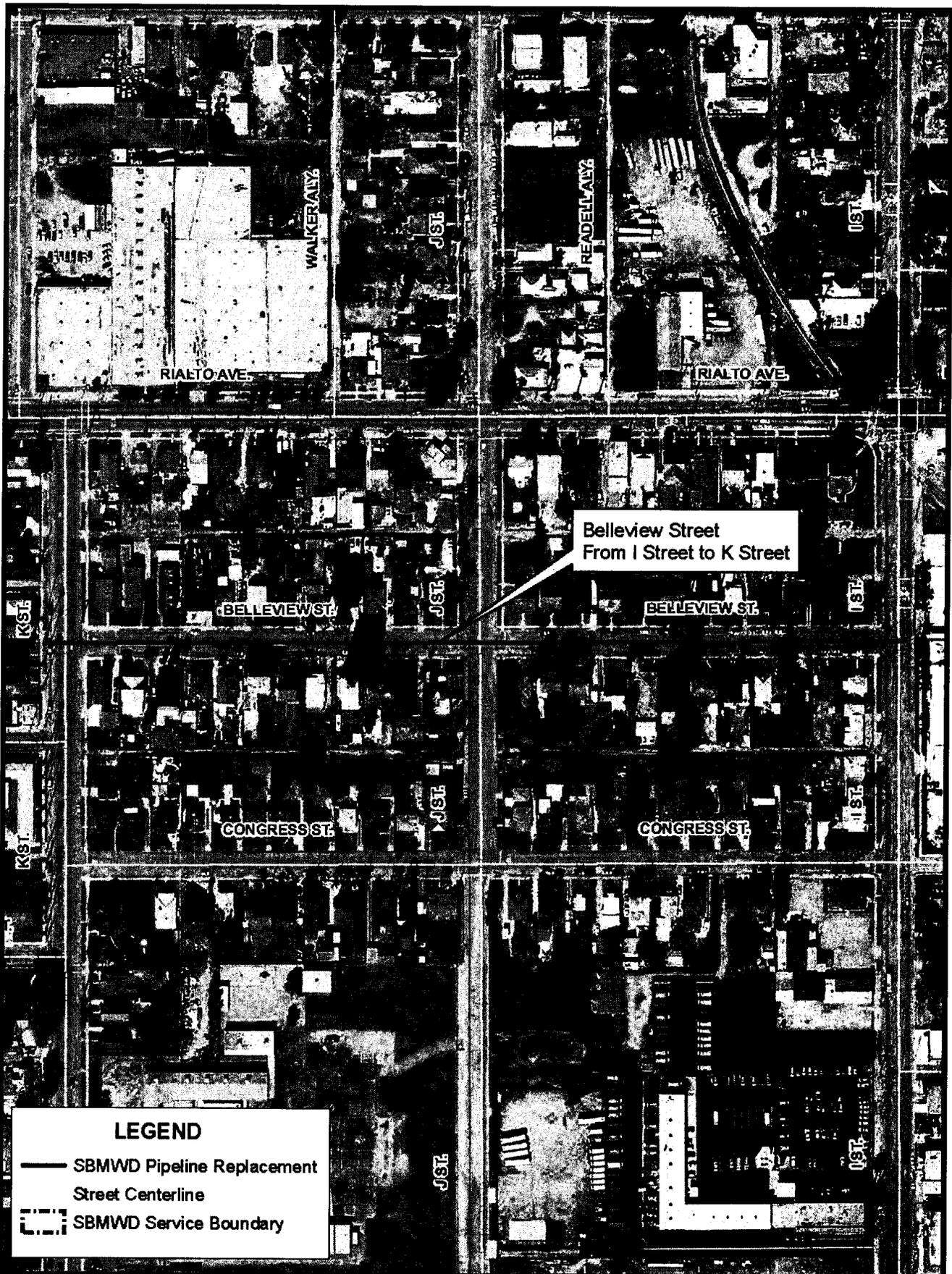
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____



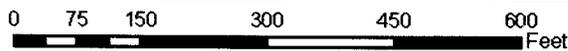
ALLEY MAIN REPLACEMENTS

BELLEVUE STREET



LEGEND

-  SBMWD Pipeline Replacement
-  Street Centerline
-  SBMWD Service Boundary



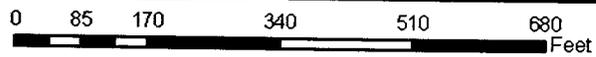


ALLEY MAIN REPLACEMENTS VINE STREET



LEGEND

-  SBMWD Pipeline Replacement
-  Street Centerline
-  SBMWD Service Boundary



CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT

BOARD OF WATER COMMISSIONERS
STAFF REPORT

MAY - 0 2016

TO: Stacey R. Aldstadt, General Manager

FROM: Miguel J. Guerrero, Director of Water Utility

SUBJECT: EXTENSION NO. 2 TO CONTRACT NO. 1584 - PLAN CHECK AND INSPECTION AGREEMENTS

DATE: May 4, 2016

COPIES: G. Gage, T. Brunson, M. Honis

BACKGROUND:

The Department utilizes outside consultants to perform plan check services and to inspect infrastructure installed through agreements with developers. This process has been effective in assuring timely reviews for design plans as well as providing necessary inspections for new infrastructure. The costs for these services are borne by the project applicant and are collected by the Department in accordance with Rule and Regulation No. 20, prior to initiation of any services.

The Board of Water Commissioners entered into a two (2) year contract, Contract No. 1584, with AEI-CASC Consulting, Inc., Engineering Resources of Southern California, Inc., and TKE Engineering, Inc., for Plan Check and Inspection Services on May 7, 2013. This contract had a provision for three (3) additional one (1) year extensions. Extension No. 1 expires on May 31, 2016; all three (3) firms have provided excellent service, and have agreed to extend the contract for one year under the same terms and conditions. Extension No. 2 has been prepared which will extend the contract from June 1, 2016 to May 31, 2017 under the same terms and conditions.

RECOMMENDATION:

Staff recommends that the Board of Water Commissioners make the following motion:

- Approve Extension No. 2 to Contract No. 1584 with AEI-CASC Consulting, Inc., Engineering Resources of Southern California, Inc., and TKE Engineering, Inc., extending the contract from June 1, 2016 to May 31, 2017 under the same terms and conditions, and authorize the President and Secretary to execute the extensions.

Respectfully submitted,



Miguel J. Guerrero, P.E.
Director of Water Utility

Attachments

sdm

**EXTENSION NO. 2
TO CONTRACT NO. 1584-1**



BY AND BETWEEN

CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT
300 NORTH D STREET
SAN BERNARDINO, CA 92401

AND

AEI-CASC CONSULTING, INC.
1470 EAST COOLEY DRIVE
COLTON, CA 92324

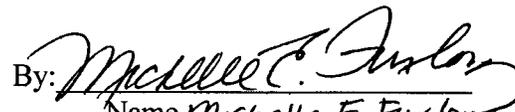
Contract No. 1584-1 to Furnish Plan Check and Inspection Services for Water System Infrastructure Improvements. All terms and conditions of Contract No. 1584-1 dated June 1, 2013 are to remain the same, except as follows:

Extension No. 2 will extend the contract for a period of one (1) year commencing on June 1, 2016 and ending on May 31, 2017.

CITY OF SAN BERNARDINO
BOARD OF WATER COMMISSIONERS

AEI-CASC CONSULTING, INC.

By: _____
Toni Callicott
President

By: 
Name Michelle E. Furlong
Title Secretary/Treasurer

By: _____
Robin L. Ohama
Secretary

(SEAL)

(SEAL)

**EXTENSION NO. 2
TO CONTRACT NO. 1584-2**



BY AND BETWEEN

CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT
300 NORTH D STREET
SAN BERNARDINO, CA 92401

AND

ENGINEERING RESOURCES
3550 EAST FLORIDA AVE. SUITE B
HEMET, CA 92544

Contract No. 1584-2 to Furnish Plan Check and Inspection Services for Water System Infrastructure Improvements. All terms and conditions of Contract No. 1584-2 dated June 1, 2013 are to remain the same, except as follows:

Extension No. 2 will extend the contract for a period of one (1) year commencing on June 1, 2016 and ending on May 31, 2017.

CITY OF SAN BERNARDINO
BOARD OF WATER COMMISSIONERS

ENGINEERING RESOURCES OF
SOUTHERN CALIFORNIA, INC.

By: _____
Toni Callicott
President

By:  _____
Name John M. Brudin
Title President

By: _____
Robin L. Ohama
Secretary

(SEAL)

(SEAL)

**EXTENSION NO. 2
TO CONTRACT NO. 1584-3**



BY AND BETWEEN

CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT
300 NORTH D STREET
SAN BERNARDINO, CA 92401

AND

TKE ENGINEERING, INC.
2305 CHICAGO AVENUE
RIVERSIDE, CA 92507

Contract No. 1584-3 to Furnish Plan Check and Inspection Services for Water System Infrastructure Improvements. All terms and conditions of Contract No. 1584-3 dated June 1, 2013 are to remain the same, except as follows:

Extension No. 2 will extend the contract for a period of one (1) year commencing on June 1, 2016 and ending on May 31, 2017.

CITY OF SAN BERNARDINO
BOARD OF WATER COMMISSIONERS

TKE ENGINEERING, INC.

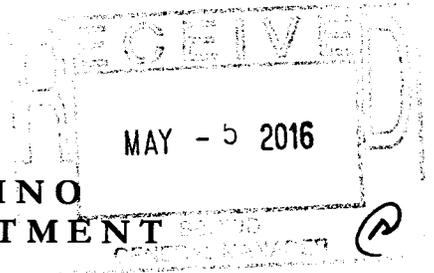
By: _____
Toni Callicott
President

By: _____
Name
Title Vice President

By: _____
Robin L. Ohama
Secretary

(SEAL)

(SEAL)



**CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT**

**BOARD OF WATER COMMISSIONERS
STAFF REPORT**

TO: Stacey R. Aldstadt, General Manager
FROM: John A. Claus, Director of Water Reclamation
SUBJECT: **REQUEST TO TRANSFER FUNDS FROM SLUDGE THICKENING & DEWATERING SYSTEM ENHANCEMENT PROJECT (CO 00188) TO WATER RECLAMATION PLANT FACILITIES ASPHALT REHABILITATION PROJECT (CO 00181)**
DATE: May 4, 2016
COPIES: Robin Ohama (w/o attach), Terri Willoughby (w/o attach), Greg Gage (w/attach), Susan Justice (w/o attach)

BACKGROUND:

In October 2015, the Board entered into Contract 1641 with Hillcrest Contracting, Inc. (Hillcrest) for the work associated with the Water Reclamation Plant (WRP) Facilities Asphalt Rehabilitation Project. At bid time, unit costs were received for items that were anticipated to have increased quantities based upon actual field conditions.

In February 2016, Hillcrest completed the grinding of the front and rear parking lots at WRP. The underlying asphalt was severely damaged, and in order to remedy the problem, the department directed Hillcrest to remove and replace an additional two thousand two hundred and forty-five (2,245) square feet of asphalt at the established unit cost. As a result, a budget transfer of \$20,000.00 is necessary for the additional costs that were anticipated but not quantifiable until construction had commenced.

FISCAL IMPACT:

Upon review of the approved FY 2015/2016 budget, there are available funds for the proposed transfer from the following project: *Sludge Thickening and Dewatering System Enhancement Project (CO 00188)*. This capital project has been delayed and will not be constructed until the FY 2016/2017 budget cycle.

Stacey R. Aldstadt, General Manger

Page 2

May 4, 2016

SUBJECT: REQUEST TO TRANSFER FUNDS FROM SLUDGE THICKENING & DEWATERING SYSTEM ENHANCEMENT PROJECT (CO 00188) TO WATER RELCAMATION PLANT FACILITIES ASPHALT REHABILITATION PROJECT (CO 00181)

FROM ACCOUNT:

From Capital Project	Amount
<i>Sludge Thickening and Dewatering System Enhancement Project (CO 00188)</i>	\$20,000.00

TO ACCOUNT:

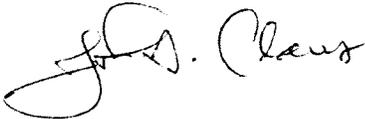
To Capital Project	Amount
<i>Facilities Asphalt Rehabilitation (CO 00181)</i>	\$20,000.00
Total:	\$20,000.00

RECOMMENDATION:

Staff recommends that the Board of Water Commissioners make the following motion:

- Approve the capital budget transfer in the amount of \$20,000.00 from the Sewer Fund capital project titled Sludge Thickening and Dewatering System Enhancement Project (CO 00188) to capital project titled Facilities Asphalt Rehabilitation (CO 00181).

Respectfully submitted,



John A. Claus
Director of Water Reclamation

JAC/sm

**CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT**

MAY - 5 2016

**BOARD OF WATER COMMISSIONERS
STAFF REPORT**

TO: Stacey R. Aldstadt, General Manager

FROM: John A. Claus, Director of Water Reclamation

SUBJECT: **CONTRACT NO. 1630 – CANYON SPRINGS ENTERPRISE, DBA RSH
CONSTRUCTION SERVICES – CHANGE ORDER NO. 1 –
ARROWHEAD PUMP STATION BACKUP ELECTRICAL PUMP
SYSTEM**

DATE: May 5, 2016

COPIES: T. Willoughby, G. Gage, F. Lopez-Jimenez, M. Honis, E. Razo

BACKGROUND:

The Arrowhead Pump Station conveys raw wastewater to the Headworks Facility for treatment. The pump station has four (4) vertical dry-pit type, non-clog centrifugal pumps, each driven by an internal combustion (IC) engine with Engines Nos. 2 and 3 being fueled by digester gas.

As of January 1, 2018, South Coast Air Quality Management District and California Air Resources Board will begin enforcement of stricter regulations on IC engines, making the existing digester gas fueled engines non-compliant.

In April 2015, the Board of Water Commissioners entered into Contract No. 1630 with Canyon Springs Enterprise, DBA RSH Construction Services (RSH) for the Arrowhead Pump Station Backup Electrical Pump System Project. This project includes installation of a motor driven pump necessary to add system redundancy, maintain capacity, and allow the natural gas fueled engines to run at the appropriate load while maintaining the appropriate wetwell level.

Since the pump station's wetwell could not be drained prior to by-pass pumping being implemented by the contractor, the actual conditions of the well's interior were not fully known. As such, additional work on the project was anticipated.

The wetwell is lined with a specially formulated polyvinyl chloride sheeting (T-Lock lining) that locks mechanically into the concrete of the wetwell's interior wall. This lining is necessary to protect exposed concrete from damage due to hydrogen sulfide and constant wastewater flows in the wetwell. During Shutdown No. 1, the Department performed an internal inspection of the wetwell and encountered unforeseen conditions within the well's lining (several areas of concrete were fully

Stacey R. Aldstadt, General Manager

Page 2

May 5, 2016

**SUBJECT: CONTRACT NO. 1630 – CANYON SPRINGS ENTERPRISE, DBA RSH
CONSTRUCTION SERVICES – CHANGE ORDER NO. 1 – ARROWHEAD
PUMP STATION BACKUP ELECTRICAL PUMP SYSTEM**

exposed). The interior concrete surfaces and T-lock lining need to be restored in order to correctly protect the concrete from deterioration. Upon the Department's request, RSH provided a price to rehabilitate the wetwell's interior surfaces and repair the T-Lock lining.

During a walk-thru of the pump room, RSH's electrical subcontractor proposed modifications to the conduit routing and core drilling. The revised conduit routes were better suited to the existing site conditions and avoided unnecessarily long conduit runs with a greater number of core drills. RSH provided the Department with a credit in the amount of \$500.00 for the core drills not completed as originally bid.

This project was approved as part of the 2015/2016 Capital Improvements Budget. Change Order No. 1 in the amount of \$99,544.13 has been prepared for extra work to be performed by RSH under Contract No. 1630. A complete summary of the Change Order items prepared by the Department's Engineering section is attached.

FUNDING SOURCE:

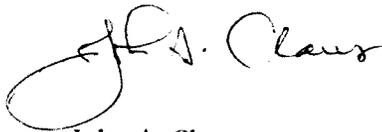
The funding source for this Change Order is C.O. 00143 (Budget ID No. 12-211), which currently has an unencumbered balance of \$230,567.45.

RECOMMENDATION:

Staff recommends that the Board of Water Commissioners make the following motion:

- Approve Change Order No. 1 to Contract No. 1630 with Canyon Springs Enterprise, DBA RSH Construction Services, in the amount of \$99,544.13 and authorize the General Manager to execute the change order.

Respectfully submitted,



John A. Claus
Director of Water Reclamation

sm

Attachments

**CONTRACT NO. 1630
CHANGE ORDER NO. 1**

DATE: May 4, 2016

OWNER: City of San Bernardino Municipal Water Department

CONSULTANT: CANYON SPRINGS ENTERPRISE, DBA RSH CONSTRUCTION SERVICES

PROJECT: ARROWHEAD PUMP STATION BACKUP ELECTRICAL PUMP SYSTEM PROJECT (CO 00143)

You are hereby requested to make the following described changes and/or additions to the project scope of work:

Task No.	Description Changes and/or Additions	Decrease Contract Price (Contract Time)	Increase Contract Price (Contract Time)
1	Rehabilitation of existing wet well's interior concrete		\$100,044.13
2	Deletion of conduit routes	(\$500.00)	
3	Time extension		(14 Calendar Days)
	TOTAL		\$99,544.13
Original Contract Amount			\$1,547,000.00
Contract Amount Prior to This Change Order			\$1,547,000.00
Net Increase Due To This Change Order			\$99,544.13
Net Contract Amount, Including This Change Order			\$1,646,544.13
Net Change in Contract Price			6.43%

The additional work contained with this Change Order can be performed incidental to the prime work and any Change Order work issued to date and is able to be completed concurrently with remaining work to be performed under the items of the Contract, without interference or delay to the Contractor. The work required by the Change Order can be completed within the time allotted for the original Contract plus the extensions to the Contract time made by this and any previously issued Change Orders.

The amounts indicated above shall be compensation in full for the work described including all direct and indirect, incidental or consequential costs or expenses, including but not limited to, extended overhead and other impact costs that have been or will be incurred by the Contractor.

Contract No. 1630
Change Order No. 1

The total Contract performance time is increased by fourteen (14) Calendar Days. The Contract completion date is now September 15, 2016.

ACCEPTED BY: _____ DATE: _____

REPRESENTATIVE
CANYON SPRINGS ENTERPRISE, DBA
RSH CONSTRUCTION SERVICES

RECOMMENDED BY: _____ DATE: _____

REPRESENTATIVE
CITY OF SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

RECOMMENDED BY: _____ DATE: _____

DIRECTOR OF WATER RECLAMATION
CITY OF SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

APPROVED BY: _____ DATE: _____

GENERAL MANAGER
CITY OF SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
(or)
PRESIDENT, BOARD OF WATER COMMISSIONERS
CITY OF SAN BERNARDINO

**CONTRACT NO. 1630
CHANGE ORDER NO. 1
ITEM NO. 1 BREAKDOWN**

Description: Rehabilitation of existing wetwell's interior concrete

Reason: As part of an inspection period included in the specifications, the Department performed an internal inspection of the existing wetwell of Arrowhead Pump Station during Shutdown No. 1. Staff identified areas within the wetwell where the concrete lining was non-existent and T-lock repairs were necessary. At the Department's request, RSH obtained a quote from Sancon Technologies, Inc. (Sancon), to rehabilitate the interior concrete surfaces and repair the T-lock lining in the additional areas. RSH's all-inclusive quote includes Sancon's work plus additional time to maintain by-pass pumping. These additional work items were anticipated.

Prior Approval: Francisco Lopez-Jimenez; John Claus; Stacey Aldstadt

Contractors

Proposed Cost: \$100,044.13

Total Cost: \$100,044.13

Time Extension: 0 Calendar Days

**CONTRACT NO. 1630
CHANGE ORDER NO. 1
ITEM NO. 2 BREAKDOWN**

Description: Deletion of conduit routes

Reason: On September 22, 2015, RSH and their electrical subcontractor, Control Systems Engineering, Inc. (CSEI), walked the pump room with the Department staff to discuss proposed conduit re-routing and core drilling. The proposed new routes best suited the existing site conditions and avoided unnecessarily long conduit runs with a greater number of core drills. A credit was granted to the Department by RSH since the new conduit routes require fewer core drills.

Prior Approval: Francisco Lopez-Jimenez; John Claus; Stacey Aldstadt

Contractors

Proposed Cost: (\$500.00)

Total Cost: (\$500.00)

Time Extension: 0 Calendar Days

**CONTRACT NO. 1630
CHANGE ORDER NO. 1
ITEM NO. 3 BREAKDOWN**

Description: Time extension

Reason: A time extension of fourteen (14) calendar days to complete the additional work items referenced above.

Prior Approval: Francisco Lopez-Jimenez; John Claus; Stacey Aldstadt

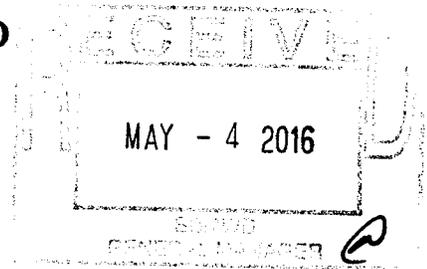
Contractors

Proposed Cost: \$0.00

Total Cost: \$0.00

Time Extension: 14 Calendar Days

**CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT
BOARD OF WATER COMMISSIONERS
STAFF REPORT**



TO: Stacey R. Aldstadt, General Manager
FROM: Terri A. Willoughby, Director of Finance
SUBJECT: APPROVAL OF FUEL MANAGEMENT SYSTEM
DATE: April 28, 2016

BACKGROUND:

Department staff members have been reviewing options for replacing the current fuel management system, which is used to track fuel use on a per vehicle basis for the Department fleet. Staff worked with three vendors to examine how various systems would meet the Department's needs. The Gasboy system was determined to be the only one that would meet the Department's needs within the project budget of \$50,000. The total contract amount is \$37,500 which includes costs of \$7,500 for repair work for system wiring for the system and fuel pumps that is not up to current standard code requirements.

The Gasboy system also offers upgrades to the current system that will be beneficial to the Department. The new system will provide a safeguard that will prevent users from putting the wrong fuel type into their vehicle, which will prevent possible vehicle damage. Additionally, the new system will remove the need for users to input their vehicle identification data when fueling at the island, as the vehicle information will be retrieved electronically from the vehicle. This will eliminate the current data entry errors which need to be reviewed and manually corrected by staff.

The Gasboy system is used by a variety of agencies, including the County of Riverside at their Indio facility. Fleet staff had the opportunity to visit the site and get feedback on how the system works from the actual staff using the system. The County staff demonstrated the system and had nothing but praise for the Gasboy system.

RECOMMENDATION:

Staff recommends that the Board of Water Commissioners approve the purchase of the Gasboy system from Fuel Pros Inc. at a cost of \$37,500. Funding is available in the Fiscal Year 2015-16 budget.

Respectfully submitted,

Terri A. Willoughby
Director of Finance

Attachment: 4/19/16 Fuel Pros Inc. quote



**COMPLETE FUELING FACILITY CONSTRUCTION,
MAINTENANCE AND TESTING**
CA. STATE CONTRACTOR'S LICENSE #269354 - HAZ. C-36
"Leading The Industry With Service You Can Count On Since 1948"

4/19/16

San Bernardino Metropolitan Water District
195 N. D Street
San Bernardino, CA 92401

Attn: Aaron Winchester
(909)379-2487
Aaron.winchester@SBMWD.org

Subject: Fuel management equipment.

Fuel Pros, Inc. agrees to furnish labor, equipment and materials to perform the following work in accordance with industry standards and in compliance with all federal, state and local laws and regulations:

Scope of Work:

- Create plans with specifications as needed and submit to agencies for plan check and permit, (Note: All permit fees to be reimbursed to Fuel Pros, Inc.)
- Create and maintain a Health and Safety Plan on site Erect safety Barricades around the work area.
- Provide and install an Islander plus fuel management system with all supporting equipment, cabling, software and programming (per conversation with Jori from Gasboy) to replace the existing Petrovend:
Fleet Head Office software, Islander Plus, Fuel Point Plus, interface card, TLS Ethernet communication, wiring, junction boxes, seal offs, etc.
- Coordinate all inspections.
- Man lifts and other lifting equipment to be provided by customer.
- "Fire-up fueling system and train site personnel.

General Conditions:

1. Fuel Pros, Inc. hereby agrees that it shall perform the work specified herein in a professional and timely manner.
2. Client understands that Fuel Pros, Inc. cannot be held responsible for circumstances that may be deemed as acts of God or any damages that may result from same.
3. The proposed work is based upon the fact that the existing area has been graded to standard subgrade. If any unanticipated conditions occur, the client will be contacted and made aware of these conditions and additional estimated costs involved will be provided. NO additional work will be performed without written authorization of the client.
4. Client agrees that Fuel Pros, Inc. cannot be present at job location at all times and that Fuel Pros, Inc. will take reasonable precautions to identify any obstructions or excavations and make reasonable efforts to warn any vehicle and pedestrian traffic of the potential danger involved; but that Fuel Pros, Inc. shall not be responsible for any damages to Client, Client's employees or any third parties that may be on Client's premises from contact with any such obstructions or excavations that have been reasonably identified, and Client shall indemnify Fuel Pros, Inc. from all such damage claims.
5. Client agrees that fees proposed for permitting are for Fuel Pros, Inc. involvement in obtaining and securing permits for the scope of work outlined in this agreement and that any and all monies due to the governing agencies issuing these permits are the sole responsibility of the client.
6. Client will provide for Right of Entry to Fuel Pros, Inc. personnel, contractors, subcontractors, equipment and / or any other personnel necessary in order to complete the scope of work and general conditions as agreed by this contract. Fuel Pros, Inc.'s personnel, contractors, and subcontractors will take reasonable precautions to minimize any damage to the property, but it is understood by the Client that in the normal course of work, some damage to the property may occur, the correction of which is not a part of this agreement. The Client accepts this fact and will not hold Fuel Pros, Inc.'s personnel,

24 Hours / 7 Days A Week

14774 Central Ave. ~ Chino, California 91710 ~ Phone 909-614-1379 ~ Fax 909-606-9582

contractors, and / or subcontractors responsible for any damage other than that caused by gross negligence or willful misconduct of Fuel Pros, Inc., its personnel, contractors, and / or subcontractors.

7. Fuel Pros, Inc. and Client acknowledge and understand that no other terms or agreement, express or otherwise, shall become a part of this contract unless such agreements are in writing and executed by an authorized representative of both Fuel Pros, Inc. and Client.
8. Fuel Pros, Inc. and Client agree that should action be required to collect monies or enforce other terms of this contract, that the prevailing party shall be entitled to court and collection costs as well as reasonable attorney's fees.
9. Client agrees to provide any and all land ownership information to Fuel Pros, Inc. for purposes of filing preliminary contractor's lien per laws and regulations.
10. Client agrees Fuel Pros, Inc. retains the rights to any and all equipment supplied and / or provided by Fuel Pros, Inc. under the terms and conditions of this contract until all terms of this contract and agreements are met.
11. Terms are due and payable upon demand per contract Interest of 1.5% per month will accrue on all late payments past 30 days.
12. In the event payments are not received per the terms of the contract (refer to item 10 of general conditions) Fuel Pros, Inc. and subcontractor (s) will de-mobilize from the project site. Prior to re-mobilization all due progress payment (s) de-mobilization and re-mobilization fees and interest shall be paid in full.
13. Fuel Pros, Inc. will warrant all material (per manufactures warranty) and labor (workmanship) for a period of one (1) year from date of substantial completion.

Client Responsibility:

- Provide clear, unobstructed work area as per scope of work to be performed.
- Reimburse Fuel Pros, Inc. permit fees and any other agency fees.
- Maintain adequate fuel levels for testing.

Exclusions:

1. The removal and / or disposal of any hazardous materials other than that which is agreed upon in the terms of this contract.
2. Any additional expenses if ground water is encountered.
3. Removal and / or disposal of concrete in excess of 8" thick or containing any solid reinforcing materials larger than #4 spaced closer than 18" on center.
4. Removal and / or disposal of any natural or manmade underground obstructions such as large rocks or obstacles not previously noted and agreed upon in the terms of this contract.
5. Shoring, bracing, strap or deadmen needed for any reason other than stated in the terms of this contract.
6. Any costs associated with compaction testing or a certified compaction report.
7. Annual U. S. T. registration fees.
8. Any permits, licenses, applications and / or correspondence not stated in the terms of this contract.
9. Removal and / or disposal of any product and / or hazardous material remaining in the tanks and / or product lines other than stipulated in this contract.
10. Any mobilization and / or demobilization of employees and / or equipment other than that stated in the terms of this contract.
11. Fencing and / or barricading other than stated in the terms of this contract.
12. Fuel Pros, Inc. will use conventional equipment for excavating. In the event "hard digging" and / or "excessive cave-ins" are encountered, Fuel Pros, Inc. will stop work and provide an estimate to client for written approval of any additional equipment and / or labor needed to complete scope of work.
13. Agency meetings and / or discussions other than that stated in the terms of this contract.
14. Damage to any ground surface on property due to normal operation of heavy equipment necessary to complete the scope of work stated in the terms of this contract.
15. Any costs associated with land use and entitlement issues(CUP, SUP, zoning variance, public hearings, etc.), As well as any third party studies and/or investigations required to obtain permits (i.e. archeological, noise, traffic studies) have not been included.
16. All work will be performed during normal working hours (7:00 am to 4:30 pm)

Total contract amount and terms:

The contract price which "Client" will pay to Fuel Pros, Inc. for performing the above services stated in this contract is:

Gasboy Parts: \$ 25,000.00

Training: \$ 500.00

Management and Admin: \$ 2,500.00

Parts and Equipment: \$ 2,000.00

24 Hours / 7 Days A Week

14774 Central Ave. ~ Chino, California 91710 ~ Phone 909-614-1379 ~ Fax 909-606-9582

Labor: \$ 7,500.00

Total: \$ 37,500.00 Thirty seven thousand five hundred dollars even.

The contract price will be paid to Fuel Pros, Inc. in weekly progressive payments based on work performed: **10%** upon signing 50% when equipment is ordered, 40% upon completion and 10% pending as retention.

Both parties agree to the above terms and conditions stated in this contract (attached hereto) as evidenced by their signatures below. (Sign (1) copy send back, retain (1) copy for your files)

CLIENT:

Signature Contract: _____

Print Name: _____

Title: _____

Date: _____

Fuel Pros, Inc:

Signature: *Burr Northrop*

Print Name: Burr Northrop

Title: President

Date: 4/18/16

24 Hours / 7 Days A Week

14774 Central Ave. ~ Chino, California 91710 ~ Phone 909-614-1379 ~ Fax 909-606-9582

CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT
BOARD OF WATER COMMISSIONERS
STAFF REPORT

TO: Stacey R. Aldstadt, General Manager
FROM: Terri A. Willoughby, Director of Finance
SUBJECT: **REPORT ON WATER DEPARTMENT INVESTMENTS – QUARTER ENDING MARCH 31, 2016**
DATE: April 18, 2016

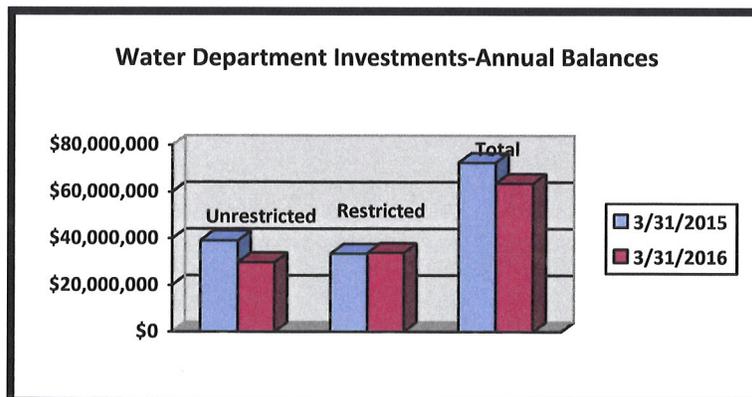
BACKGROUND:

On a quarterly basis, staff provides the Board of Water Commissioners (BOWC) a report regarding the cash and investments of the San Bernardino Municipal Water Department (Department). The Department's cash and investments are held in accounts in the Department's name separate from the City of San Bernardino's (City) cash and investments within the City Treasury.

The Department's checking account is maintained at Wells Fargo Bank, while its investments are held by the California Local Agency Investment Fund and Bank of New York. The assets held in trust by Bank of New York are actively managed by Chandler Asset Management. Consent Decree funds are also held by Bank of New York, but are managed by PFM Asset Management.

The total unrestricted cash and cash equivalents balance of \$6,326,058 indicated in the attached report will be used to meet the Department's current commitments and estimated expenditure requirements for the near future. The market value of unrestricted cash and investments is \$29,713,857 of which \$3,211,021 is held for customer deposits.

The total restricted cash and investment balance of \$33,919,297 consists primarily of consent decree funds, funds collected on behalf of the City for sewer collection, refuse and storm drains, funds collected on behalf of East Valley Water District for improvement to the East Sewer Trunk Line, and reserve funds from the 1998 Sewer Certificates of Participation. The chart below provides a comparison to balances at the same time period in the prior year.



QUARTERLY REPORT ON WATER DEPARTMENT INVESTMENTS

February 16, 2016

Page 2 of 2

Summary:

The Department's investments follow the investment policy recommended by the State of California in keeping with safety, liquidity and yield and comply with the investment policy filed by the City Treasurer with the Mayor and Common Council.

RECOMMENDATION:

Staff recommends that the Board of Water Commissioners receive and file the Investment Report for the quarter ended March 31, 2016.

Respectfully submitted,



Terri A. Willoughby
Director of Finance

Attachments: San Bernardino Municipal Water Department Investment Report
Operating Portfolio (Chandler Asset Management)
Consent Decree Portfolio (PFM)



San Bernardino Municipal Water Department
Investment Report

For the Period Ended March 31, 2016

**San Bernardino Municipal Water District
Summary of Cash and Investments
For the Period Ended March 31, 2016**

	<u>Book Value</u>	<u>Market Value</u>	<u>Percent of Portfolio</u>	<u>Current Yield</u>
<u>Operating Funds</u>				
Cash and Cash Equivalents:				
Checking Accounts	\$ 10,822,966	\$ 10,822,966	28.50%	0.00%
Cash on Hand	7,200	7,200	0.02%	0.00%
Local Agency Investment Fund	<u>3,751,646</u>	<u>3,751,646</u>	<u>9.88%</u>	<u>0.37%</u>
Total Cash and Cash Equivalents	<u>14,581,811</u>	<u>14,581,811</u>	<u>38.40%</u>	<u>0.10%</u>
Investments (Operating Portfolio):				
Money Market Accounts	209,333	209,333	0.55%	0.01%
Federal Agencies	10,903,341	11,024,425	29.03%	1.36%
Asset Back Securities	1,522,341	1,521,425	4.01%	1.01%
Commercial Paper	468,912	468,912	1.23%	0.71%
Medium-Term Corporate Notes	2,390,600	2,406,468	6.34%	1.37%
U.S. Treasuries	<u>7,642,356</u>	<u>7,757,237</u>	<u>20.43%</u>	<u>1.45%</u>
Total Investments	<u>23,136,883</u>	<u>23,387,799</u>	<u>61.60%</u>	<u>1.34%</u>
Total Operating Funds	<u>37,718,695</u>	<u>37,969,611</u>	<u>100.00%</u>	<u>0.86%</u>
<u>Consent Decree Portfolio</u>				
Certificates of Deposit	2,149,356	2,149,732	9.75%	1.45%
Asset-Backed Security/Collateralized	829,909	832,286	3.78%	1.38%
Money Market Accounts	29,336	29,336	0.13%	0.00%
Federal Agency Mortgage-Backed Securities	1,710,512	1,717,462	7.79%	3.02%
Federal Agency Collateralized Mortgage Oblig.	1,312,336	1,324,614	6.01%	2.07%
Federal Agency Notes/Bonds	2,966,350	2,996,964	13.59%	1.42%
Corporate Notes	6,292,903	6,288,829	28.53%	1.46%
U.S. Treasury Bill	174,987	174,997	0.79%	1.40%
U.S. Treasury Bonds	<u>6,441,962</u>	<u>6,530,892</u>	<u>29.63%</u>	<u>1.40%</u>
Total Consent Decree Portfolio	<u>21,907,650</u>	<u>22,045,111</u>	<u>100.00%</u>	<u>1.46%</u>
<u>1998 Refunding Sewer COP Trust</u>				
Money Market Accounts	144,680	144,680	4.00%	0.01%
Investment Agreement	<u>3,473,752</u>	<u>3,473,752</u>	<u>96.00%</u>	<u>5.58%</u>
Total 1998 Refunding Sewer COP Trust	<u>3,618,432</u>	<u>3,618,432</u>	<u>100.00%</u>	<u>5.36%</u>
Total Cash and Investments	<u>\$ 63,244,777</u>	<u>\$ 63,633,154</u>		

**San Bernardino Municipal Water District
Cash and Investments by Fund
For the Period Ended March 31, 2016**

	Market Value		
	Water Fund	Sewer Fund	Total
<u>Unrestricted</u>			
Cash and Cash Equivalents	\$ 5,639,357	\$ 686,700	\$ 6,326,058
Investments	2,889,120	20,498,679	23,387,799
Total Unrestricted Cash and Investments	<u>8,528,477</u>	<u>21,185,380</u>	<u>29,713,857</u>
<u>Restricted</u>			
Cash and Cash Equivalents:			
Refuse Fees	229,050	-	229,050
Storm Drain Fees	(9,187)	-	(9,187)
Inland Valley Development Agency Fees	10,168	-	10,168
Sewer Collection System Fees	-	257,821	257,821
SAWPA Fees	-	6,390	6,390
East Valley Trunk Line Fees	-	7,761,512	7,761,512
Total Restricted Cash and Cash Equivalents	<u>230,031</u>	<u>8,025,723</u>	<u>8,255,754</u>
Investments:			
Consent Decree	22,045,111	-	22,045,111
1998 Refunding Sewer COP Trust	-	3,618,432	3,618,432
Total Restricted Investments	<u>22,045,111</u>	<u>3,618,432</u>	<u>25,663,543</u>
Total Restricted Cash and Investments	<u>22,275,142</u>	<u>11,644,155</u>	<u>33,919,297</u>
Total Cash and Investments	<u>\$ 30,803,620</u>	<u>\$ 32,829,534</u>	<u>\$ 63,633,154</u>

Monthly Account Statement

San Bernardino Municipal Water Department

March 1, 2016 through March 31, 2016

Chandler Team

For questions about your account,
please call (800) 317-4747 or
Email operations@chandlerasset.com

Custodian

Bank of New York Mellon
Christy Sheppard
(904)645-1946

Information contained herein is confidential. We urge you to compare this statement to the one you receive from your qualified custodian. Prices are provided by IDC, an independent pricing source.



PORTFOLIO CHARACTERISTICS

Average Duration	2.49
Average Coupon	1.35 %
Average Purchase YTM	1.34 %
Average Market YTM	0.94 %
Average S&P/Moody Rating	AA+/Aaa
Average Final Maturity	2.67 yrs
Average Life	2.56 yrs

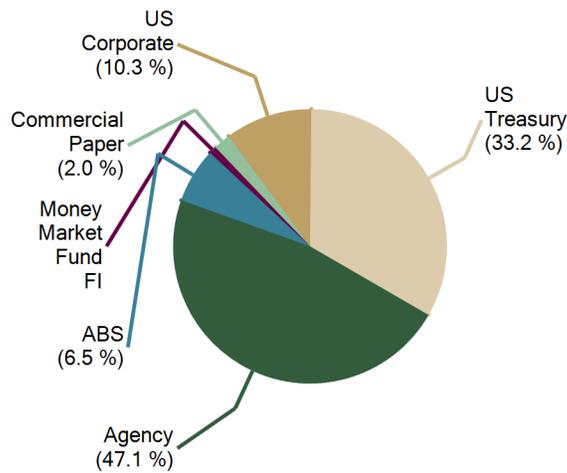
ACCOUNT SUMMARY

	Beg. Values as of 2/29/16	End Values as of 3/31/16
Market Value	23,316,295	23,387,799
Accrued Interest	70,863	64,191
Total Market Value	23,387,158	23,451,990
Income Earned	25,419	26,109
Cont/WD		-1,919
Par	23,112,402	23,146,809
Book Value	23,105,560	23,136,883
Cost Value	23,136,236	23,149,787

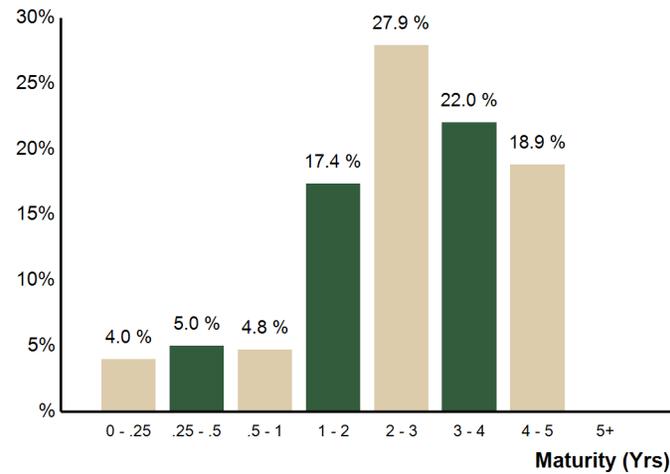
TOP ISSUERS

Issuer	% Portfolio
Government of United States	33.2 %
Federal National Mortgage Assoc	17.6 %
Federal Home Loan Mortgage Corp	14.3 %
Federal Home Loan Bank	13.6 %
Honda ABS	2.6 %
Toyota ABS	2.2 %
Johnson & Johnson	2.0 %
Bank of Tokyo-Mit UFJ	2.0 %
Total	87.5 %

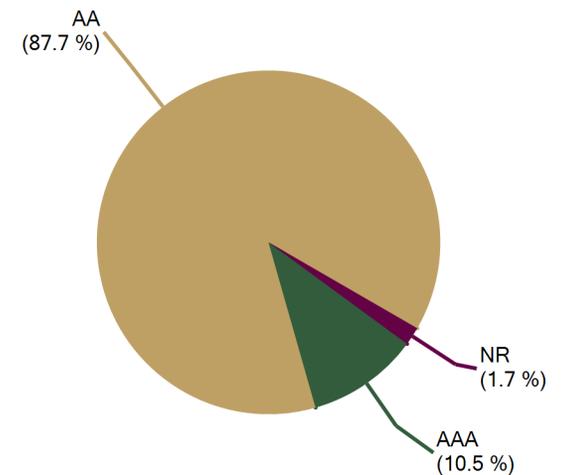
SECTOR ALLOCATION



MATURITY DISTRIBUTION



CREDIT QUALITY (S&P)



PERFORMANCE REVIEW

Total Rate of Return As of 3/31/2016	Current Month	Latest 3 Months	Year To Date	1 Yr	Annualized			Since 2/28/2013	Since 2/28/2013
					3 Yrs	5 Yrs	10 Yrs		
San Bernardino Municipal Water Department	0.29 %	1.47 %	1.47 %	1.63 %	1.18 %	N/A	N/A	1.17 %	3.66 %
BAML 1-5 Yr US Treasury/Agency Index	0.24 %	1.55 %	1.55 %	1.61 %	1.15 %	N/A	N/A	1.13 %	3.53 %
BAML 1-5 Yr US Issuers Corp/Govt Rated AAA-A Index	0.34 %	1.57 %	1.57 %	1.69 %	1.26 %	N/A	N/A	1.24 %	3.87 %



San Bernardino Municipal Water Department

March 31, 2016

COMPLIANCE WITH INVESTMENT POLICY

Assets managed by Chandler Asset Management are in full compliance with State law and with the Department's investment policy.

Category	Standard	Comment
Treasury Bills and Notes	No limitations	Complies
Federal Agencies	75% maximum - Callables	Complies
Local Agency Obligations	State of California only; 10% maximum	Complies
Banker's Acceptances	40% maximum; 30% per issuer; 180 day max maturity	Complies
Commercial Paper	A-1/P-1 rated; 25% maximum; 270 day max maturity	Complies
Negotiable CDs	30% maximum	Complies
Time Deposits	Collateralized; 25% maximum	Complies
Medium Term Notes	30% maximum; "AA"-rated issuer; 15% per issuer with Commercial Paper	Complies
Mortgage Mortgage and Asset-Backed Securities	AA-rated; 20% maximum	Complies
Money Market Funds	AAA/Aaa rated; fund assets > \$500MM; 20% maximum; 10% per fund	Complies
LAIF	\$50 million	Complies
Maximum maturity	5 years	Complies



Reconciliation Summary

As of 3/31/2016

BOOK VALUE RECONCILIATION	
Beginning Book Value	\$23,105,559.59
Acquisition	
+ Security Purchases	\$997,961.36
+ Money Market Fund Purchases	\$196,189.96
+ Money Market Contributions	\$0.00
+ Security Contributions	\$0.00
+ Security Transfers	\$0.00
Total Acquisitions	\$1,194,151.32
Dispositions	
- Security Sales	\$301,161.00
- Money Market Fund Sales	\$695,695.31
- MMF Withdrawals	\$1,919.00
- Security Withdrawals	\$0.00
- Security Transfers	\$0.00
- Other Dispositions	\$0.00
- Maturities	\$115,000.00
- Calls	\$0.00
- Principal Paydowns	\$49,169.08
Total Dispositions	\$1,162,944.39
Amortization/Accretion	
+/- Net Accretion	(\$343.85)
	(\$343.85)
Gain/Loss on Dispositions	
+/- Realized Gain/Loss	\$460.82
	\$460.82
Ending Book Value	\$23,136,883.49

CASH TRANSACTION SUMMARY	
BEGINNING BALANCE	\$710,757.01
Acquisition	
Contributions	\$0.00
Security Sale Proceeds	\$301,161.00
Accrued Interest Received	\$1,700.00
Interest Received	\$31,974.73
Dividend Received	\$46.15
Principal on Maturities	\$115,000.00
Interest on Maturities	\$0.00
Calls/Redemption (Principal)	\$0.00
Interest from Calls/Redemption	\$0.00
Principal Paydown	\$49,169.08
Total Acquisitions	\$499,050.96
Disposition	
Withdrawals	\$1,919.00
Security Purchase	\$997,961.36
Accrued Interest Paid	\$594.95
Total Dispositions	\$1,000,475.31
Ending Book Value	\$209,332.66



Holdings Report

As of 3/31/16

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturity Duration
ABS									
477879AC4	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	26,900.56	08/27/2013 0.88 %	26,896.90 26,899.29	100.00 0.89 %	26,899.94 10.40	0.11 % 0.65	Aaa / NR AAA	1.38 0.20
89231MAC9	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	129,231.15	03/11/2014 0.69 %	129,207.27 129,224.44	99.87 1.00 %	129,060.69 38.48	0.55 % (163.75)	Aaa / AAA NR	1.71 0.40
89231TAB6	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	150,000.00	08/18/2015 0.93 %	149,987.94 149,990.86	99.98 0.96 %	149,970.15 61.33	0.64 % (20.71)	Aaa / AAA NR	1.88 0.47
43814GAC4	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	151,792.93	05/13/2014 0.78 %	151,774.68 151,786.05	99.84 1.04 %	151,553.70 42.21	0.65 % (232.35)	Aaa / AAA NR	1.97 0.58
47787VAC5	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	199,551.31	04/02/2014 0.93 %	199,519.34 199,540.31	99.96 1.01 %	199,462.71 81.59	0.85 % (77.60)	Aaa / NR AAA	2.04 0.53
43814NAB1	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	185,000.00	02/16/2016 1.02 %	184,981.52 184,982.31	99.93 1.09 %	184,871.24 67.47	0.79 % (111.07)	NR / AAA AAA	2.22 0.89
89236WAC2	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	225,000.00	02/24/2015 1.13 %	224,965.98 224,978.40	100.06 1.07 %	225,140.18 112.00	0.96 % 161.78	Aaa / AAA NR	2.88 1.12
43813NAC0	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	275,000.00	05/13/2015 1.05 %	274,957.79 274,967.54	99.86 1.15 %	274,622.43 79.44	1.17 % (345.11)	NR / AAA AAA	2.90 1.23
47788MAC4	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	180,000.00	02/23/2016 1.37 %	179,971.67 179,972.23	99.91 1.41 %	179,843.76 108.80	0.77 % (128.47)	Aaa / NR AAA	4.04 2.09
Total ABS		1,522,475.95	1.01 %	1,522,263.09 1,522,341.43	1.10 %	1,521,424.80 601.72	6.49 % (916.63)	Aaa / AAA Aaa	2.51 0.95
AGENCY									
3137EACW7	FHLMC Note 2% Due 8/25/2016	650,000.00	01/19/2012 1.09 %	676,327.60 652,289.36	100.59 0.51 %	653,852.55 1,300.00	2.79 % 1,563.19	Aaa / AA+ AAA	0.40 0.40
3135G0CM3	FNMA Note 1.25% Due 9/28/2016	525,000.00	09/29/2011 1.30 %	523,744.73 524,876.19	100.36 0.52 %	526,871.10 54.69	2.25 % 1,994.91	Aaa / AA+ AAA	0.50 0.49
3135G0GY3	FNMA Note 1.25% Due 1/30/2017	250,000.00	03/26/2012 1.25 %	249,976.75 249,996.01	100.47 0.68 %	251,173.00 529.51	1.07 % 1,176.99	Aaa / AA+ AAA	0.84 0.83
3137EADC0	FHLMC Note 1% Due 3/8/2017	500,000.00	03/19/2012 1.37 %	491,076.00 498,322.45	100.31 0.67 %	501,527.50 319.44	2.14 % 3,205.05	Aaa / AA+ AAA	0.94 0.93
313379FW4	FHLB Note 1% Due 6/9/2017	500,000.00	06/20/2012 1.02 %	499,395.00 499,855.25	100.37 0.68 %	501,872.50 1,555.56	2.15 % 2,017.25	Aaa / AA+ AAA	1.19 1.18
3137EADV8	FHLMC Note 0.75% Due 7/14/2017	400,000.00	06/29/2015 0.79 %	399,708.00 399,816.18	100.04 0.72 %	400,143.20 641.67	1.71 % 327.02	Aaa / AA+ AAA	1.29 1.28
3133EAY28	FFCB Note 0.83% Due 9/21/2017	375,000.00	09/18/2012 0.83 %	375,000.00 375,000.00	100.03 0.81 %	375,121.88 86.46	1.60 % 121.88	Aaa / AA+ AAA	1.48 1.46
3135G0ZL0	FNMA Note 1% Due 9/27/2017	385,000.00	Various 1.12 %	383,646.55 384,347.19	100.38 0.75 %	386,449.53 42.78	1.65 % 2,102.34	Aaa / AA+ AAA	1.49 1.48
3137EADP1	FHLMC Note 0.875% Due 3/7/2018	775,000.00	Various 1.20 %	763,499.00 770,309.78	100.15 0.80 %	776,157.85 452.08	3.31 % 5,848.07	Aaa / AA+ AAA	1.93 1.91



Holdings Report

As of 3/31/16

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturity Duration
AGENCY									
313378A43	FHLB Note 1.375% Due 3/9/2018	500,000.00	08/06/2013 1.48 %	497,605.00 498,989.10	101.10 0.80 %	505,490.00 420.14	2.16 % 6,500.90	Aaa / AA+ AAA	1.94 1.91
3130A4GJ5	FHLB Note 1.125% Due 4/25/2018	500,000.00	03/03/2015 1.17 %	499,240.00 499,500.84	100.76 0.75 %	503,788.00 2,437.50	2.16 % 4,287.16	Aaa / AA+ AAA	2.07 2.03
3135G0WJ8	FNMA Note 0.875% Due 5/21/2018	600,000.00	Various 1.12 %	592,971.00 596,975.96	100.12 0.82 %	600,737.40 1,895.83	2.57 % 3,761.44	Aaa / AA+ AAA	2.14 2.11
313375K48	FHLB Note 2% Due 9/14/2018	750,000.00	02/07/2014 1.50 %	766,672.50 758,907.91	102.69 0.89 %	770,154.00 708.33	3.29 % 11,246.09	Aaa / AA+ AAA	2.46 2.39
3135G0YT4	FNMA Note 1.625% Due 11/27/2018	800,000.00	Various 1.59 %	801,286.00 800,682.61	101.98 0.87 %	815,860.00 4,477.78	3.50 % 15,177.39	Aaa / AA+ AAA	2.66 2.59
3137EADG1	FHLMC Note 1.75% Due 5/30/2019	1,000,000.00	Various 1.62 %	1,005,690.20 1,003,962.88	102.40 0.98 %	1,023,955.01 5,881.94	4.39 % 19,992.13	Aaa / AA+ AAA	3.16 3.06
3135G0ZG1	FNMA Note 1.75% Due 9/12/2019	500,000.00	Various 1.80 %	498,905.00 499,249.64	102.48 1.02 %	512,403.00 461.80	2.19 % 13,153.36	Aaa / AA+ AAA	3.45 3.34
3135G0A78	FNMA Note 1.625% Due 1/21/2020	500,000.00	02/10/2015 1.67 %	499,040.00 499,260.72	101.72 1.16 %	508,582.00 1,579.86	2.18 % 9,321.28	Aaa / AA+ AAA	3.81 3.67
313383HU8	FHLB Note 1.75% Due 6/12/2020	500,000.00	10/08/2015 1.46 %	506,510.00 505,842.99	102.03 1.25 %	510,125.50 2,649.31	2.19 % 4,282.51	Aaa / AA+ NR	4.20 4.02
3135G0F73	FNMA Note 1.5% Due 11/30/2020	500,000.00	12/04/2015 1.87 %	491,150.00 491,714.07	101.00 1.28 %	505,003.50 2,520.83	2.16 % 13,289.43	Aaa / AA+ AAA	4.67 4.47
3130A7CV5	FHLB Note 1.375% Due 2/18/2021	395,000.00	02/17/2016 1.46 %	393,404.20 393,441.76	100.04 1.37 %	395,157.61 648.73	1.69 % 1,715.85	Aaa / AA+ AAA	4.89 4.70
Total Agency		10,905,000.00	1.36 %	10,914,847.53 10,903,340.89	0.87 %	11,024,425.13 28,664.24	47.13 % 121,084.24	Aaa / AA+ Aaa	2.33 2.27
COMMERCIAL PAPER									
06538BFQ1	Bank of Tokyo Mitsubishi NY Discount CP 0.7% Due 6/24/2016	470,000.00	02/25/2016 0.71 %	468,912.47 468,912.47	99.77 0.71 %	468,912.47 319.86	2.00 % 0.00	P-1 / A-1 F-1	0.23 0.23
Total Commercial Paper		470,000.00	0.71 %	468,912.47 468,912.47	0.71 %	468,912.47 319.86	2.00 % 0.00	P-1 / A-1 F-1	0.23 0.23
MONEY MARKET FUND FI									
316175603	Fidelity Institutional Government MMKT Fund #657	209,332.66	Various 0.01 %	209,332.66 209,332.66	1.00 0.01 %	209,332.66 0.00	0.89 % 0.00	Aaa / AAA NR	0.00 0.00
Total Money Market Fund FI		209,332.66	0.01 %	209,332.66 209,332.66	0.01 %	209,332.66 0.00	0.89 % 0.00	Aaa / AAA NR	0.00 0.00
US CORPORATE									
38259PAC6	Google Inc Note 2.125% Due 5/19/2016	260,000.00	10/13/2011 1.57 %	266,359.60 260,182.25	100.19 0.68 %	260,497.90 2,025.83	1.12 % 315.65	Aa2 / AA NR	0.13 0.13



Holdings Report

As of 3/31/16

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturity Duration
US CORPORATE									
30231GAA0	Exxon Mobil Corp Note 0.921% Due 3/15/2017	360,000.00	03/17/2014 0.92 %	360,000.00 360,000.00	100.16 0.76 %	360,564.12 147.36	1.54 % 564.12	Aaa / AAA NR	0.96 0.95
166764AA8	Chevron Corp Callable Note Cont 11/5/17 1.104% Due 12/5/2017	340,000.00	Various 1.05 %	340,865.00 340,297.06	99.83 1.21 %	339,411.12 1,209.49	1.45 % (885.94)	Aa1 / AA- NR	1.68 1.57
037833AJ9	Apple Inc Note 1% Due 5/3/2018	310,000.00	Various 1.09 %	308,621.60 309,422.36	100.21 0.90 %	310,638.91 1,274.45	1.33 % 1,216.55	Aa1 / AA+ NR	2.09 2.05
478160BR4	Johnson & Johnson Note 1.125% Due 3/1/2019	470,000.00	02/25/2016 1.13 %	469,943.60 469,945.20	100.27 1.03 %	471,262.42 440.63	2.01 % 1,317.22	Aaa / AAA AAA	2.92 2.86
084670BL1	Berkshire Hathaway Note 2.1% Due 8/14/2019	350,000.00	07/15/2015 2.00 %	351,305.50 351,080.60	101.92 1.51 %	356,727.70 959.58	1.53 % 5,647.10	Aa2 / AA A+	3.37 3.24
594918BG8	Microsoft Callable Note Cont. 10/03/20 2% Due 11/3/2020	300,000.00	Various 2.03 %	299,644.50 299,672.79	102.46 1.43 %	307,365.60 2,466.67	1.32 % 7,692.81	Aaa / AAA AA+	4.60 4.27
Total US Corporate		2,390,000.00	1.37 %	2,396,739.80 2,390,600.26	1.08 %	2,406,467.77 8,524.01	10.30 % 15,867.51	Aa1 / AA+ AA+	2.32 2.23

US TREASURY									
912828TM2	US Treasury Note 0.625% Due 8/31/2017	125,000.00	Various 0.68 %	124,651.30 124,896.86	99.88 0.71 %	124,848.62 67.94	0.53 % (48.24)	Aaa / AA+ AAA	1.42 1.41
912828G79	US Treasury Note 1% Due 12/15/2017	200,000.00	12/11/2014 1.04 %	199,742.86 199,853.83	100.45 0.74 %	200,890.60 590.16	0.86 % 1,036.77	Aaa / AA+ AAA	1.71 1.69
912828UZ1	US Treasury Note 0.625% Due 4/30/2018	400,000.00	05/28/2013 0.92 %	394,329.47 397,604.93	99.70 0.77 %	398,812.40 1,050.82	1.71 % 1,207.47	Aaa / AA+ AAA	2.08 2.06
912828VQ0	US Treasury Note 1.375% Due 7/31/2018	250,000.00	07/30/2013 1.37 %	250,108.26 250,050.45	101.34 0.80 %	253,339.75 576.06	1.08 % 3,289.30	Aaa / AA+ AAA	2.33 2.29
912828RE2	US Treasury Note 1.5% Due 8/31/2018	200,000.00	02/12/2014 1.40 %	200,867.86 200,461.12	101.69 0.79 %	203,382.80 260.87	0.87 % 2,921.68	Aaa / AA+ AAA	2.42 2.37
912828B33	US Treasury Note 1.5% Due 1/31/2019	500,000.00	02/27/2014 1.47 %	500,763.39 500,439.44	101.81 0.85 %	509,043.00 1,256.87	2.18 % 8,603.56	Aaa / AA+ AAA	2.84 2.77
912828C24	US Treasury Note 1.5% Due 2/28/2019	800,000.00	Various 1.60 %	796,162.82 797,704.83	101.80 0.87 %	814,406.40 1,043.47	3.48 % 16,701.57	Aaa / AA+ AAA	2.92 2.85
912828D23	US Treasury Note 1.625% Due 4/30/2019	750,000.00	Various 1.55 %	752,758.38 751,726.89	102.18 0.91 %	766,318.50 5,122.77	3.29 % 14,591.61	Aaa / AA+ AAA	3.08 2.99
912828D80	US Treasury Note 1.625% Due 8/31/2019	250,000.00	09/09/2014 1.76 %	248,409.04 248,907.53	102.18 0.98 %	255,439.50 353.26	1.09 % 6,531.97	Aaa / AA+ AAA	3.42 3.32
912828G61	US Treasury Note 1.5% Due 11/30/2019	1,075,000.00	Various 1.42 %	1,078,497.70 1,078,178.62	101.68 1.03 %	1,093,056.77 5,419.06	4.68 % 14,878.15	Aaa / AA+ AAA	3.67 3.55
912828J50	US Treasury Note 1.375% Due 2/29/2020	625,000.00	04/23/2015 1.38 %	624,806.78 624,844.18	101.10 1.09 %	631,860.63 747.28	2.70 % 7,016.45	Aaa / AA+ AAA	3.92 3.80
912828K58	US Treasury Note 1.375% Due 4/30/2020	300,000.00	05/06/2015 1.55 %	297,458.04 297,918.94	101.04 1.11 %	303,105.60 1,733.86	1.30 % 5,186.66	Aaa / AA+ AAA	4.08 3.94



Holdings Report

As of 3/31/16

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturity Duration
US TREASURY									
912828XE5	US Treasury Note 1.5% Due 5/31/2020	500,000.00	Various 1.68 %	495,802.46 496,483.14	101.50 1.13 %	507,519.50 2,520.50	2.17 % 11,036.36	Aaa / AA+ AAA	4.17 4.01
912828XM7	US Treasury Note 1.625% Due 7/31/2020	625,000.00	Various 1.52 %	628,161.27 627,787.45	101.98 1.16 %	637,378.13 1,702.01	2.73 % 9,590.68	Aaa / AA+ AAA	4.34 4.17
912828L99	US Treasury Note 1.375% Due 10/31/2020	350,000.00	Various 1.68 %	344,923.05 345,277.99	100.80 1.19 %	352,802.80 2,022.83	1.51 % 7,524.81	Aaa / AA+ AAA	4.59 4.41
912828N89	US Treasury Note 1.375% Due 1/31/2021	700,000.00	Various 1.37 %	700,248.43 700,219.58	100.72 1.22 %	705,031.60 1,612.98	3.01 % 4,812.02	Aaa / AA+ AAA	4.84 4.66
Total US Treasury		7,650,000.00	1.45 %	7,637,691.11 7,642,355.78	1.00 %	7,757,236.60 26,080.74	33.19 % 114,880.82	Aaa / AA+ Aaa	3.50 3.39
TOTAL PORTFOLIO		23,146,808.61	1.34 %	23,149,786.66 23,136,883.49	0.94 %	23,387,799.43 64,190.57	100.00 % 250,915.94	Aaa / AA+ Aaa	2.67 2.49
TOTAL MARKET VALUE PLUS ACCRUED						23,451,990.00			



Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Loss
ACQUISITIONS										
Purchase	03/01/2016	478160BR4	470,000.00	Johnson & Johnson Note 1.125% Due 3/1/2019	99.988	1.13 %	469,943.60	0.00	469,943.60	0.00
Purchase	03/02/2016	316175603	46.15	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	46.15	0.00	46.15	0.00
Purchase	03/02/2016	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	99.984	1.37 %	179,971.67	0.00	179,971.67	0.00
Purchase	03/07/2016	316175603	3,390.63	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	3,390.63	0.00	3,390.63	0.00
Purchase	03/08/2016	316175603	2,500.00	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	2,500.00	0.00	2,500.00	0.00
Purchase	03/09/2016	316175603	3,437.50	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	3,437.50	0.00	3,437.50	0.00
Purchase	03/12/2016	316175603	4,375.00	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	4,375.00	0.00	4,375.00	0.00
Purchase	03/14/2016	316175603	7,500.00	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	7,500.00	0.00	7,500.00	0.00
Purchase	03/15/2016	316175603	1,657.80	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	1,657.80	0.00	1,657.80	0.00
Purchase	03/15/2016	316175603	5,945.40	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	5,945.40	0.00	5,945.40	0.00
Purchase	03/15/2016	316175603	15,524.05	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	15,524.05	0.00	15,524.05	0.00
Purchase	03/15/2016	316175603	14,132.18	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	14,132.18	0.00	14,132.18	0.00
Purchase	03/15/2016	316175603	115.00	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	115.00	0.00	115.00	0.00
Purchase	03/15/2016	316175603	210.00	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	210.00	0.00	210.00	0.00
Purchase	03/16/2016	912828N89	350,000.00	US Treasury Note 1.375% Due 1/31/2021	99.442	1.49 %	348,046.09	594.95	348,641.04	0.00
Purchase	03/18/2016	316175603	13,942.29	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	13,942.29	0.00	13,942.29	0.00
Purchase	03/18/2016	316175603	119.38	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	119.38	0.00	119.38	0.00
Purchase	03/21/2016	316175603	1,556.25	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	1,556.25	0.00	1,556.25	0.00
Purchase	03/21/2016	316175603	238.33	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	238.33	0.00	238.33	0.00
Purchase	03/27/2016	316175603	1,925.00	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	1,925.00	0.00	1,925.00	0.00



Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Loss
ACQUISITIONS										
Purchase	03/28/2016	316175603	3,281.25	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	3,281.25	0.00	3,281.25	0.00
Purchase	03/31/2016	316175603	1,293.75	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	1,293.75	0.00	1,293.75	0.00
Purchase	03/31/2016	316175603	115,000.00	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	115,000.00	0.00	115,000.00	0.00
Subtotal			1,196,189.96				1,194,151.32	594.95	1,194,746.27	0.00
Short Sale	03/01/2016	316175603	-469,943.60	Fidelity Institutional Government MMKT Fund #657	1.000		-469,943.60	0.00	-469,943.60	0.00
Subtotal			-469,943.60				-469,943.60	0.00	-469,943.60	0.00
TOTAL ACQUISITIONS			726,246.36				724,207.72	594.95	724,802.67	0.00

DISPOSITIONS										
Closing Purchase	03/01/2016	316175603	-469,943.60	Fidelity Institutional Government MMKT Fund #657	1.000		-469,943.60	0.00	-469,943.60	0.00
Subtotal			-469,943.60				-469,943.60	0.00	-469,943.60	0.00
Sale	03/01/2016	316175603	469,943.60	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	469,943.60	0.00	469,943.60	0.00
Sale	03/02/2016	316175603	179,971.67	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	179,971.67	0.00	179,971.67	0.00
Sale	03/16/2016	313373SZ6	300,000.00	FHLB Note 2.125% Due 6/10/2016	100.387	0.46 %	301,161.00	1,700.00	302,861.00	460.82
Sale	03/16/2016	316175603	45,780.04	Fidelity Institutional Government MMKT Fund #657	1.000	0.01 %	45,780.04	0.00	45,780.04	0.00
Subtotal			995,695.31				996,856.31	1,700.00	998,556.31	460.82
Paydown	03/15/2016	477879AC4	5,921.60	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	100.000		5,921.60	23.80	5,945.40	0.00
Paydown	03/15/2016	47787VAC5	15,359.29	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	100.000		15,359.29	164.76	15,524.05	0.00
Paydown	03/15/2016	89231MAC9	14,052.18	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	100.000		14,052.18	80.00	14,132.18	0.00
Paydown	03/15/2016	89231TAB6	0.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	100.000		0.00	115.00	115.00	0.00
Paydown	03/15/2016	89236WAC2	0.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	100.000		0.00	210.00	210.00	0.00



Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Loss
DISPOSITIONS										
Paydown	03/18/2016	43814GAC4	13,836.01	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	100.000		13,836.01	106.28	13,942.29	0.00
Paydown	03/18/2016	43814NAB1	0.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	100.000		0.00	119.38	119.38	0.00
Paydown	03/21/2016	43813NAC0	0.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	100.000		0.00	238.33	238.33	0.00
		Subtotal	49,169.08				49,169.08	1,057.55	50,226.63	0.00
Maturity	03/31/2016	912828QA1	115,000.00	US Treasury Note 2.25% Due 3/31/2016	100.000		115,000.00	0.00	115,000.00	0.00
		Subtotal	115,000.00				115,000.00	0.00	115,000.00	0.00
Security Withdrawal	03/04/2016	316175603	1,919.00	Fidelity Institutional Government MMKT Fund #657	1.000		1,919.00	0.00	1,919.00	0.00
		Subtotal	1,919.00				1,919.00	0.00	1,919.00	0.00
TOTAL DISPOSITIONS			691,839.79				693,000.79	2,757.55	695,758.34	460.82

OTHER TRANSACTIONS										
Interest	03/07/2016	3137EADP1	775,000.00	FHLMC Note 0.875% Due 3/7/2018	0.000		3,390.63	0.00	3,390.63	0.00
Interest	03/08/2016	3137EADC0	500,000.00	FHLMC Note 1% Due 3/8/2017	0.000		2,500.00	0.00	2,500.00	0.00
Interest	03/09/2016	313378A43	500,000.00	FHLB Note 1.375% Due 3/9/2018	0.000		3,437.50	0.00	3,437.50	0.00
Interest	03/12/2016	3135G0ZG1	500,000.00	FNMA Note 1.75% Due 9/12/2019	0.000		4,375.00	0.00	4,375.00	0.00
Interest	03/14/2016	313375K48	750,000.00	FHLB Note 2% Due 9/14/2018	0.000		7,500.00	0.00	7,500.00	0.00
Interest	03/15/2016	30231GAA0	360,000.00	Exxon Mobil Corp Note 0.921% Due 3/15/2017	0.000		1,657.80	0.00	1,657.80	0.00
Interest	03/21/2016	3133EAY28	375,000.00	FFCB Note 0.83% Due 9/21/2017	0.000		1,556.25	0.00	1,556.25	0.00
Interest	03/27/2016	3135G0ZL0	385,000.00	FNMA Note 1% Due 9/27/2017	0.000		1,925.00	0.00	1,925.00	0.00
Interest	03/28/2016	3135G0CM3	525,000.00	FNMA Note 1.25% Due 9/28/2016	0.000		3,281.25	0.00	3,281.25	0.00



Transaction Ledger

2/29/16 Thru 3/31/16

Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Loss
OTHER TRANSACTIONS										
Interest	03/31/2016	912828QA1	115,000.00	US Treasury Note 2.25% Due 3/31/2016	0.000		1,293.75	0.00	1,293.75	0.00
	Subtotal		4,785,000.00				30,917.18	0.00	30,917.18	0.00
Dividend	03/02/2016	316175603	60,841.73	Fidelity Institutional Government MMKT Fund #657	0.000		46.15	0.00	46.15	0.00
	Subtotal		60,841.73				46.15	0.00	46.15	0.00
TOTAL OTHER TRANSACTIONS			4,845,841.73				30,963.33	0.00	30,963.33	0.00



CUSIP	Security Description	Trade Date Settle Date Units	Book Value: Begin Book Value: Acq Book Value: Disp Book Value: End	Prior Accrued Inc. Received Ending Accrued Total Interest	Accr. Of Discount Amort. Of Premium Net Accret/Amort Income Earned	Unreal G/L Total Income
Fixed Income						
037833AJ9	Apple Inc Note 1% Due 05/03/2018	Various Various 310,000.00	309,398.86 0.00 0.00 309,422.36	1,016.11 0.00 1,274.45 258.34	23.50 0.00 23.50 281.84	0.00 0.00 0.00 281.84
084670BL1	Berkshire Hathaway Note 2.1% Due 08/14/2019	07/15/2015 07/20/2015 350,000.00	351,107.83 0.00 0.00 351,080.60	347.08 0.00 959.58 612.50	0.00 27.23 (27.23) 585.27	0.00 0.00 0.00 585.27
166764AA8	Chevron Corp Callable Note Cont 11/5/17 1.104% Due 12/05/2017	Various Various 340,000.00	340,312.08 0.00 0.00 340,297.06	896.69 0.00 1,209.49 312.80	0.00 15.02 (15.02) 297.78	0.00 0.00 0.00 297.78
30231GAA0	Exxon Mobil Corp Note 0.921% Due 03/15/2017	03/17/2014 03/20/2014 360,000.00	360,000.00 0.00 0.00 360,000.00	1,528.86 1,657.80 147.36 276.30	0.00 0.00 0.00 276.30	0.00 0.00 0.00 276.30
3130A4GJ5	FHLB Note 1.125% Due 04/25/2018	03/03/2015 03/04/2015 500,000.00	499,480.31 0.00 0.00 499,500.84	1,968.75 0.00 2,437.50 468.75	20.53 0.00 20.53 489.28	0.00 0.00 0.00 489.28
3130A7CV5	FHLB Note 1.375% Due 02/18/2021	02/17/2016 02/18/2016 395,000.00	393,414.68 0.00 0.00 393,441.76	196.13 0.00 648.73 452.60	27.08 0.00 27.08 479.68	0.00 0.00 0.00 479.68
313373SZ6	FHLB Note Due 06/10/2016	09/14/2011 09/15/2011 0.00	300,822.30 0.00 300,700.18 0.00	1,434.38 1,700.00 0.00 265.62	0.00 122.12 (122.12) 143.50	0.00 0.00 0.00 143.50
313375K48	FHLB Note 2% Due 09/14/2018	02/07/2014 02/10/2014 750,000.00	759,216.10 0.00 0.00 758,907.91	6,958.33 7,500.00 708.33 1,250.00	0.00 308.19 (308.19) 941.81	0.00 0.00 0.00 941.81
313378A43	FHLB Note 1.375% Due 03/09/2018	08/06/2013 08/07/2013 500,000.00	498,944.77 0.00 0.00 498,989.10	3,284.72 3,437.50 420.14 572.92	44.33 0.00 44.33 617.25	0.00 0.00 0.00 617.25
313379FW4	FHLB Note 1% Due 06/09/2017	06/20/2012 06/21/2012 500,000.00	499,844.91 0.00 0.00 499,855.25	1,138.89 0.00 1,555.56 416.67	10.34 0.00 10.34 427.01	0.00 0.00 0.00 427.01



CUSIP	Security Description	Trade Date Settle Date Units	Book Value: Begin Book Value: Acq Book Value: Disp Book Value: End	Prior Accrued Inc. Received Ending Accrued Total Interest	Accr. Of Discount Amort. Of Premium Net Accret/Amort Income Earned	Unreal G/L Total Income
313383HU8	FHLB Note 1.75% Due 06/12/2020	10/08/2015 10/09/2015 500,000.00	505,961.15 0.00 0.00 505,842.99	1,920.14 0.00 2,649.31 729.17	0.00 118.16 (118.16) 611.01	0.00 0.00 611.01
3133EAY28	FFCB Note 0.83% Due 09/21/2017	09/18/2012 09/21/2012 375,000.00	375,000.00 0.00 0.00 375,000.00	1,383.33 1,556.25 86.46 259.38	0.00 0.00 0.00 259.38	0.00 0.00 259.38
3135G0A78	FNMA Note 1.625% Due 01/21/2020	02/10/2015 02/11/2015 500,000.00	499,244.23 0.00 0.00 499,260.72	902.78 0.00 1,579.86 677.08	16.49 0.00 16.49 693.57	0.00 0.00 693.57
3135G0CM3	FNMA Note 1.25% Due 09/28/2016	09/29/2011 09/30/2011 525,000.00	524,854.87 0.00 0.00 524,876.19	2,789.06 3,281.25 54.69 546.88	21.32 0.00 21.32 568.20	0.00 0.00 568.20
3135G0F73	FNMA Note 1.5% Due 11/30/2020	12/04/2015 12/07/2015 500,000.00	491,563.32 0.00 0.00 491,714.07	1,895.83 0.00 2,520.83 625.00	150.75 0.00 150.75 775.75	0.00 0.00 775.75
3135G0GY3	FNMA Note 1.25% Due 01/30/2017	03/26/2012 03/27/2012 250,000.00	249,995.60 0.00 0.00 249,996.01	269.10 0.00 529.51 260.41	0.41 0.00 0.41 260.82	0.00 0.00 260.82
3135G0WJ8	FNMA Note 0.875% Due 05/21/2018	Various Various 600,000.00	596,855.77 0.00 0.00 596,975.96	1,458.34 0.00 1,895.83 437.49	120.19 0.00 120.19 557.68	0.00 0.00 557.68
3135G0YT4	FNMA Note 1.625% Due 11/27/2018	Various Various 800,000.00	800,704.42 0.00 0.00 800,682.61	3,394.45 0.00 4,477.78 1,083.33	2.10 23.91 (21.81) 1,061.52	0.00 0.00 1,061.52
3135G0ZG1	FNMA Note 1.75% Due 09/12/2019	Various Various 500,000.00	499,231.17 0.00 0.00 499,249.64	4,107.64 4,375.00 461.80 729.16	31.29 12.82 18.47 747.63	0.00 0.00 747.63
3135G0ZL0	FNMA Note 1% Due 09/27/2017	Various Various 385,000.00	384,309.99 0.00 0.00 384,347.19	1,646.95 1,925.00 42.78 320.83	37.20 0.00 37.20 358.03	0.00 0.00 358.03
3137EACW7	FHLMC Note 2% Due 08/25/2016	01/19/2012 01/20/2012 650,000.00	652,775.45 0.00 0.00 652,289.36	216.67 0.00 1,300.00 1,083.33	0.00 486.09 (486.09) 597.24	0.00 0.00 597.24



CUSIP	Security Description	Trade Date Settle Date Units	Book Value: Begin Book Value: Acq Book Value: Disp Book Value: End	Prior Accrued Inc. Received Ending Accrued Total Interest	Accr. Of Discount Amort. Of Premium Net Accret/Amort Income Earned	Unreal G/L Total Income
3137EADC0	FHLMC Note 1% Due 03/08/2017	03/19/2012 03/20/2012 500,000.00	498,169.94 0.00 0.00 498,322.45	2,402.78 2,500.00 319.44 416.66	152.51 0.00 152.51 569.17	0.00 569.17
3137EADG1	FHLMC Note 1.75% Due 05/30/2019	Various Various 1,000,000.00	1,004,069.33 0.00 0.00 1,003,962.88	4,423.61 0.00 5,881.94 1,458.33	0.00 106.45 (106.45) 1,351.88	0.00 1,351.88
3137EADP1	FHLMC Note 0.875% Due 03/07/2018	Various Various 775,000.00	770,103.55 0.00 0.00 770,309.78	3,277.61 3,390.63 452.08 565.10	206.23 0.00 206.23 771.33	0.00 771.33
3137EADV8	FHLMC Note 0.75% Due 07/14/2017	06/29/2015 06/30/2015 400,000.00	399,804.03 0.00 0.00 399,816.18	391.67 0.00 641.67 250.00	12.15 0.00 12.15 262.15	0.00 262.15
38259PAC6	Google Inc Note 2.125% Due 05/19/2016	10/13/2011 10/18/2011 260,000.00	260,299.95 0.00 0.00 260,182.25	1,565.42 0.00 2,025.83 460.41	0.00 117.70 (117.70) 342.71	0.00 342.71
43813NAC0	Honda Auto Receivables 2015-2 A3 1.04% Due 02/21/2019	05/13/2015 05/20/2015 275,000.00	274,966.58 0.00 0.00 274,967.54	79.44 238.33 79.44 238.33	0.96 0.00 0.96 239.29	0.00 239.29
43814GAC4	Honda Auto Receivables 2014-2 A3 0.77% Due 03/19/2018	05/13/2014 05/21/2014 151,792.93	165,620.87 0.00 13,836.01 151,786.05	46.05 106.28 42.21 102.44	1.19 0.00 1.19 103.63	0.00 103.63
43814NAB1	Honda Auto Receivables 2016-1 A2 1.01% Due 06/18/2018	02/16/2016 02/25/2016 185,000.00	184,981.63 0.00 0.00 184,982.31	31.14 119.38 67.47 155.71	0.68 0.00 0.68 156.39	0.00 156.39
477879AC4	John Deere Owner Trust 2013-B A3 0.87% Due 08/15/2017	08/27/2013 09/04/2013 26,900.56	32,820.51 0.00 5,921.60 26,899.29	12.69 23.80 10.40 21.51	0.38 0.00 0.38 21.89	0.00 21.89
47787VAC5	John Deere Owner Trust 2014-A A3 0.92% Due 04/16/2018	04/02/2014 04/09/2014 199,551.31	214,897.79 0.00 15,359.29 199,540.31	87.87 164.76 81.59 158.48	1.81 0.00 1.81 160.29	0.00 160.29
47788MAC4	John Deere Owner Trust 2016-A A3 1.36% Due 04/15/2020	02/23/2016 03/02/2016 180,000.00	0.00 179,971.67 0.00 179,972.23	0.00 0.00 108.80 108.80	0.56 0.00 0.56 109.36	0.00 109.36



CUSIP	Security Description	Trade Date Settle Date Units	Book Value: Begin Book Value: Acq Book Value: Disp Book Value: End	Prior Accrued Inc. Received Ending Accrued Total Interest	Accr. Of Discount Amort. Of Premium Net Accret/Amort Income Earned	Unreal G/L Total Income
478160BR4	Johnson & Johnson Note 1.125% Due 03/01/2019	02/25/2016 03/01/2016 470,000.00	0.00 469,943.60 0.00 469,945.20	0.00 0.00 440.63 440.63	1.60 0.00 1.60 442.23	0.00 442.23
594918BG8	Microsoft Callable Note Cont. 10/03/20 2% Due 11/03/2020	Various Various 300,000.00	299,666.73 0.00 0.00 299,672.79	1,966.66 0.00 2,466.67 500.01	6.06 0.00 6.06 506.07	0.00 506.07
89231MAC9	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	03/11/2014 03/19/2014 129,231.15	143,275.09 0.00 14,052.18 129,224.44	42.67 80.00 38.48 75.81	1.53 0.00 1.53 77.34	0.00 77.34
89231TAB6	Toyota Auto Receivables Owner 2015-C 0.92% Due 02/15/2018	08/18/2015 08/26/2015 150,000.00	149,990.45 0.00 0.00 149,990.86	61.33 115.00 61.33 115.00	0.41 0.00 0.41 115.41	0.00 115.41
89236WAC2	Toyota Auto Receivables Owner 2015-A 1.12% Due 02/15/2019	02/24/2015 03/04/2015 225,000.00	224,977.43 0.00 0.00 224,978.40	112.00 210.00 112.00 210.00	0.97 0.00 0.97 210.97	0.00 210.97
912828B33	US Treasury Note 1.5% Due 01/31/2019	02/27/2014 02/28/2014 500,000.00	500,452.60 0.00 0.00 500,439.44	618.13 0.00 1,256.87 638.74	0.00 13.16 (13.16) 625.58	0.00 625.58
912828C24	US Treasury Note 1.5% Due 02/28/2019	Various Various 800,000.00	797,637.90 0.00 0.00 797,704.83	32.61 0.00 1,043.47 1,010.86	66.93 0.00 66.93 1,077.79	0.00 1,077.79
912828D23	US Treasury Note 1.625% Due 04/30/2019	Various Various 750,000.00	751,774.53 0.00 0.00 751,726.89	4,084.82 0.00 5,122.77 1,037.95	0.00 47.64 (47.64) 990.31	0.00 990.31
912828D80	US Treasury Note 1.625% Due 08/31/2019	09/09/2014 09/10/2014 250,000.00	248,880.37 0.00 0.00 248,907.53	11.04 0.00 353.26 342.22	27.16 0.00 27.16 369.38	0.00 369.38
912828G61	US Treasury Note 1.5% Due 11/30/2019	Various Various 1,075,000.00	1,078,252.26 0.00 0.00 1,078,178.62	4,053.28 0.00 5,419.06 1,365.78	34.35 107.99 (73.64) 1,292.14	0.00 1,292.14
912828G79	US Treasury Note 1% Due 12/15/2017	12/11/2014 12/15/2014 200,000.00	199,846.56 0.00 0.00 199,853.83	420.77 0.00 590.16 169.39	7.27 0.00 7.27 176.66	0.00 176.66



CUSIP	Security Description	Trade Date Settle Date Units	Book Value: Begin Book Value: Acq Book Value: Disp Book Value: End	Prior Accrued Inc. Received Ending Accrued Total Interest	Accr. Of Discount Amort. Of Premium Net Accret/Amort Income Earned	Unreal G/L Total Income
912828J50	US Treasury Note 1.375% Due 02/29/2020	04/23/2015 04/24/2015 625,000.00	624,840.80 0.00 0.00 624,844.18	23.35 0.00 747.28 723.93	3.38 0.00 3.38 727.31	0.00 727.31
912828K58	US Treasury Note 1.375% Due 04/30/2020	05/06/2015 05/07/2015 300,000.00	297,875.65 0.00 0.00 297,918.94	1,382.55 0.00 1,733.86 351.31	43.29 0.00 43.29 394.60	0.00 394.60
912828L99	US Treasury Note 1.375% Due 10/31/2020	Various Various 350,000.00	345,190.54 0.00 0.00 345,277.99	1,612.98 0.00 2,022.83 409.85	87.45 0.00 87.45 497.30	0.00 497.30
912828N89	US Treasury Note 1.375% Due 01/31/2021	Various Various 700,000.00	352,193.79 348,046.09 0.00 700,219.58	396.63 (594.95) 1,612.98 621.40	17.54 37.84 (20.30) 601.10	0.00 601.10
912828QA1	US Treasury Note Due 03/31/2016	Various Various 0.00	115,082.49 0.00 115,000.00 0.00	1,081.66 1,293.75 0.00 212.09	0.00 82.49 (82.49) 129.60	0.00 129.60
912828RE2	US Treasury Note 1.5% Due 08/31/2018	02/12/2014 02/13/2014 200,000.00	200,477.32 0.00 0.00 200,461.12	8.15 0.00 260.87 252.72	0.00 16.20 (16.20) 236.52	0.00 236.52
912828TM2	US Treasury Note 0.625% Due 08/31/2017	Various Various 125,000.00	124,890.68 0.00 0.00 124,896.86	2.12 0.00 67.94 65.82	6.18 0.00 6.18 72.00	0.00 72.00
912828UZ1	US Treasury Note 0.625% Due 04/30/2018	05/28/2013 05/29/2013 400,000.00	397,507.11 0.00 0.00 397,604.93	837.91 0.00 1,050.82 212.91	97.82 0.00 97.82 310.73	0.00 310.73
912828VQ0	US Treasury Note 1.375% Due 07/31/2018	07/30/2013 07/31/2013 250,000.00	250,052.29 0.00 0.00 250,050.45	283.31 0.00 576.06 292.75	0.00 1.84 (1.84) 290.91	0.00 290.91
912828XE5	US Treasury Note 1.5% Due 05/31/2020	Various Various 500,000.00	496,411.46 0.00 0.00 496,483.14	1,885.24 0.00 2,520.50 635.26	71.68 0.00 71.68 706.94	0.00 706.94
912828XM7	US Treasury Note 1.625% Due 07/31/2020	Various Various 625,000.00	627,842.07 0.00 0.00 627,787.45	837.05 0.00 1,702.01 864.96	0.00 54.62 (54.62) 810.34	0.00 810.34



Income Earned

2/29/16 Thru 3/31/16

CUSIP	Security Description	Trade Date Settle Date Units	Book Value: Begin Book Value: Acq Book Value: Disp Book Value: End	Prior Accrued Inc. Received Ending Accrued Total Interest	Accr. Of Discount Amort. Of Premium Net Accret/Amort Income Earned	Unreal G/L Total Income
			21,925,890.11	70,826.77	1,355.62	
			997,961.36	33,079.78	1,699.47	
			464,869.26	63,870.71	(343.85)	0.00
TOTAL Fixed Income		22,467,475.95	22,458,638.36	26,123.72	25,779.87	25,779.87
Cash & Equivalent						
06538BFQ1	Bank of Tokyo Mitsubishi NY Discount CP 0.7% Due 06/24/2016	02/25/2016 02/26/2016 470,000.00	468,912.47 0.00 0.00 468,912.47	36.56 0.00 319.86 283.30	0.00 0.00 0.00 283.30	0.00 0.00 0.00 283.30
316175603	Fidelity Institutional Government MMKT Fund #657	Various Various 209,332.66	710,757.01 (273,753.64) 227,670.71 209,332.66	0.00 46.15 0.00 46.15	0.00 0.00 0.00 46.15	0.00 0.00 0.00 46.15
			1,179,669.48	36.56	0.00	
			(273,753.64)	46.15	0.00	
			227,670.71	319.86	0.00	0.00
			209,332.66	46.15	46.15	46.15
TOTAL Cash & Equivalent		679,332.66	678,245.13	329.45	329.45	329.45
			23,105,559.59	70,863.33	1,355.62	
			724,207.72	33,125.93	1,699.47	
			692,539.97	64,190.57	(343.85)	0.00
TOTAL PORTFOLIO		23,146,808.61	23,136,883.49	26,453.17	26,109.32	26,109.32



Cash Flow Report

From 03/31/2016

Payment Date	Transaction Type	CUSIP	Quantity	Security Description	Principal Amount	Income	Total Amount
04/15/2016	Paydown	89231MAC9	129,231.15	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	13,966.82	72.15	14,038.97
04/15/2016	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,570.30	19.50	1,589.80
04/15/2016	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	18,574.71	152.99	18,727.70
04/15/2016	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
04/15/2016	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	9,142.14	115.00	9,257.14
04/15/2016	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	12,966.28	210.00	13,176.28
04/18/2016	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	13,363.95	97.40	13,461.35
04/18/2016	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,776.29	155.71	6,932.00
04/21/2016	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	10,780.58	238.33	11,018.91
04/25/2016	Interest	3130A4GJ5	500,000.00	FHLB Note 1.125% Due 4/25/2018	0.00	2,812.50	2,812.50
04/30/2016	Interest	912828K58	300,000.00	US Treasury Note 1.375% Due 4/30/2020	0.00	2,062.50	2,062.50
04/30/2016	Interest	912828L99	350,000.00	US Treasury Note 1.375% Due 10/31/2020	0.00	2,406.25	2,406.25
04/30/2016	Interest	912828D23	750,000.00	US Treasury Note 1.625% Due 4/30/2019	0.00	6,093.75	6,093.75
04/30/2016	Interest	912828UZ1	400,000.00	US Treasury Note 0.625% Due 4/30/2018	0.00	1,250.00	1,250.00
Apr 2016					87,141.07	15,890.08	103,031.15
05/03/2016	Interest	037833AJ9	310,000.00	Apple Inc Note 1% Due 5/3/2018	0.00	1,550.00	1,550.00
05/03/2016	Interest	594918BG8	300,000.00	Microsoft Callable Note Cont. 10/03/20 2% Due 11/3/2020	0.00	3,000.00	3,000.00
05/15/2016	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,571.81	18.36	1,590.17
05/15/2016	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	18,039.55	138.75	18,178.30
05/15/2016	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
05/15/2016	Paydown	89231MAC9	129,231.15	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	13,524.65	64.36	13,589.01



Cash Flow Report

From 03/31/2016

Payment Date	Transaction Type	CUSIP	Quantity	Security Description	Principal Amount	Income	Total Amount
05/15/2016	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	8,905.37	107.99	9,013.36
05/15/2016	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	12,679.20	197.90	12,877.10
05/18/2016	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	12,977.52	88.83	13,066.35
05/18/2016	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,782.07	150.00	6,932.07
05/19/2016	Maturity	38259PAC6	260,000.00	Google Inc Note 2.125% Due 5/19/2016	260,000.00	2,762.50	262,762.50
05/21/2016	Interest	3135G0WJ8	600,000.00	FNMA Note 0.875% Due 5/21/2018	0.00	2,625.00	2,625.00
05/21/2016	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	10,611.11	228.99	10,840.10
05/27/2016	Interest	3135G0YT4	800,000.00	FNMA Note 1.625% Due 11/27/2018	0.00	6,500.00	6,500.00
05/30/2016	Interest	3135G0F73	500,000.00	FNMA Note 1.5% Due 11/30/2020	0.00	3,750.00	3,750.00
05/30/2016	Interest	3137EADG1	1,000,000.00	FHLMC Note 1.75% Due 5/30/2019	0.00	8,750.00	8,750.00
05/31/2016	Interest	912828G61	1,075,000.00	US Treasury Note 1.5% Due 11/30/2019	0.00	8,062.50	8,062.50
05/31/2016	Interest	912828XE5	500,000.00	US Treasury Note 1.5% Due 5/31/2020	0.00	3,750.00	3,750.00
May 2016					345,091.28	41,949.18	387,040.46
06/05/2016	Interest	166764AA8	340,000.00	Chevron Corp Callable Note Cont 11/5/17 1.104% Due 12/5/2017	0.00	1,876.80	1,876.80
06/09/2016	Interest	313379FW4	500,000.00	FHLB Note 1% Due 6/9/2017	0.00	2,500.00	2,500.00
06/12/2016	Interest	313383HU8	500,000.00	FHLB Note 1.75% Due 6/12/2020	0.00	4,375.00	4,375.00
06/15/2016	Interest	912828G79	200,000.00	US Treasury Note 1% Due 12/15/2017	0.00	1,000.00	1,000.00
06/15/2016	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,573.31	17.22	1,590.53
06/15/2016	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	17,503.78	124.92	17,628.70
06/15/2016	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
06/15/2016	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	8,668.39	101.16	8,769.55



Cash Flow Report

From 03/31/2016

Payment Date	Transaction Type	CUSIP	Quantity	Security Description	Principal Amount	Income	Total Amount
06/15/2016	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	12,391.79	186.06	12,577.85
06/15/2016	Paydown	89231MAC9	129,231.15	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	13,081.98	56.80	13,138.78
06/18/2016	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	12,590.72	80.50	12,671.22
06/18/2016	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,787.84	144.30	6,932.14
06/21/2016	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	10,441.42	219.79	10,661.21
06/24/2016	Maturity	06538BFQ1	470,000.00	Bank of Tokyo Mitsubishi NY Discount CP 0.7% Due 6/24/2016	468,912.47	1,087.53	470,000.00
Jun 2016					551,951.70	11,974.08	563,925.78
07/14/2016	Interest	3137EADV8	400,000.00	FHLMC Note 0.75% Due 7/14/2017	0.00	1,500.00	1,500.00
07/15/2016	Paydown	89231MAC9	129,231.15	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	12,638.78	49.50	12,688.28
07/15/2016	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	8,431.20	94.52	8,525.72
07/15/2016	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	12,104.04	174.50	12,278.54
07/15/2016	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,574.82	16.08	1,590.90
07/15/2016	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	16,967.38	111.50	17,078.88
07/15/2016	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
07/18/2016	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,793.62	138.58	6,932.20
07/18/2016	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	12,203.54	72.42	12,275.96
07/21/2016	Interest	3135G0A78	500,000.00	FNMA Note 1.625% Due 1/21/2020	0.00	4,062.50	4,062.50
07/21/2016	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	10,271.51	210.74	10,482.25
07/30/2016	Interest	3135G0GY3	250,000.00	FNMA Note 1.25% Due 1/30/2017	0.00	1,562.50	1,562.50
07/31/2016	Interest	912828B33	500,000.00	US Treasury Note 1.5% Due 1/31/2019	0.00	3,750.00	3,750.00
07/31/2016	Interest	912828N89	700,000.00	US Treasury Note 1.375% Due 1/31/2021	0.00	4,812.50	4,812.50



Cash Flow Report

From 03/31/2016

Payment Date	Transaction Type	CUSIP	Quantity	Security Description	Principal Amount	Income	Total Amount
07/31/2016	Interest	912828VQ0	250,000.00	US Treasury Note 1.375% Due 7/31/2018	0.00	1,718.75	1,718.75
07/31/2016	Interest	912828XM7	625,000.00	US Treasury Note 1.625% Due 7/31/2020	0.00	5,078.13	5,078.13
Jul 2016					80,984.89	23,556.22	104,541.11
08/14/2016	Interest	084670BL1	350,000.00	Berkshire Hathaway Note 2.1% Due 8/14/2019	0.00	3,675.00	3,675.00
08/15/2016	Paydown	89231MAC9	129,231.15	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	12,195.08	42.44	12,237.52
08/15/2016	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,576.32	14.94	1,591.26
08/15/2016	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	16,430.36	98.49	16,528.85
08/15/2016	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
08/15/2016	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	8,193.81	88.05	8,281.86
08/15/2016	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	11,815.96	163.20	11,979.16
08/18/2016	Interest	3130A7CV5	395,000.00	FHLB Note 1.375% Due 2/18/2021	0.00	2,715.63	2,715.63
08/18/2016	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	11,815.98	64.59	11,880.57
08/18/2016	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,799.40	132.87	6,932.27
08/21/2016	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	10,101.37	201.84	10,303.21
08/25/2016	Maturity	3137EACW7	650,000.00	FHLMC Note 2% Due 8/25/2016	650,000.00	6,500.00	656,500.00
08/31/2016	Interest	912828D80	250,000.00	US Treasury Note 1.625% Due 8/31/2019	0.00	2,031.25	2,031.25
08/31/2016	Interest	912828J50	625,000.00	US Treasury Note 1.375% Due 2/29/2020	0.00	4,296.88	4,296.88
08/31/2016	Interest	912828RE2	200,000.00	US Treasury Note 1.5% Due 8/31/2018	0.00	1,500.00	1,500.00
08/31/2016	Interest	912828C24	800,000.00	US Treasury Note 1.5% Due 2/28/2019	0.00	6,000.00	6,000.00
08/31/2016	Interest	912828TM2	125,000.00	US Treasury Note 0.625% Due 8/31/2017	0.00	390.62	390.62
Aug 2016					728,928.28	28,119.80	757,048.08



Cash Flow Report

From 03/31/2016

Payment Date	Transaction Type	CUSIP	Quantity	Security Description	Principal Amount	Income	Total Amount
09/01/2016	Interest	478160BR4	470,000.00	Johnson & Johnson Note 1.125% Due 3/1/2019	0.00	2,643.75	2,643.75
09/07/2016	Interest	3137EADP1	775,000.00	FHLMC Note 0.875% Due 3/7/2018	0.00	3,390.63	3,390.63
09/08/2016	Interest	3137EADC0	500,000.00	FHLMC Note 1% Due 3/8/2017	0.00	2,500.00	2,500.00
09/09/2016	Interest	313378A43	500,000.00	FHLB Note 1.375% Due 3/9/2018	0.00	3,437.50	3,437.50
09/12/2016	Interest	3135G0ZG1	500,000.00	FNMA Note 1.75% Due 9/12/2019	0.00	4,375.00	4,375.00
09/14/2016	Interest	313375K48	750,000.00	FHLB Note 2% Due 9/14/2018	0.00	7,500.00	7,500.00
09/15/2016	Interest	30231GAA0	360,000.00	Exxon Mobil Corp Note 0.921% Due 3/15/2017	0.00	1,657.80	1,657.80
09/15/2016	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,577.83	13.80	1,591.63
09/15/2016	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	15,892.73	85.89	15,978.62
09/15/2016	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
09/15/2016	Paydown	89231MAC9	129,231.15	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	11,750.86	35.63	11,786.49
09/15/2016	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	7,956.21	81.77	8,037.98
09/15/2016	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	11,527.54	152.17	11,679.71
09/18/2016	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	11,428.05	57.01	11,485.06
09/18/2016	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,805.20	127.14	6,932.34
09/21/2016	Interest	3133EAY28	375,000.00	FFCB Note 0.83% Due 9/21/2017	0.00	1,556.25	1,556.25
09/21/2016	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	9,931.00	193.09	10,124.09
09/27/2016	Interest	3135G0ZL0	385,000.00	FNMA Note 1% Due 9/27/2017	0.00	1,925.00	1,925.00
09/28/2016	Maturity	3135G0CM3	525,000.00	FNMA Note 1.25% Due 9/28/2016	525,000.00	3,281.25	528,281.25
Sep 2016					601,869.42	33,217.68	635,087.10
10/15/2016	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,579.34	12.66	1,592.00



Cash Flow Report

From 03/31/2016

Payment Date	Transaction Type	CUSIP	Quantity	Security Description	Principal Amount	Income	Total Amount
10/15/2016	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	15,354.46	73.71	15,428.17
10/15/2016	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
10/15/2016	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	7,718.41	75.67	7,794.08
10/15/2016	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	11,238.79	141.41	11,380.20
10/15/2016	Paydown	89231MAC9	129,231.15	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	11,306.13	29.07	11,335.20
10/18/2016	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	11,039.74	49.67	11,089.41
10/18/2016	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,810.99	121.42	6,932.41
10/21/2016	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	9,760.41	184.48	9,944.89
10/25/2016	Interest	3130A4GJ5	500,000.00	FHLB Note 1.125% Due 4/25/2018	0.00	2,812.50	2,812.50
10/31/2016	Interest	912828D23	750,000.00	US Treasury Note 1.625% Due 4/30/2019	0.00	6,093.75	6,093.75
10/31/2016	Interest	912828UZ1	400,000.00	US Treasury Note 0.625% Due 4/30/2018	0.00	1,250.00	1,250.00
10/31/2016	Interest	912828K58	300,000.00	US Treasury Note 1.375% Due 4/30/2020	0.00	2,062.50	2,062.50
10/31/2016	Interest	912828L99	350,000.00	US Treasury Note 1.375% Due 10/31/2020	0.00	2,406.25	2,406.25
Oct 2016					74,808.27	15,517.09	90,325.36
11/03/2016	Interest	037833AJ9	310,000.00	Apple Inc Note 1% Due 5/3/2018	0.00	1,550.00	1,550.00
11/03/2016	Interest	594918BG8	300,000.00	Microsoft Callable Note Cont. 10/03/20 2% Due 11/3/2020	0.00	3,000.00	3,000.00
11/15/2016	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,580.86	11.51	1,592.37
11/15/2016	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	14,815.58	61.94	14,877.52
11/15/2016	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
11/15/2016	Paydown	89231MAC9	129,231.15	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	10,860.88	22.76	10,883.64
11/15/2016	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	7,480.40	69.75	7,550.15



Cash Flow Report

From 03/31/2016

Payment Date	Transaction Type	CUSIP	Quantity	Security Description	Principal Amount	Income	Total Amount
11/15/2016	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	10,949.71	130.92	11,080.63
11/18/2016	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	10,651.04	42.59	10,693.63
11/18/2016	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,816.80	115.68	6,932.48
11/21/2016	Interest	3135G0WJ8	600,000.00	FNMA Note 0.875% Due 5/21/2018	0.00	2,625.00	2,625.00
11/21/2016	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	9,589.59	176.02	9,765.61
11/27/2016	Interest	3135G0YT4	800,000.00	FNMA Note 1.625% Due 11/27/2018	0.00	6,500.00	6,500.00
11/30/2016	Interest	3135G0F73	500,000.00	FNMA Note 1.5% Due 11/30/2020	0.00	3,750.00	3,750.00
11/30/2016	Interest	3137EADG1	1,000,000.00	FHLMC Note 1.75% Due 5/30/2019	0.00	8,750.00	8,750.00
11/30/2016	Interest	912828G61	1,075,000.00	US Treasury Note 1.5% Due 11/30/2019	0.00	8,062.50	8,062.50
11/30/2016	Interest	912828XE5	500,000.00	US Treasury Note 1.5% Due 5/31/2020	0.00	3,750.00	3,750.00
Nov 2016					72,744.86	38,822.67	111,567.53
12/05/2016	Interest	166764AA8	340,000.00	Chevron Corp Callable Note Cont 11/5/17 1.104% Due 12/5/2017	0.00	1,876.80	1,876.80
12/09/2016	Interest	313379FW4	500,000.00	FHLB Note 1% Due 6/9/2017	0.00	2,500.00	2,500.00
12/12/2016	Interest	313383HU8	500,000.00	FHLB Note 1.75% Due 6/12/2020	0.00	4,375.00	4,375.00
12/15/2016	Interest	912828G79	200,000.00	US Treasury Note 1% Due 12/15/2017	0.00	1,000.00	1,000.00
12/15/2016	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,582.37	10.36	1,592.73
12/15/2016	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	14,276.07	50.58	14,326.65
12/15/2016	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
12/15/2016	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	7,242.18	64.02	7,306.20
12/15/2016	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	10,660.29	120.70	10,780.99
12/15/2016	Paydown	89231MAC9	129,231.15	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	10,415.11	16.70	10,431.81



Cash Flow Report

From 03/31/2016

Payment Date	Transaction Type	CUSIP	Quantity	Security Description	Principal Amount	Income	Total Amount
12/18/2016	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	10,261.96	35.76	10,297.72
12/18/2016	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,822.59	109.95	6,932.54
12/21/2016	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	9,418.54	167.71	9,586.25
Dec 2016					70,679.11	10,531.58	81,210.69
01/14/2017	Interest	3137EADV8	400,000.00	FHLMC Note 0.75% Due 7/14/2017	0.00	1,500.00	1,500.00
01/15/2017	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	13,735.94	39.63	13,775.57
01/15/2017	Paydown	89231MAC9	129,231.15	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	9,968.84	10.88	9,979.72
01/15/2017	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	7,003.75	58.47	7,062.22
01/15/2017	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,583.88	9.22	1,593.10
01/15/2017	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
01/15/2017	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	10,370.52	110.76	10,481.28
01/17/2017	Paydown	89231MAC9	129,231.15	Toyota Auto Receivables Owner 2014-A 0.67% Due 12/15/2017	9,522.05	0.35	9,522.40
01/18/2017	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	9,872.51	29.17	9,901.68
01/18/2017	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,828.41	104.20	6,932.61
01/21/2017	Interest	3135G0A78	500,000.00	FNMA Note 1.625% Due 1/21/2020	0.00	4,062.50	4,062.50
01/21/2017	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	9,247.26	159.55	9,406.81
01/30/2017	Maturity	3135G0GY3	250,000.00	FNMA Note 1.25% Due 1/30/2017	250,000.00	1,562.50	251,562.50
01/31/2017	Interest	912828XM7	625,000.00	US Treasury Note 1.625% Due 7/31/2020	0.00	5,078.13	5,078.13
01/31/2017	Interest	912828B33	500,000.00	US Treasury Note 1.5% Due 1/31/2019	0.00	3,750.00	3,750.00
01/31/2017	Interest	912828N89	700,000.00	US Treasury Note 1.375% Due 1/31/2021	0.00	4,812.50	4,812.50



Cash Flow Report

From 03/31/2016

Payment Date	Transaction Type	CUSIP	Quantity	Security Description	Principal Amount	Income	Total Amount
01/31/2017	Interest	912828VQ0	250,000.00	US Treasury Note 1.375% Due 7/31/2018	0.00	1,718.75	1,718.75
Jan 2017					328,133.16	23,210.61	351,343.77
02/14/2017	Interest	084670BL1	350,000.00	Berkshire Hathaway Note 2.1% Due 8/14/2019	0.00	3,675.00	3,675.00
02/15/2017	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,585.40	8.07	1,593.47
02/15/2017	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	13,195.18	29.10	13,224.28
02/15/2017	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
02/15/2017	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	6,765.12	53.10	6,818.22
02/15/2017	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	10,080.43	101.08	10,181.51
02/18/2017	Interest	3130A7CV5	395,000.00	FHLB Note 1.375% Due 2/18/2021	0.00	2,715.63	2,715.63
02/18/2017	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,834.22	98.46	6,932.68
02/18/2017	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	9,482.67	22.84	9,505.51
02/21/2017	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	9,075.77	151.53	9,227.30
02/28/2017	Interest	912828C24	800,000.00	US Treasury Note 1.5% Due 2/28/2019	0.00	6,000.00	6,000.00
02/28/2017	Interest	912828TM2	125,000.00	US Treasury Note 0.625% Due 8/31/2017	0.00	390.62	390.62
02/28/2017	Interest	912828D80	250,000.00	US Treasury Note 1.625% Due 8/31/2019	0.00	2,031.25	2,031.25
02/28/2017	Interest	912828J50	625,000.00	US Treasury Note 1.375% Due 2/29/2020	0.00	4,296.88	4,296.88
02/28/2017	Interest	912828RE2	200,000.00	US Treasury Note 1.5% Due 8/31/2018	0.00	1,500.00	1,500.00
Feb 2017					57,018.79	21,277.56	78,296.35
03/01/2017	Interest	478160BR4	470,000.00	Johnson & Johnson Note 1.125% Due 3/1/2019	0.00	2,643.75	2,643.75
03/07/2017	Interest	3137EADP1	775,000.00	FHLMC Note 0.875% Due 3/7/2018	0.00	3,390.63	3,390.63



Cash Flow Report

From 03/31/2016

Payment Date	Transaction Type	CUSIP	Quantity	Security Description	Principal Amount	Income	Total Amount
03/08/2017	Maturity	3137EADC0	500,000.00	FHLMC Note 1% Due 3/8/2017	500,000.00	2,500.00	502,500.00
03/09/2017	Interest	313378A43	500,000.00	FHLB Note 1.375% Due 3/9/2018	0.00	3,437.50	3,437.50
03/12/2017	Interest	3135G0ZG1	500,000.00	FNMA Note 1.75% Due 9/12/2019	0.00	4,375.00	4,375.00
03/14/2017	Interest	313375K48	750,000.00	FHLB Note 2% Due 9/14/2018	0.00	7,500.00	7,500.00
03/15/2017	Maturity	30231GAA0	360,000.00	Exxon Mobil Corp Note 0.921% Due 3/15/2017	360,000.00	1,657.80	361,657.80
03/15/2017	Paydown	47787VAC5	199,551.31	John Deere Owner Trust 2014-A A3 0.92% Due 4/16/2018	12,653.79	18.99	12,672.78
03/15/2017	Paydown	89231TAB6	150,000.00	Toyota Auto Receivables Owner 2015-C 0.92% Due 2/15/2018	6,526.29	47.91	6,574.20
03/15/2017	Paydown	477879AC4	26,900.56	John Deere Owner Trust 2013-B A3 0.87% Due 8/15/2017	1,586.92	6.92	1,593.84
03/15/2017	Paydown	47788MAC4	180,000.00	John Deere Owner Trust 2016-A A3 1.36% Due 4/15/2020	0.00	204.00	204.00
03/15/2017	Paydown	89236WAC2	225,000.00	Toyota Auto Receivables Owner 2015-A 1.12% Due 2/15/2019	9,790.01	91.67	9,881.68
03/18/2017	Paydown	43814GAC4	151,792.93	Honda Auto Receivables 2014-2 A3 0.77% Due 3/19/2018	9,092.46	16.75	9,109.21
03/18/2017	Paydown	43814NAB1	185,000.00	Honda Auto Receivables 2016-1 A2 1.01% Due 6/18/2018	6,840.05	92.70	6,932.75
03/21/2017	Interest	3133EAY28	375,000.00	FFCB Note 0.83% Due 9/21/2017	0.00	1,556.25	1,556.25
03/21/2017	Paydown	43813NAC0	275,000.00	Honda Auto Receivables 2015-2 A3 1.04% Due 2/21/2019	8,904.03	143.67	9,047.70
03/27/2017	Interest	3135G0ZL0	385,000.00	FNMA Note 1% Due 9/27/2017	0.00	1,925.00	1,925.00
Mar 2017					915,393.55	29,608.54	945,002.09
Total					3,914,744.38	293,675.09	4,208,419.47



Managed Account Summary Statement

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Transaction Summary - Managed Account

Opening Market Value	\$21,890,139.36
Maturities/Calls	(462,143.90)
Principal Dispositions	(1,406,513.27)
Principal Acquisitions	1,949,167.02
Unsettled Trades	0.00
Change in Current Value	45,126.03
Closing Market Value	\$22,015,775.24

Cash Transactions Summary - Managed Account

Maturities/Calls	425,000.00
Sale Proceeds	1,411,398.59
Coupon/Interest/Dividend Income	25,105.16
Principal Payments	37,143.90
Security Purchases	(1,950,745.32)
Net Cash Contribution	0.00
Reconciling Transactions	0.00

Earnings Reconciliation (Cash Basis) - Managed Account

Interest/Dividends/Coupons Received	29,990.48
Less Purchased Interest Related to Interest/Coupons	(1,578.30)
Plus Net Realized Gains/Losses	(12,143.15)
Total Cash Basis Earnings	\$16,269.03

Cash Balance

Closing Cash Balance	\$29,335.96
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Earnings Reconciliation (Accrual Basis)

	Total
Ending Amortized Value of Securities	21,802,342.43
Ending Accrued Interest	82,935.39
Plus Proceeds from Sales	1,411,398.59
Plus Proceeds of Maturities/Calls/Principal Payments	462,143.90
Plus Coupons/Dividends Received	25,105.16
Less Cost of New Purchases	(1,950,745.32)
Less Beginning Amortized Value of Securities	(21,724,703.26)
Less Beginning Accrued Interest	(79,034.77)
Total Accrual Basis Earnings	\$29,442.12



Portfolio Summary and Statistics

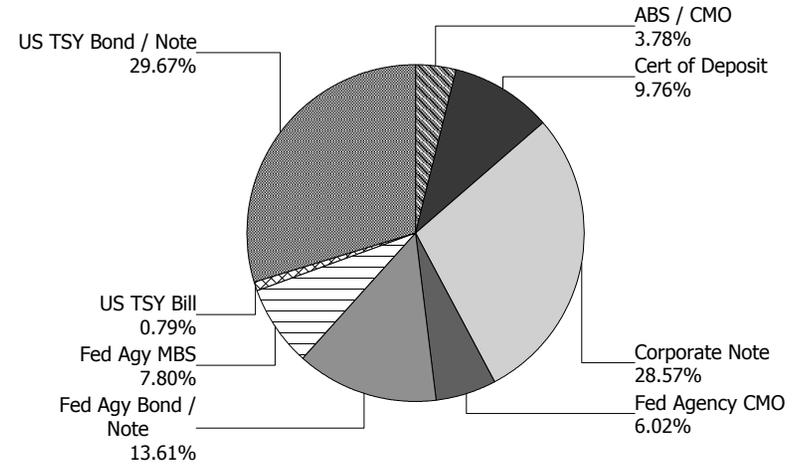
For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Account Summary

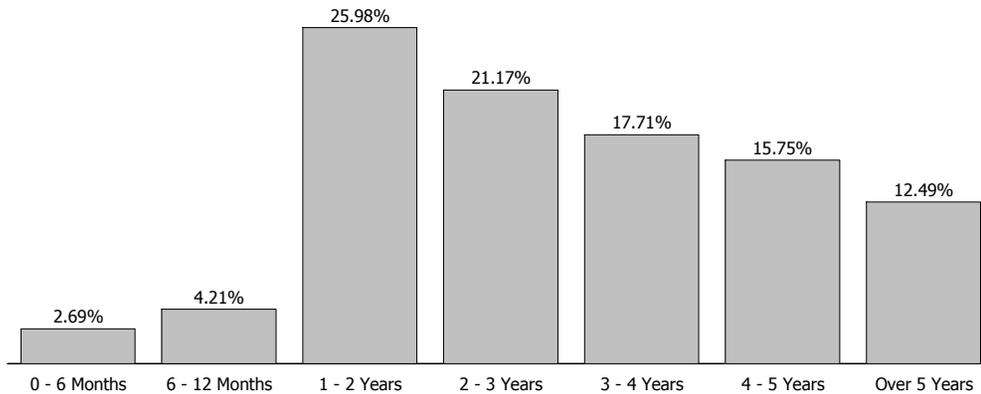
Description	Par Value	Market Value	Percent
U.S. Treasury Bond / Note	6,420,000.00	6,530,891.83	29.67
U.S. Treasury Bill	175,000.00	174,996.50	0.79
Federal Agency Mortgage-Backed Security	1,607,011.59	1,717,461.95	7.80
Federal Agency Collateralized Mortgage Obligation	1,273,361.53	1,324,613.75	6.02
Federal Agency Bond / Note	2,965,000.00	2,996,963.85	13.61
Corporate Note	6,170,000.00	6,288,828.99	28.57
Certificate of Deposit	2,150,000.00	2,149,732.45	9.76
Asset-Backed Security / Collateralized Mortgage Obligation	830,000.00	832,285.92	3.78
Managed Account Sub-Total	21,590,373.12	22,015,775.24	100.00%
Accrued Interest		82,935.39	
Total Portfolio	21,590,373.12	22,098,710.63	

Sector Allocation



Unsettled Trades **0.00** **0.00**

Maturity Distribution



Characteristics

Yield to Maturity at Cost	1.58%
Yield to Maturity at Market	1.17%
Duration to Worst	2.75
Weighted Average Days to Maturity	1538



Managed Account Issuer Summary

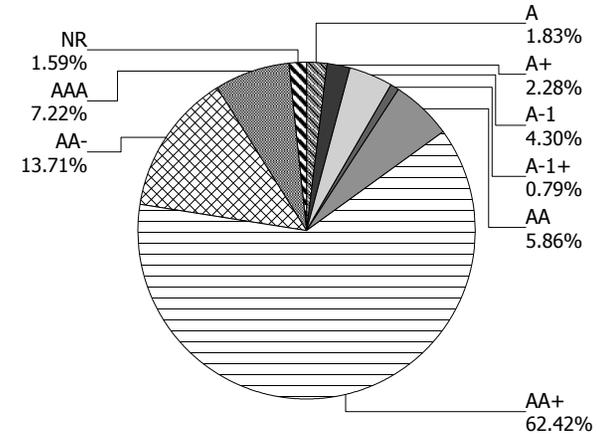
For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Issuer Summary

Issuer	Market Value of Holdings	Percent
APPLE INC	722,349.42	3.28
BANK OF AMERICA CREDIT CARD TRUST	401,359.96	1.82
BANK OF NEW YORK CO INC	403,010.80	1.83
BERKSHIRE HATHAWAY INC	428,791.70	1.95
CHEVRON CORP	492,678.06	2.24
CISCO SYSTEMS INC	415,398.40	1.89
EXXON MOBIL CORP	401,796.40	1.83
FANNIE MAE	4,421,712.99	20.08
FREDDIE MAC	1,240,211.09	5.63
GENERAL ELECTRIC CO	447,351.84	2.03
HYUNDAI AUTO RECEIVABLES	80,262.74	0.36
IBM CORP	592,164.46	2.69
JOHNSON & JOHNSON	226,274.85	1.03
MICROSOFT CORP	478,928.00	2.18
NISSAN AUTO RECEIVABLES	350,663.22	1.59
PFIZER INC	311,069.19	1.41
RABOBANK NEDERLAND	499,312.50	2.27
ROYAL BANK OF CANADA	402,052.00	1.83
SKANDINAVISKA ENSKIDA BANKEN AB	447,684.75	2.03
TENNESSEE VALLEY AUTHORITY NOTES	377,115.47	1.71
TORONTO-DOMINION BANK	399,996.00	1.82
TOYOTA MOTOR CORP	315,538.66	1.43
UNITED STATES TREASURY	6,705,888.33	30.47
US BANCORP	903,312.20	4.10
WAL-MART STORES INC	550,852.21	2.50
Total	\$22,015,775.24	100.00%

Credit Quality (S&P Ratings)





Managed Account Detail of Securities Held

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
U.S. Treasury Bond / Note											
US TREASURY NOTES DTD 09/30/2011 1.000% 09/30/2016	912828RJ1	80,000.00	AA+	Aaa	04/30/14	05/05/14	80,734.37	0.61	2.19	80,152.79	80,224.96
US TREASURY NOTES DTD 01/03/2012 0.875% 12/31/2016	912828RX0	300,000.00	AA+	Aaa	01/23/12	01/26/12	299,460.94	0.91	663.46	299,916.80	300,644.40
US TREASURY NOTES DTD 08/31/2011 1.500% 08/31/2018	912828RE2	440,000.00	AA+	Aaa	09/02/14	09/04/14	441,151.56	1.43	573.91	440,704.52	447,442.16
US TREASURY NOTES DTD 10/31/2013 1.250% 10/31/2018	912828WD8	200,000.00	AA+	Aaa	10/30/14	11/03/14	199,320.31	1.34	1,050.82	199,556.71	202,171.80
US TREASURY NOTES DTD 12/02/2013 1.250% 11/30/2018	912828A34	325,000.00	AA+	Aaa	06/02/14	06/03/14	322,727.54	1.41	1,365.27	323,635.26	328,618.23
US TREASURY NOTES DTD 10/01/2012 1.000% 09/30/2019	912828TR1	250,000.00	AA+	Aaa	04/28/15	04/30/15	246,669.92	1.31	6.83	247,348.63	250,205.00
US TREASURY NOTES DTD 10/01/2012 1.000% 09/30/2019	912828TR1	350,000.00	AA+	Aaa	03/26/15	03/27/15	343,806.64	1.41	9.56	345,164.64	350,287.00
US TREASURY NOTES DTD 10/01/2012 1.000% 09/30/2019	912828TR1	650,000.00	AA+	Aaa	02/26/15	02/27/15	636,923.83	1.45	17.76	639,955.32	650,533.00
US TREASURY NOTES DTD 10/31/2014 1.500% 10/31/2019	912828F62	550,000.00	AA+	Aaa	05/28/15	05/29/15	552,234.38	1.40	3,467.72	551,821.12	559,474.85
US TREASURY NOTES DTD 10/31/2014 1.500% 10/31/2019	912828F62	650,000.00	AA+	Aaa	09/03/15	09/04/15	653,351.56	1.37	4,098.21	652,901.73	661,197.55
US TREASURY NOTES DTD 02/28/2013 1.250% 02/29/2020	912828UO1	275,000.00	AA+	Aaa	11/05/15	11/09/15	271,379.88	1.57	298.91	271,703.18	276,793.83
US TREASURY NOTES DTD 02/28/2013 1.250% 02/29/2020	912828UO1	350,000.00	AA+	Aaa	10/08/15	10/09/15	349,042.97	1.31	380.43	349,145.97	352,283.05
US TREASURY NOTES DTD 07/31/2013 2.000% 07/31/2020	912828VP2	200,000.00	AA+	Aaa	12/02/15	12/04/15	203,281.25	1.63	670.33	203,061.47	207,101.60
US TREASURY NOTES DTD 07/31/2013 2.000% 07/31/2020	912828VP2	300,000.00	AA+	Aaa	03/30/16	03/31/16	309,761.72	1.23	1,005.49	309,755.70	310,652.40



Managed Account Detail of Securities Held

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
U.S. Treasury Bond / Note											
US TREASURY NOTES DTD 07/31/2013 2.000% 07/31/2020	912828VP2	325,000.00	AA+	Aaa	03/02/16	03/04/16	334,458.01	1.32	1,089.29	334,297.58	336,540.10
US TREASURY NOTES DTD 07/31/2013 2.000% 07/31/2020	912828VP2	500,000.00	AA+	Aaa	02/01/16	02/03/16	514,140.63	1.35	1,675.82	513,652.47	517,754.00
US TREASURY NOTES DTD 07/31/2013 2.000% 07/31/2020	912828VP2	675,000.00	AA+	Aaa	12/28/15	12/30/15	683,516.60	1.71	2,262.36	683,064.32	698,967.90
Security Type Sub-Total		6,420,000.00					6,441,962.11	1.40	18,638.36	6,445,838.21	6,530,891.83
U.S. Treasury Bill											
US TREASURY BILL -- 0.000% 04/07/2016	912796HK8	175,000.00	A-1+	P-1	03/23/16	03/24/16	174,984.69	0.23	0.00	174,993.44	174,996.50
Security Type Sub-Total		175,000.00					174,984.69	0.23	0.00	174,993.44	174,996.50
Federal Agency Mortgage-Backed Security											
FNMA POOL #AB5396 DTD 05/01/2012 3.000% 06/01/2022	31417B7J0	127,425.41	AA+	Aaa	08/15/12	08/20/12	134,394.00	1.84	318.56	131,814.50	133,265.49
FNMA POOL #AS4197 DTD 12/01/2014 3.500% 01/01/2030	3138WDUX7	381,155.22	AA+	Aaa	07/10/15	07/16/15	403,548.09	2.62	1,111.70	402,092.93	405,783.21
FNMA POOL #AB5434 DTD 05/01/2012 3.000% 06/01/2032	31417CBC8	280,820.18	AA+	Aaa	07/17/12	07/20/12	293,851.98	2.48	702.05	292,006.44	292,674.94
FNMA POOL #MA1084 DTD 05/01/2012 3.500% 06/01/2032	31418AF29	290,149.60	AA+	Aaa	07/17/12	07/20/12	309,236.02	2.76	846.27	306,065.97	307,110.78
FHLMC POOL #A86315 DTD 05/01/2009 4.500% 05/01/2039	312933AO7	47,567.03	AA+	Aaa	10/11/11	10/13/11	49,949.09	4.05	178.38	49,949.10	51,694.15
FNMA POOL #AC1637 DTD 08/01/2009 5.000% 09/01/2039	31417KZB6	210,576.33	AA+	Aaa	12/15/14	12/18/14	234,266.14	3.92	877.40	233,845.75	233,036.77
FNMA POOL #AB3033 DTD 04/01/2011 4.500% 05/01/2041	31416YLP1	269,317.82	AA+	Aaa	10/06/11	10/13/11	285,266.49	3.99	1,009.94	283,693.00	293,896.61



Managed Account Detail of Securities Held

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Security Type Sub-Total		1,607,011.59					1,710,511.81	3.02	5,044.30	1,699,467.69	1,717,461.95

Federal Agency Collateralized Mortgage Obligation

FNMA SERIES 2015-M1 ASQ2 DTD 01/15/2015 1.626% 02/01/2018	3136AMKW8	150,000.00	AA+	Aaa	01/15/15	01/30/15	151,498.88	1.26	203.25	150,820.83	150,977.39
FHLMC SERIES K717 A1 DTD 12/01/2014 2.342% 02/01/2021	3137BFDP3	138,089.16	AA+	Aaa	11/19/14	12/09/14	140,846.11	1.67	269.50	140,174.39	141,566.81
FHLMC SERIES K718 A1 DTD 05/01/2015 2.375% 09/01/2021	3137BHXX0	483,434.78	AA+	Aaa	05/13/15	05/27/15	493,088.97	1.68	956.80	491,600.67	501,244.37
FNMA SERIES 2015-MA AV1 DTD 03/01/2015 2.013% 07/01/2022	3136AMM30	182,240.36	AA+	Aaa	03/12/15	03/31/15	184,059.46	1.71	305.71	183,774.21	185,799.42
FREDDIE MAC SERIES 3842 DTD 04/01/2011 4.000% 04/01/2041	3137A9OP4	319,597.23	AA+	Aaa	05/05/15	05/08/15	342,842.94	3.35	1,065.32	342,842.93	345,025.76
Security Type Sub-Total		1,273,361.53					1,312,336.36	2.07	2,800.58	1,309,213.03	1,324,613.75

Federal Agency Bond / Note

FHLMC NOTES DTD 04/08/2011 2.500% 05/27/2016	3137EACT4	200,000.00	AA+	Aaa	10/11/11	10/12/11	210,282.00	1.35	1,722.22	200,355.55	200,680.00
FNMA NOTES DTD 08/19/2011 1.250% 09/28/2016	3135G0CM3	400,000.00	AA+	Aaa	10/11/11	10/12/11	396,348.00	1.44	41.67	399,626.44	401,425.60
FANNIE MAE GLOBAL NOTES DTD 04/15/2013 0.875% 05/21/2018	3135G0WJ8	250,000.00	AA+	Aaa	05/24/13	05/31/13	246,212.50	1.19	789.93	248,343.63	250,307.25
FANNIE MAE GLOBAL NOTES DTD 04/15/2013 0.875% 05/21/2018	3135G0WJ8	275,000.00	AA+	Aaa	05/22/13	05/24/13	272,676.25	1.05	868.92	273,989.56	275,337.98
TENNESSEE VALLEY AUTHORITY NOTES DTD 09/27/2013 1.750% 10/15/2018	880591EQ1	370,000.00	AA+	Aaa	09/24/13	09/27/13	368,238.80	1.85	2,985.69	369,093.47	377,115.47
FANNIE MAE GLOBAL NOTES DTD 10/01/2013 1.625% 11/27/2018	3135G0YT4	370,000.00	AA+	Aaa	10/22/14	10/23/14	373,515.00	1.39	2,070.97	372,303.05	377,335.25
FANNIE MAE GLOBAL NOTES DTD 10/01/2013 1.625% 11/27/2018	3135G0YT4	700,000.00	AA+	Aaa	06/16/14	06/19/14	700,021.00	1.62	3,918.06	700,014.24	713,877.50



Managed Account Detail of Securities Held

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Federal Agency Bond / Note											
FNMA BENCHMARK NOTE DTD 02/23/2016 1.000% 02/26/2019	3135G0J53	400,000.00	AA+	Aaa	02/19/16	02/23/16	399,056.00	1.08	388.89	399,088.59	400,884.80
Security Type Sub-Total		2,965,000.00					2,966,349.55	1.42	12,786.35	2,962,814.53	2,996,963.85
Corporate Note											
TOYOTA MOTOR CREDIT CORP DTD 05/17/2013 0.800% 05/17/2016	89236TAL9	215,000.00	AA-	Aa3	05/14/13	05/17/13	214,911.85	0.81	640.22	214,996.21	215,029.46
IBM CORP GLOBAL NOTES DTD 02/06/2012 1.250% 02/06/2017	459200HC8	145,000.00	AA-	Aa3	02/01/12	02/06/12	144,357.65	1.34	276.91	144,888.16	145,574.78
WAL-MART STORES INC SR NOTES DTD 04/05/2007 5.375% 04/05/2017	931142CG6	310,000.00	AA	Aa2	04/05/12	04/11/12	363,967.90	1.72	8,146.11	321,324.24	324,161.11
APPLE INC CORP NOTE DTD 05/06/2014 1.050% 05/05/2017	037833AM2	500,000.00	AA+	Aa1	04/29/14	05/06/14	499,735.00	1.07	2,114.58	499,902.30	501,896.00
BERKSHIRE HATHAWAY FIN GLOBAL NOTES DTD 05/15/2012 1.600% 05/15/2017	084664BS9	175,000.00	AA	Aa2	01/08/13	01/15/13	177,493.75	1.26	1,057.78	175,659.00	176,465.45
PFIZER INC CORPORATE NOTE DTD 05/15/2014 1.100% 05/15/2017	717081DJ9	310,000.00	AA	A1	05/12/14	05/15/14	309,727.20	1.13	1,288.22	309,896.89	311,069.19
US BANCORP (CALLABLE) DTD 05/08/2012 1.650% 05/15/2017	91159HHD5	500,000.00	A+	A1	07/25/12	07/30/12	510,680.00	1.19	3,116.67	502,409.11	502,625.00
JOHNSON & JOHNSON CORP NOTES DTD 11/21/2014 1.125% 11/21/2017	478160BL7	225,000.00	AAA	Aaa	11/18/14	11/21/14	224,822.25	1.15	914.06	224,902.15	226,274.85
CHEVRON CORP (CALLABLE) GLOBAL NOTES DTD 12/05/2012 1.104% 12/05/2017	166764AA8	75,000.00	AA-	Aa1	11/29/12	12/05/12	75,405.75	0.99	266.80	75,133.82	74,870.10
CHEVRON CORP (CALLABLE) GLOBAL NOTES DTD 12/05/2012 1.104% 12/05/2017	166764AA8	100,000.00	AA-	Aa1	11/28/12	12/05/12	100,000.00	1.10	355.73	100,000.00	99,826.80
TOYOTA MOTOR CREDIT CORP NOTE DTD 01/12/2015 1.450% 01/12/2018	89236TCA1	100,000.00	AA-	Aa3	01/07/15	01/12/15	99,863.00	1.50	318.19	99,917.97	100,509.20
IBM CORP NOTES DTD 02/06/2015 1.125% 02/06/2018	459200HZ7	200,000.00	AA-	Aa3	02/03/15	02/06/15	199,390.00	1.23	343.75	199,621.82	200,361.00



Managed Account Detail of Securities Held

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Corporate Note											
IBM CORP GLOBAL NOTES DTD 02/08/2013 1.250% 02/08/2018	459200HK0	245,000.00	AA-	Aa3	02/05/13	02/08/13	243,877.90	1.35	450.87	244,575.48	246,228.68
BERKSHIRE HATHAWAY GLOBAL NOTE DTD 02/11/2013 1.550% 02/09/2018	084670BH0	250,000.00	AA	Aa2	01/29/13	02/11/13	249,652.50	1.58	559.72	249,867.70	252,326.25
EXXON MOBIL CORP NOTES DTD 03/06/2015 1.305% 03/06/2018	30231GAL6	400,000.00	AAA	Aaa	03/04/15	03/06/15	400,000.00	1.31	362.50	400,000.00	401,796.40
WAL-MART STORES INC GLOBAL NOTES DTD 04/11/2013 1.125% 04/11/2018	931142DF7	225,000.00	AA	Aa2	04/04/13	04/11/13	224,793.00	1.14	1,195.31	224,914.63	226,691.10
MICROSOFT CORP GLOBAL NOTES DTD 05/02/2013 1.000% 05/01/2018	594918AS3	120,000.00	AAA	Aaa	04/25/13	05/02/13	119,924.40	1.01	500.00	119,968.02	120,334.80
APPLE INC GLOBAL NOTES DTD 05/03/2013 1.000% 05/03/2018	037833AJ9	220,000.00	AA+	Aa1	04/30/13	05/03/13	219,188.20	1.08	904.44	219,655.57	220,453.42
BANK OF NEW YORK MELLON CORP (CALLABLE) DTD 05/29/2015 1.600% 05/22/2018	06406HDB2	400,000.00	A	A1	05/22/15	05/29/15	399,964.00	1.60	2,293.33	399,973.62	403,010.80
CHEVRON CORP GLOBAL NOTES DTD 06/24/2013 1.718% 06/24/2018	166764AE0	315,000.00	AA-	Aa1	06/17/13	06/24/13	315,000.00	1.72	1,458.15	315,000.00	317,981.16
GENERAL ELECTRIC CAP CORP NOTES DTD 01/08/2010 5.500% 01/08/2020	36962G4J0	390,000.00	AA+	A1	03/20/15	03/25/15	450,968.70	2.05	4,945.42	438,514.37	447,351.84
CISCO SYSTEMS INC CORP NOTES DTD 06/17/2015 2.450% 06/15/2020	17275RAX0	400,000.00	AA-	A1	06/10/15	06/17/15	399,460.00	2.48	2,885.56	399,540.74	415,398.40
MICROSOFT CORP NOTES DTD 11/03/2015 2.000% 11/03/2020	594918BG8	350,000.00	AAA	Aaa	10/29/15	11/03/15	349,720.00	2.02	2,877.78	349,742.00	358,593.20
Security Type Sub-Total		6,170,000.00					6,292,903.05	1.46	37,272.10	6,230,403.80	6,288,828.99
Certificate of Deposit											
RABOBANK NEDERLAND NV CERT DEPOS DTD 04/27/2015 1.070% 04/21/2017	21684BXH2	500,000.00	A-1	P-1	04/22/15	04/27/15	500,000.00	1.07	2,377.78	500,000.00	499,312.50



Managed Account Detail of Securities Held

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Certificate of Deposit											
US BANK NA CINCINNATI (CALLABLE) CD DTD 09/11/2014 1.375% 09/11/2017	90333VPF1	400,000.00	AA-	A1	09/09/14	09/11/14	399,356.00	1.41	305.56	399,689.75	400,687.20
SKANDINAVISKA ENSKILDA BANKEN NY CD DTD 11/17/2015 1.480% 11/16/2017	83050FBG5	450,000.00	A-1	P-1	11/16/15	11/17/15	450,000.00	1.48	2,516.00	450,000.00	447,684.75
ROYAL BANK OF CANADA NY CD DTD 03/11/2016 1.700% 03/09/2018	78009NZZ2	400,000.00	AA-	Aa3	03/11/16	03/15/16	400,000.00	1.69	396.67	400,000.00	402,052.00
TORONTO DOMINION BANK NY CD DTD 03/14/2016 1.720% 03/14/2018	89113E5E2	400,000.00	AA-	Aa1	03/14/16	03/16/16	400,000.00	1.72	344.00	400,000.00	399,996.00
Security Type Sub-Total		2,150,000.00					2,149,356.00	1.45	5,940.01	2,149,689.75	2,149,732.45
Asset-Backed Security / Collateralized Mortgage Obligation											
NISSAN ABS 2015-B A3 DTD 07/22/2015 1.340% 03/15/2020	65475WAD0	350,000.00	NR	Aaa	07/15/15	07/22/15	349,972.18	1.34	208.44	349,977.02	350,663.22
HYUNDAI ABS 2016-A A3 DTD 03/30/2016 1.560% 09/15/2020	44930UAD8	80,000.00	AAA	Aaa	03/22/16	03/30/16	79,984.48	1.57	3.47	79,984.48	80,262.74
BANK OF AMER CREDIT CARD TR 2015-A2 DTD 04/29/2015 1.360% 09/15/2020	05522RCU0	400,000.00	AAA	Aaa	04/22/15	04/29/15	399,952.02	1.36	241.78	399,960.48	401,359.96
Security Type Sub-Total		830,000.00					829,908.68	1.38	453.69	829,921.98	832,285.92
Managed Account Sub-Total		21,590,373.12					21,878,312.25	1.58	82,935.39	21,802,342.43	22,015,775.24
Securities Sub-Total		\$21,590,373.12					\$21,878,312.25	1.58%	\$82,935.39	\$21,802,342.43	\$22,015,775.24
Accrued Interest											\$82,935.39
Total Investments											\$22,098,710.63



Managed Account Fair Market Value & Analytics

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description	Dated Date/Coupon/Maturity	CUSIP	Par	Broker	Next Call Date	Market Price	Market Value	Unreal G/L On Cost	Unreal G/L Amort Cost	Effective Duration	Duration to Worst at Mkt	YTM
U.S. Treasury Bond / Note												
US TREASURY NOTES		912828RJ1	80,000.00	MERRILL		100.28	80,224.96	(509.41)	72.17	0.50	0.50	0.44
DTD 09/30/2011 1.000%	09/30/2016											
US TREASURY NOTES		912828RX0	300,000.00	DEUTSCHE		100.21	300,644.40	1,183.46	727.60	0.75	0.75	0.59
DTD 01/03/2012 0.875%	12/31/2016											
US TREASURY NOTES		912828RE2	440,000.00	BARCLAYS		101.69	447,442.16	6,290.60	6,737.64	2.37	2.37	0.79
DTD 08/31/2011 1.500%	08/31/2018											
US TREASURY NOTES		912828WD8	200,000.00	BARCLAYS		101.09	202,171.80	2,851.49	2,615.09	2.53	2.53	0.82
DTD 10/31/2013 1.250%	10/31/2018											
US TREASURY NOTES		912828A34	325,000.00	CITIGRP		101.11	328,618.23	5,890.69	4,982.97	2.61	2.61	0.83
DTD 12/02/2013 1.250%	11/30/2018											
US TREASURY NOTES		912828TR1	250,000.00	MORGANST		100.08	250,205.00	3,535.08	2,856.37	3.43	3.43	0.98
DTD 10/01/2012 1.000%	09/30/2019											
US TREASURY NOTES		912828TR1	350,000.00	CITIGRP		100.08	350,287.00	6,480.36	5,122.36	3.43	3.43	0.98
DTD 10/01/2012 1.000%	09/30/2019											
US TREASURY NOTES		912828TR1	650,000.00	MERRILL		100.08	650,533.00	13,609.17	10,577.68	3.43	3.43	0.98
DTD 10/01/2012 1.000%	09/30/2019											
US TREASURY NOTES		912828F62	550,000.00	CITIGRP		101.72	559,474.85	7,240.47	7,653.73	3.46	3.46	1.01
DTD 10/31/2014 1.500%	10/31/2019											
US TREASURY NOTES		912828F62	650,000.00	CITIGRP		101.72	661,197.55	7,845.99	8,295.82	3.46	3.46	1.01
DTD 10/31/2014 1.500%	10/31/2019											
US TREASURY NOTES		912828UQ1	275,000.00	MERRILL		100.65	276,793.83	5,413.95	5,090.65	3.81	3.81	1.08
DTD 02/28/2013 1.250%	02/29/2020											
US TREASURY NOTES		912828UQ1	350,000.00	BARCLAYS		100.65	352,283.05	3,240.08	3,137.08	3.81	3.81	1.08
DTD 02/28/2013 1.250%	02/29/2020											
US TREASURY NOTES		912828VP2	200,000.00	MORGANST		103.55	207,101.60	3,820.35	4,040.13	4.14	4.14	1.16
DTD 07/31/2013 2.000%	07/31/2020											
US TREASURY NOTES		912828VP2	300,000.00	MORGANST		103.55	310,652.40	890.68	896.70	4.14	4.14	1.16
DTD 07/31/2013 2.000%	07/31/2020											
US TREASURY NOTES		912828VP2	325,000.00	MORGANST		103.55	336,540.10	2,082.09	2,242.52	4.14	4.14	1.16
DTD 07/31/2013 2.000%	07/31/2020											
US TREASURY NOTES		912828VP2	500,000.00	HSBC		103.55	517,754.00	3,613.37	4,101.53	4.14	4.14	1.16
DTD 07/31/2013 2.000%	07/31/2020											
US TREASURY NOTES		912828VP2	675,000.00	CSFB		103.55	698,967.90	15,451.30	15,903.58	4.14	4.14	1.16
DTD 07/31/2013 2.000%	07/31/2020											



Managed Account Fair Market Value & Analytics

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	Broker	Next Call Date	Market Price	Market Value	Unreal G/L On Cost	Unreal G/L Amort Cost	Effective Duration	Duration to Worst at Mkt	YTM
Security Type Sub-Total		6,420,000.00				6,530,891.83	88,929.72	85,053.62	3.40	3.40	1.00

U.S. Treasury Bill

US TREASURY BILL -- 0.000% 04/07/2016	912796HK8	175,000.00	MORGANST		100.00	174,996.50	11.81	3.06	0.02	0.02	0.10
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Security Type Sub-Total		175,000.00				174,996.50	11.81	3.06	0.02	0.02	0.10
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Federal Agency Mortgage-Backed Security

FNMA POOL #AB5396 DTD 05/01/2012 3.000% 06/01/2022	31417B7J0	127,425.41	NOMURA		104.58	133,265.49	(1,128.51)	1,450.99	2.19	2.98	1.42
FNMA POOL #AS4197 DTD 12/01/2014 3.500% 01/01/2030	3138WDUX7	381,155.22	JPMCHASE		106.46	405,783.21	2,235.12	3,690.28	3.77	4.91	2.16
FNMA POOL #AB5434 DTD 05/01/2012 3.000% 06/01/2032	31417CBC8	280,820.18	JPMCHASE		104.22	292,674.94	(1,177.04)	668.50	4.74	6.41	2.32
FNMA POOL #MA1084 DTD 05/01/2012 3.500% 06/01/2032	31418AF29	290,149.60	GOLDMAN		105.85	307,110.78	(2,125.24)	1,044.81	4.22	5.47	2.40
FHLMC POOL #A86315 DTD 05/01/2009 4.500% 05/01/2039	312933AQ7	47,567.03	DEUTSCHE		108.68	51,694.15	1,745.06	1,745.05	4.10	4.64	2.60
FNMA POOL #AC1637 DTD 08/01/2009 5.000% 09/01/2039	31417KZB6	210,576.33	CITIGRP		110.67	233,036.77	(1,229.37)	(808.98)	2.90	4.36	2.49
FNMA POOL #AB3033 DTD 04/01/2011 4.500% 05/01/2041	31416YLP1	269,317.82	BARCLAYS		109.13	293,896.61	8,630.12	10,203.61	4.47	5.03	2.63

Security Type Sub-Total		1,607,011.59				1,717,461.95	6,950.14	17,994.26	3.91	5.05	2.31
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Federal Agency Collateralized Mortgage Obligation

FNMA SERIES 2015-M1 ASQ2 DTD 01/15/2015 1.626% 02/01/2018	3136AMKW8	150,000.00	MERRILL		100.65	150,977.39	(521.49)	156.56	1.70	1.64	1.16
FHLMC SERIES K717 A1 DTD 12/01/2014 2.342% 02/01/2021	3137BFDP3	138,089.16	BARCLAYS		102.52	141,566.81	720.70	1,392.42	2.67	4.04	1.69
FHLMC SERIES K718 A1 DTD 05/01/2015 2.375% 09/01/2021	3137BHXX0	483,434.78	MERRILL		103.68	501,244.37	8,155.40	9,643.70	3.82	4.52	1.54
FNMA SERIES 2015-MA AV1 DTD 03/01/2015 2.013% 07/01/2022	3136AMM30	182,240.36	MORGANST		101.95	185,799.42	1,739.96	2,025.21	2.89	5.51	1.64



Managed Account Fair Market Value & Analytics

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	Broker	Next Call Date	Market Price	Market Value	Unreal G/L On Cost	Unreal G/L Amort Cost	Effective Duration	Duration to Worst at Mkt	YTM
Federal Agency Collateralized Mortgage Obligation											
FREDDIE MAC SERIES 3842 DTD 04/01/2011 4.000% 04/01/2041	3137A9OP4	319,597.23	NOMURA		107.96	345,025.76	2,182.82	2,182.83	3.40	4.19	2.07
Security Type Sub-Total		1,273,361.53				1,324,613.75	12,277.39	15,400.72	3.22	4.19	1.66
Federal Agency Bond / Note											
FHLMC NOTES DTD 04/08/2011 2.500% 05/27/2016	3137EACT4	200,000.00	SOC GEN		100.34	200,680.00	(9,602.00)	324.45	0.16	0.16	0.31
FNMA NOTES DTD 08/19/2011 1.250% 09/28/2016	3135G0CM3	400,000.00	SOC GEN		100.36	401,425.60	5,077.60	1,799.16	0.49	0.49	0.52
FANNIE MAE GLOBAL NOTES DTD 04/15/2013 0.875% 05/21/2018	3135G0WJ8	250,000.00	CSFB		100.12	250,307.25	4,094.75	1,963.62	2.11	2.11	0.82
FANNIE MAE GLOBAL NOTES DTD 04/15/2013 0.875% 05/21/2018	3135G0WJ8	275,000.00	BNP PARI		100.12	275,337.98	2,661.73	1,348.42	2.11	2.11	0.82
TENNESSEE VALLEY AUTHORITY NOTES DTD 09/27/2013 1.750% 10/15/2018	880591EO1	370,000.00	MORGANST		101.92	377,115.47	8,876.67	8,022.00	2.46	2.46	0.98
FANNIE MAE GLOBAL NOTES DTD 10/01/2013 1.625% 11/27/2018	3135G0YT4	370,000.00	GOLDMAN		101.98	377,335.25	3,820.25	5,032.20	2.59	2.59	0.87
FANNIE MAE GLOBAL NOTES DTD 10/01/2013 1.625% 11/27/2018	3135G0YT4	700,000.00	HSBC		101.98	713,877.50	13,856.50	13,863.26	2.59	2.59	0.87
FNMA BENCHMARK NOTE DTD 02/23/2016 1.000% 02/26/2019	3135G0J53	400,000.00	JPMCHASE		100.22	400,884.80	1,828.80	1,796.21	2.85	2.85	0.92
Security Type Sub-Total		2,965,000.00				2,996,963.85	30,614.30	34,149.32	2.08	2.08	0.80
Corporate Note											
TOYOTA MOTOR CREDIT CORP DTD 05/17/2013 0.800% 05/17/2016	89236TAL9	215,000.00	CITIGRP		100.01	215,029.46	117.61	33.25	0.13	0.13	0.68
IBM CORP GLOBAL NOTES DTD 02/06/2012 1.250% 02/06/2017	459200HC8	145,000.00	MERRILL		100.40	145,574.78	1,217.13	686.62	0.84	0.84	0.78
WAL-MART STORES INC SR NOTES DTD 04/05/2007 5.375% 04/05/2017	931142CG6	310,000.00	GOLDMAN		104.57	324,161.11	(39,806.79)	2,836.87	0.97	0.97	0.83
APPLE INC CORP NOTE DTD 05/06/2014 1.050% 05/05/2017	037833AM2	500,000.00	DEUTSCHE		100.38	501,896.00	2,161.00	1,993.70	1.08	1.08	0.70



Managed Account Fair Market Value & Analytics

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description	Dated Date/Coupon/Maturity	CUSIP	Par	Broker	Next Call Date	Market Price	Market Value	Unreal G/L On Cost	Unreal G/L Amort Cost	Effective Duration	Duration to Worst at Mkt	YTM
Corporate Note												
BERKSHIRE HATHAWAY FIN GLOBAL NOTES		084664BS9	175,000.00	GOLDMAN		100.84	176,465.45	(1,028.30)	806.45	1.11	1.11	0.85
DTD 05/15/2012 1.600% 05/15/2017												
PFIZER INC CORPORATE NOTE		717081DJ9	310,000.00	JPMCHASE		100.34	311,069.19	1,341.99	1,172.30	1.11	1.11	0.79
DTD 05/15/2014 1.100% 05/15/2017												
US BANCORP (CALLABLE)		91159HHD5	500,000.00	BARCLAYS	04/15/17	100.53	502,625.00	(8,055.00)	215.89	1.02	1.02	1.18
DTD 05/08/2012 1.650% 05/15/2017												
JOHNSON & JOHNSON CORP NOTES		478160BL7	225,000.00	JPMCHASE		100.57	226,274.85	1,452.60	1,372.70	1.62	1.62	0.78
DTD 11/21/2014 1.125% 11/21/2017												
CHEVRON CORP (CALLABLE) GLOBAL NOTES		166764AA8	75,000.00	BARCLAYS	11/05/17	99.83	74,870.10	(535.65)	(263.72)	1.62	1.65	1.21
DTD 12/05/2012 1.104% 12/05/2017												
CHEVRON CORP (CALLABLE) GLOBAL NOTES		166764AA8	100,000.00	MORGANST	11/05/17	99.83	99,826.80	(173.20)	(173.20)	1.62	1.65	1.21
DTD 12/05/2012 1.104% 12/05/2017												
TOYOTA MOTOR CREDIT CORP NOTE		89236TCA1	100,000.00	MERRILL		100.51	100,509.20	646.20	591.23	1.75	1.75	1.16
DTD 01/12/2015 1.450% 01/12/2018												
IBM CORP NOTES		459200HZ7	200,000.00	CITIGRP		100.18	200,361.00	971.00	739.18	1.82	1.82	1.03
DTD 02/06/2015 1.125% 02/06/2018												
IBM CORP GLOBAL NOTES		459200HK0	245,000.00	HSBC		100.50	246,228.68	2,350.78	1,653.20	1.83	1.83	0.98
DTD 02/08/2013 1.250% 02/08/2018												
BERKSHIRE HATHAWAY GLOBAL NOTE		084670BH0	250,000.00	GOLDMAN		100.93	252,326.25	2,673.75	2,458.55	1.82	1.82	1.04
DTD 02/11/2013 1.550% 02/09/2018												
EXXON MOBIL CORP NOTES		30231GAL6	400,000.00	JPMCHASE		100.45	401,796.40	1,796.40	1,796.40	1.90	1.90	1.07
DTD 03/06/2015 1.305% 03/06/2018												
WAL-MART STORES INC GLOBAL NOTES		931142DF7	225,000.00	MORGANST		100.75	226,691.10	1,898.10	1,776.47	1.99	1.99	0.75
DTD 04/11/2013 1.125% 04/11/2018												
MICROSOFT CORP GLOBAL NOTES		594918AS3	120,000.00	MERRILL		100.28	120,334.80	410.40	366.78	2.05	2.05	0.86
DTD 05/02/2013 1.000% 05/01/2018												
APPLE INC GLOBAL NOTES		037833AJ9	220,000.00	GOLDMAN		100.21	220,453.42	1,265.22	797.85	2.05	2.05	0.90
DTD 05/03/2013 1.000% 05/03/2018												
BANK OF NEW YORK MELLON CORP (CALLABLE)		06406HDB2	400,000.00	GOLDMAN	04/22/18	100.75	403,010.80	3,046.80	3,037.18	2.03	2.01	1.24
DTD 05/29/2015 1.600% 05/22/2018												



Managed Account Fair Market Value & Analytics

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	Broker	Next Call Date	Market Price	Market Value	Unreal G/L On Cost	Unreal G/L Amort Cost	Effective Duration	Duration to Worst at Mkt	YTM
Corporate Note											
CHEVRON CORP GLOBAL NOTES DTD 06/24/2013 1.718% 06/24/2018	166764AE0	315,000.00	BARCLAYS		100.95	317,981.16	2,981.16	2,981.16	2.17	2.17	1.29
GENERAL ELECTRIC CAP CORP NOTES DTD 01/08/2010 5.500% 01/08/2020	36962G4J0	390,000.00	GOLDMAN		114.71	447,351.84	(3,616.86)	8,837.47	3.42	3.42	1.47
CISCO SYSTEMS INC CORP NOTES DTD 06/17/2015 2.450% 06/15/2020	17275RAX0	400,000.00	MORGANST		103.85	415,398.40	15,938.40	15,857.66	3.97	3.97	1.50
MICROSOFT CORP NOTES DTD 11/03/2015 2.000% 11/03/2020	594918BG8	350,000.00	JPMCHASE		102.46	358,593.20	8,873.20	8,851.20	4.34	4.34	1.44
Security Type Sub-Total		6,170,000.00				6,288,828.99	(4,074.06)	58,425.19	1.96	1.96	1.06
Certificate of Deposit											
RABOBANK NEDERLAND NV CERT DEPOS DTD 04/27/2015 1.070% 04/21/2017	21684BXH2	500,000.00	GOLDMAN		99.86	499,312.50	(687.50)	(687.50)	1.05	1.05	1.19
US BANK NA CINCINNATI (CALLABLE) CD DTD 09/11/2014 1.375% 09/11/2017	90333VPF1	400,000.00	US BANK	08/11/17	100.17	400,687.20	1,331.20	997.45	1.36	1.36	1.22
SKANDINAVISKA ENSKILDA BANKEN NY CD DTD 11/17/2015 1.480% 11/16/2017	83050FBG5	450,000.00	GOLDMAN		99.49	447,684.75	(2,315.25)	(2,315.25)	1.62	1.62	1.46
ROYAL BANK OF CANADA NY CD DTD 03/11/2016 1.700% 03/09/2018	78009NZZ2	400,000.00	RBC CAP		100.51	402,052.00	2,052.00	2,052.00	1.93	1.93	1.38
TORONTO DOMINION BANK NY CD DTD 03/14/2016 1.720% 03/14/2018	89113E5E2	400,000.00	TD SEC U		100.00	399,996.00	(4.00)	(4.00)	1.94	1.94	1.72
Security Type Sub-Total		2,150,000.00				2,149,732.45	376.45	42.70	1.55	1.55	1.39
Asset-Backed Security / Collateralized Mortgage Obligation											
NISSAN ABS 2015-B A3 DTD 07/22/2015 1.340% 03/15/2020	65475WAD0	350,000.00	CITIGRP		100.19	350,663.22	691.04	686.20	1.99	3.01	1.28
HYUNDAI ABS 2016-A A3 DTD 03/30/2016 1.560% 09/15/2020	44930UAD8	80,000.00	MERRILL		100.33	80,262.74	278.26	278.26	2.44	2.22	1.41
BANK OF AMER CREDIT CARD TR 2015-A2 DTD 04/29/2015 1.360% 09/15/2020	05522RCU0	400,000.00	MERRILL		100.34	401,359.96	1,407.94	1,399.48	1.99	2.20	1.21
Security Type Sub-Total		830,000.00				832,285.92	2,377.24	2,363.94	2.03	2.54	1.26



Managed Account Fair Market Value & Analytics

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	Broker	Next Call Date	Market Price	Market Value	Unreal G/L On Cost	Unreal G/L Amort Cost	Effective Duration	Duration to Worst at Mkt	YTM
Managed Account Sub-Total		21,590,373.12				22,015,775.24	137,462.99	213,432.81	2.58	2.74	1.17
Securities Sub-Total		\$21,590,373.12				\$22,015,775.24	\$137,462.99	\$213,432.81	2.58	2.75	1.17%
Accrued Interest						\$82,935.39					
Total Investments						\$22,098,710.63					



Managed Account Security Transactions & Interest

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Transaction Type		Security Description	CUSIP	Par	Principal Proceeds	Accrued Interest	Total	Realized G/L Cost	Realized G/L Amort Cost	Sale Method
Trade	Settle									
BUY										
03/02/16	03/04/16	US TREASURY NOTES DTD 07/31/2013 2.000% 07/31/2020	912828VP2	325,000.00	(334,458.01)	(589.29)	(335,047.30)			
03/11/16	03/15/16	ROYAL BANK OF CANADA NY CD DTD 03/11/2016 1.700% 03/09/2018	78009NZZ2	400,000.00	(400,000.00)	0.00	(400,000.00)			
03/14/16	03/16/16	TORONTO DOMINION BANK NY CD DTD 03/14/2016 1.720% 03/14/2018	89113E5E2	400,000.00	(400,000.00)	0.00	(400,000.00)			
03/22/16	03/30/16	HYUNDAI ABS 2016-A A3 DTD 03/30/2016 1.560% 09/15/2020	44930UAD8	80,000.00	(79,984.48)	0.00	(79,984.48)			
03/23/16	03/24/16	US TREASURY BILL -- 0.000% 04/07/2016	912796HK8	425,000.00	(424,962.81)	0.00	(424,962.81)			
03/30/16	03/31/16	US TREASURY NOTES DTD 07/31/2013 2.000% 07/31/2020	912828VP2	300,000.00	(309,761.72)	(989.01)	(310,750.73)			
Transaction Type Sub-Total				1,930,000.00	(1,949,167.02)	(1,578.30)	(1,950,745.32)			
INTEREST										
03/01/16	03/01/16	MONEY MARKET FUND	MONEY0002	0.00	0.00	0.38	0.38			
03/01/16	03/15/16	FREDDIE MAC SERIES 3842 DTD 04/01/2011 4.000% 04/01/2041	3137A9QP4	327,283.32	0.00	1,090.94	1,090.94			
03/01/16	03/15/16	FHLMC POOL #A86315 DTD 05/01/2009 4.500% 05/01/2039	312933AO7	48,947.35	0.00	183.55	183.55			
03/01/16	03/25/16	FNMA SERIES 2015-MA AV1 DTD 03/01/2015 2.013% 07/01/2022	3136AMM30	184,006.57	0.00	308.67	308.67			
03/01/16	03/25/16	FNMA POOL #AB5396 DTD 05/01/2012 3.000% 06/01/2022	31417B7J0	130,198.45	0.00	325.50	325.50			
03/01/16	03/25/16	FNMA POOL #MA1084 DTD 05/01/2012 3.500% 06/01/2032	31418AF29	293,638.44	0.00	856.45	856.45			
03/01/16	03/25/16	FNMA SERIES 2015-M1 ASQ2 DTD 01/15/2015 1.626% 02/01/2018	3136AMKW8	150,000.00	0.00	203.25	203.25			
03/01/16	03/25/16	FHLMC SERIES K717 A1 DTD 12/01/2014 2.342% 02/01/2021	3137BFDP3	139,148.65	0.00	271.57	271.57			
03/01/16	03/25/16	FNMA POOL #AS4197 DTD 12/01/2014 3.500% 01/01/2030	3138WDUX7	383,367.52	0.00	1,118.16	1,118.16			
03/01/16	03/25/16	FNMA POOL #AB3033 DTD 04/01/2011 4.500% 05/01/2041	31416YLP1	273,773.81	0.00	1,026.65	1,026.65			



Managed Account Security Transactions & Interest

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Transaction Type		Security Description	CUSIP	Par	Principal Proceeds	Accrued Interest	Total	Realized G/L Cost	Realized G/L Amort Cost	Sale Method
Trade	Settle									
INTEREST										
03/01/16	03/25/16	FHLMC SERIES K718 A1 DTD 05/01/2015 2.375% 09/01/2021	3137BHXX0	485,632.06	0.00	961.15	961.15			
03/01/16	03/25/16	FNMA POOL #AB5434 DTD 05/01/2012 3.000% 06/01/2032	31417CBC8	281,964.53	0.00	704.91	704.91			
03/01/16	03/25/16	FNMA POOL #AC1637 DTD 08/01/2009 5.000% 09/01/2039	31417KZB6	219,556.32	0.00	914.82	914.82			
03/06/16	03/06/16	EXXON MOBIL CORP NOTES DTD 03/06/2015 1.305% 03/06/2018	30231GAL6	400,000.00	0.00	2,610.00	2,610.00			
03/11/16	03/11/16	US BANK NA CINCINNATI (CALLABLE) CD DTD 09/11/2014 1.375% 09/11/2017	90333VPF1	400,000.00	0.00	2,750.00	2,750.00			
03/15/16	03/15/16	BANK OF AMER CREDIT CARD TR 2015-A2 DTD 04/29/2015 1.360% 09/15/2020	05522RCU0	400,000.00	0.00	453.33	453.33			
03/15/16	03/15/16	NISSAN ABS 2015-B A3 DTD 07/22/2015 1.340% 03/15/2020	65475WAD0	350,000.00	0.00	390.83	390.83			
03/24/16	03/24/16	FHLB GLOBAL NOTES (CALLED, OMD 03/24/17) DTD 03/24/2015 0.840% 03/24/2016	3130A4QV7	425,000.00	0.00	1,785.00	1,785.00			
03/28/16	03/28/16	FNMA NOTES DTD 08/19/2011 1.250% 09/28/2016	3135G0CM3	400,000.00	0.00	2,500.00	2,500.00			
03/31/16	03/31/16	US TREASURY NOTES DTD 10/01/2012 1.000% 09/30/2019	912828TR1	350,000.00	0.00	1,750.00	1,750.00			
03/31/16	03/31/16	US TREASURY NOTES DTD 09/30/2011 1.000% 09/30/2016	912828RJ1	80,000.00	0.00	400.00	400.00			
03/31/16	03/31/16	US TREASURY NOTES DTD 10/01/2012 1.000% 09/30/2019	912828TR1	650,000.00	0.00	3,250.00	3,250.00			
03/31/16	03/31/16	US TREASURY NOTES DTD 10/01/2012 1.000% 09/30/2019	912828TR1	250,000.00	0.00	1,250.00	1,250.00			
Transaction Type Sub-Total				6,622,517.02	0.00	25,105.16	25,105.16			

MATURITY



Managed Account Security Transactions & Interest

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Transaction Type		Security Description	CUSIP	Par	Principal Proceeds	Accrued Interest	Total	Realized G/L Cost	Realized G/L Amort Cost	Sale Method
Trade	Settle									
MATURITY										
03/24/16	03/24/16	FHLB GLOBAL NOTES (CALLED, OMD 03/24/17) DTD 03/24/2015 0.840% 03/24/2016	3130A4QV7	425,000.00	425,000.00	0.00	425,000.00	0.00	0.00	
Transaction Type Sub-Total				425,000.00	425,000.00	0.00	425,000.00	0.00	0.00	
PAYDOWNS										
03/01/16	03/15/16	FHLMC POOL #A86315 DTD 05/01/2009 4.500% 05/01/2039	312933AQ7	1,380.32	1,380.32	0.00	1,380.32	(69.12)	0.00	
03/01/16	03/15/16	FREDDIE MAC SERIES 3842 DTD 04/01/2011 4.000% 04/01/2041	3137A9OP4	7,686.09	7,686.09	0.00	7,686.09	(559.04)	0.00	
03/01/16	03/25/16	FNMA SERIES 2015-MA AV1 DTD 03/01/2015 2.013% 07/01/2022	3136AMM30	1,766.21	1,766.21	0.00	1,766.21	(17.63)	0.00	
03/01/16	03/25/16	FNMA POOL #AB3033 DTD 04/01/2011 4.500% 05/01/2041	31416YLP1	4,455.99	4,455.99	0.00	4,455.99	(263.88)	0.00	
03/01/16	03/25/16	FHLMC SERIES K717 A1 DTD 12/01/2014 2.342% 02/01/2021	3137BFDP3	1,059.49	1,059.49	0.00	1,059.49	(21.15)	0.00	
03/01/16	03/25/16	FNMA POOL #AB5434 DTD 05/01/2012 3.000% 06/01/2032	31417CBC8	1,144.35	1,144.35	0.00	1,144.35	(53.10)	0.00	
03/01/16	03/25/16	FNMA POOL #AC1637 DTD 08/01/2009 5.000% 09/01/2039	31417KZB6	8,979.99	8,979.99	0.00	8,979.99	(1,010.25)	0.00	
03/01/16	03/25/16	FNMA POOL #MA1084 DTD 05/01/2012 3.500% 06/01/2032	31418AF29	3,488.84	3,488.84	0.00	3,488.84	(229.50)	0.00	
03/01/16	03/25/16	FNMA POOL #AB5396 DTD 05/01/2012 3.000% 06/01/2022	31417B7J0	2,773.04	2,773.04	0.00	2,773.04	(151.65)	0.00	
03/01/16	03/25/16	FHLMC SERIES K718 A1 DTD 05/01/2015 2.375% 09/01/2021	3137BHXX0	2,197.28	2,197.28	0.00	2,197.28	(43.88)	0.00	
03/01/16	03/25/16	FNMA POOL #AS4197 DTD 12/01/2014 3.500% 01/01/2030	3138WDUX7	2,212.30	2,212.30	0.00	2,212.30	(129.97)	0.00	
Transaction Type Sub-Total				37,143.90	37,143.90	0.00	37,143.90	(2,549.17)	0.00	
SELL										
03/02/16	03/04/16	FHLMC NOTES DTD 04/08/2011 2.500% 05/27/2016	3137EACT4	275,000.00	276,311.75	1,852.43	278,164.18	(12,826.00)	587.17	SPEC LOT



Managed Account Security Transactions & Interest

For the Month Ending **March 31, 2016**

SAN BERNARDINO MUNI. WATER DEPARTMENT - 76991000

Transaction Type		Security Description	CUSIP	Par	Principal Proceeds	Accrued Interest	Total	Realized G/L Cost	Realized G/L Amort Cost	Sale Method
Trade	Settle									
SELL										
03/11/16	03/15/16	FANNIE MAE GLOBAL NOTES DTD 09/24/2012 0.875% 10/26/2017	3135G0PQ0	225,000.00	224,649.00	760.16	225,409.16	1,388.25	377.81	SPEC LOT
03/11/16	03/15/16	FANNIE MAE GLOBAL NOTES DTD 04/15/2013 0.875% 05/21/2018	3135G0WJ8	175,000.00	174,518.75	484.90	175,003.65	997.50	174.96	SPEC LOT
03/14/16	03/16/16	TORONTO DOMINION BANK NY CD DTD 09/29/2014 0.900% 09/29/2016	89112UXV8	400,000.00	400,035.47	1,690.00	401,725.47	35.47	35.47	SPEC LOT
03/21/16	03/30/16	US TREASURY NOTES DTD 08/31/2011 1.500% 08/31/2018	912828RE2	80,000.00	81,000.00	97.83	81,097.83	790.62	871.62	SPEC LOT
03/30/16	03/31/16	US TREASURY BILL -- 0.000% 04/07/2016	912796HK8	250,000.00	249,998.30	0.00	249,998.30	20.18	9.24	SPEC LOT
Transaction Type Sub-Total				1,405,000.00	1,406,513.27	4,885.32	1,411,398.59	(9,593.98)	2,056.27	
Managed Account Sub-Total					(80,509.85)	28,412.18	(52,097.67)	(12,143.15)	2,056.27	
Total Security Transactions					(\$80,509.85)	\$28,412.18	(\$52,097.67)	(\$12,143.15)	\$2,056.27	

CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT

BOARD OF WATER COMMISSIONERS
STAFF REPORT

RECEIVED
MAY - 9 2016

TO: Stacey R. Aldstadt, General Manager

FROM: Miguel J. Guerrero, P.E., Director of Water Utility

SUBJECT: **INFORMATIONAL ITEM ONLY - APRIL 2016 DROUGHT MONITORING REPORT**

DATE: May 5, 2016

COPIES: Robin Ohama (w/o attach), Mike Garland (w/o attach), Con Arrieta (w/o attach), Greg Gage (w/o attach), Sally Duran (w/attach)

BACKGROUND:

Staff continues to monitor and track the effects of the ongoing drought by monitoring groundwater levels in select wells located in the Department's service area. The purpose of this monitoring is to track groundwater level trends as pumping continues during extreme drought conditions. This monthly report to the Board of Water Commissioners (Board) will provide valuable data needed to contemplate important policy decisions related to Water Supply Shortage Stages outlined in Rule and Regulation No. 21 (Rule).

In May 2015, the Board implemented Stage IIA extreme mandatory restrictions as a result of the State Water Resources Control Board (SWRCB) drought emergency regulations. SWRCB's emergency regulations outlined percentage reduction tiers in gross water production for each urban water retailer in the State to achieve 25% reduction in potable water usage across the State. The San Bernardino Municipal Water Department must reduce its gross water production by 24% (previously 28%, adjustment in effect March 1, 2016) or face possible enforcement actions from the State, including monetary fines. Stage IIA requires a 28% reduction in potable water use by all of its customers. Stage IIA also restricts outdoor watering to three days per week, prohibits public medians with turf irrigation to be irrigated, and prohibits outdoor irrigation 48 hours after a significant rainfall event. In light of the recent conservation standard adjustment, the required Stage IIA reduction will be revisited to reflect the Department's revised standard.

In February 2016, SWRCB adopted a revised emergency regulation to ensure that water conservation continues in 2016. The revised regulation extends the conservation mandates through October 2016. The revised regulation also afforded water agencies more flexibility in meeting their conservation requirements through adjustments/credits that allowed a supplier to modify its conservation standard up to eight percentage points. Draft adjusted conservation standards released April 7, 2016 lowered the Department's standard from 28% to 24% (3% climate adjustment, 1% growth adjustment).

Stacey R. Aldstadt, General Manager

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SUBJECT: INFORMATIONAL ITEM ONLY - APRIL 2016 DROUGHT MONITORING REPORT

STAFF ANALYSIS – BASIN CONDITIONS/HYDROGRAPHS:

In order for staff to effectively monitor the basin conditions, index wells within defined sub-regions were selected and are shown on the attached overall and regional figures, along with each well's hydrograph in **Exhibit A**. A well hydrograph graphically depicts a well's water level over time.

Although not as drastic as previous years, water levels in the northwest portion of the Department's service area west and northwest of California State University San Bernardino (Cal State SB) region (Cajon 3, DC-1, and Mallory) continued to drop for most of 2015. For the past few months, water levels have stabilized and have recently shown slight decreases.

Wells located just south of Cal State SB, such as Newmark 3, and EPA Wells 006 and 007, are typically shallow wells and are stabilizing with gradual decreases in water levels over the past few months.

With the exception of 16th Street, wells situated near the I-210 corridor are now experiencing stabilizing water levels. Some of these wells are seasonably operated (only operated during hot summer months) and are typically not running this time of year, thus the stabilizing water levels. 16th Street well has shown a gradual decline in levels since the beginning of 2016.

EPA 001, 002, 003, 004, and 005 wells are operational and are showing stable water levels. With the exception of EPA 001, water levels in these wells have slightly decreased in the past few months. Water levels are still 20 to 40 feet higher in these wells than the recent low levels experienced during the 2008 and 2009 timeframe.

EPA wells along the western edge of the Muscoy OU (EPA Wells 109 through 112) are showing slight decreases in water levels, adding to the extreme decline in the shallow and intermediate aquifer levels over the last two years. Water levels in the deep aquifer remain steady.

Wells in the Cajon Creek and Lytle Creek areas are experiencing the most severe declines in the service area. This is in large part due to the fact that the Department has no means by which to artificially recharge this part of the basin. Staff is looking into long-term solutions to this recharge deficiency and will be briefing the Board in the future on a plan to recharge this part of the basin.

Exhibit B contains a report generated from the Department's database for all of the production well water levels. This report contains calculations to determine the depth of water over pump equipment in each well. The depth of water over pumping equipment is critical to ensure adequate

Stacey R. Aldstadt, General Manager

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positive suction head for each pumping unit. If the water levels in a well decline to the same elevation as the pumping equipment, the pump will begin to pull air into the pump bowls, inducing equipment damage. If water levels in wells decline to these levels, it prompts the need to rehabilitate the well by pulling the old pump equipment and replacing with new pumping equipment and placing the pump deeper in the well. Staff monitors these water level depths closely to ensure no failures occur and to estimate if and when pump equipment needs to be pulled and replaced to effectively "chase" the declining water levels.

Exhibit C contains a report of total cumulative rainfall at the five (5) rain gauges operated and maintained by the Department. These five (5) gauges are located at the Water Utility Yards, Mill and D Plant, Newmark Plant, Lytle Creek Plant, and Devil Canyon Plant. The report shows that there was an average of less than an inch of rain across most of the city in April 2016.

COMPLETED AND PENDING WELL REHABILITATIONS:

EPA 111 failed (mechanical) in March and is currently being rehabilitated. Other wells slated to be rehabilitated in the near future are EPA 001, EPA 006, EPA 112, and Newmark 1.

SERVICE AREA WATER DEMAND REDUCTIONS:

The Department has been reporting monthly production data to the SWRCB as required by the emergency regulations. SWRCB also required all urban water suppliers to track gallons per capita per day (GPCD) beginning in October 2014 for the September 2014 reporting period. The response by the Department's customers to the Board's Stage II and Stage IIA declarations and the mandatory outdoor water use restrictions has been a success, despite some months showing water demand has increased as compared to 2013. GPCD values and percent water reduction as compared to 2013 values are shown below.

Stacey R. Aldstadt, General Manager

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SUBJECT: INFORMATIONAL ITEM ONLY - APRIL 2016 DROUGHT MONITORING REPORT

Month/Year	GPCD	% Change in Gross Production vs. 2013
April 2015	97.27	-9.52%
May 2015	86.21	-30.52%
June 2015	101.00	-28.11%
July 2015	121.57	-29.83%
August 2015	125.59	-33.56%
September 2015	115.22	-30.88%
October 2015	100.63	-23.44%
November 2015	92.50	-16.60%
December 2015	82.45	-17.08%
January 2016	75.81	-16.28%
February 2016	81.71	-10.19%
March 2016	85.45	-17.56%
April 2016	97.32	-24.78%
Cumulative Compliance	-	-24.52%

The Department experienced a decrease in gross water production of approximately 24.8% in April 2016 compared to April 2013 production. SWRCB tracks compliance on a cumulative basis beginning with June 2015. Cumulative tracking means that the conservation savings will be added together from one month to the next and compared to the amount of water used during the same months in 2013. With a cumulative reduction through April 2016 of approximately 24.5%, the Department is currently in compliance (compliance requires no less than 1% below 24% target).

The Department's local and regional outreach efforts regarding the drought continue to have an effect on customer water usage. Internally, Water Staff have been directed to make operational changes to minimize water loss from the system, including curtailing certain hydrant flushing programs temporarily. A graph depicting the Department's monthly gross water production versus the same production in 2013 along with the 24% reduction target is attached for reference.

In response to the recent State Water Project allocation increase to 60%, the Department began recharge activity at the Waterman Basins, Badger Basins, and the Sweetwater Basins. Recharge activity will continue throughout the year to maximize the use of Department allocated water.

Stacey R. Aldstadt, General Manager

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May 5, 2016

**SUBJECT: INFORMATIONAL ITEM ONLY - APRIL 2016 DROUGHT
MONITORING REPORT**

STAFF'S RECOMMENDATION:

No action is recommended at this time. Staff will continue to monitor the State's continued response to the drought and monitor water level trends of all production wells and provide monthly updates to the Board.

Respectfully submitted,



Miguel J. Guerrero, P.E.

Director, Water Utility

MJG:swd

Attach.

**SWRCB Emergency Regulations Compliance Tracking
San Bernardino Municipal Water Department (24% Target)**

April 2016

Cumulative Compliance = 24.5%

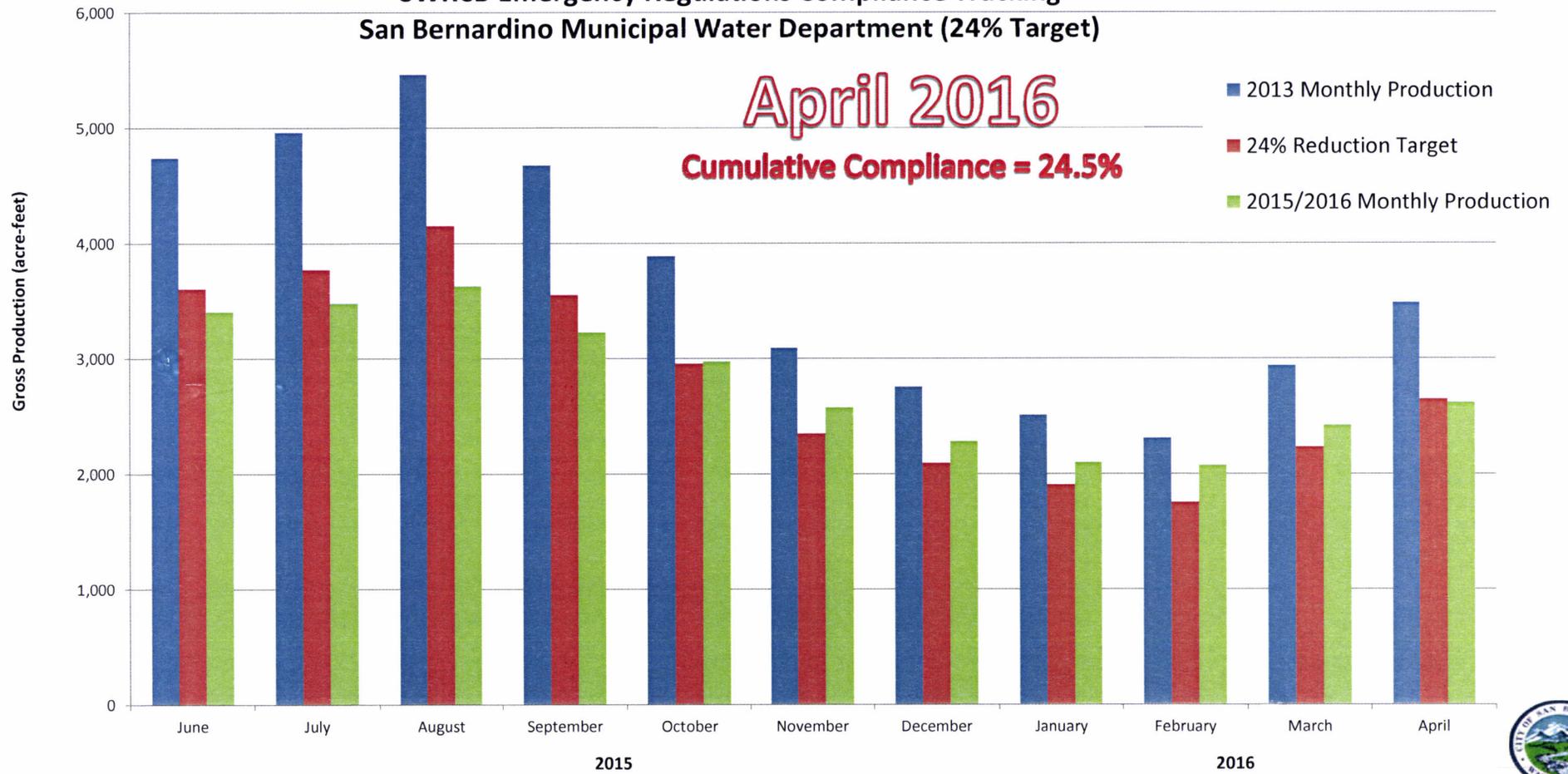
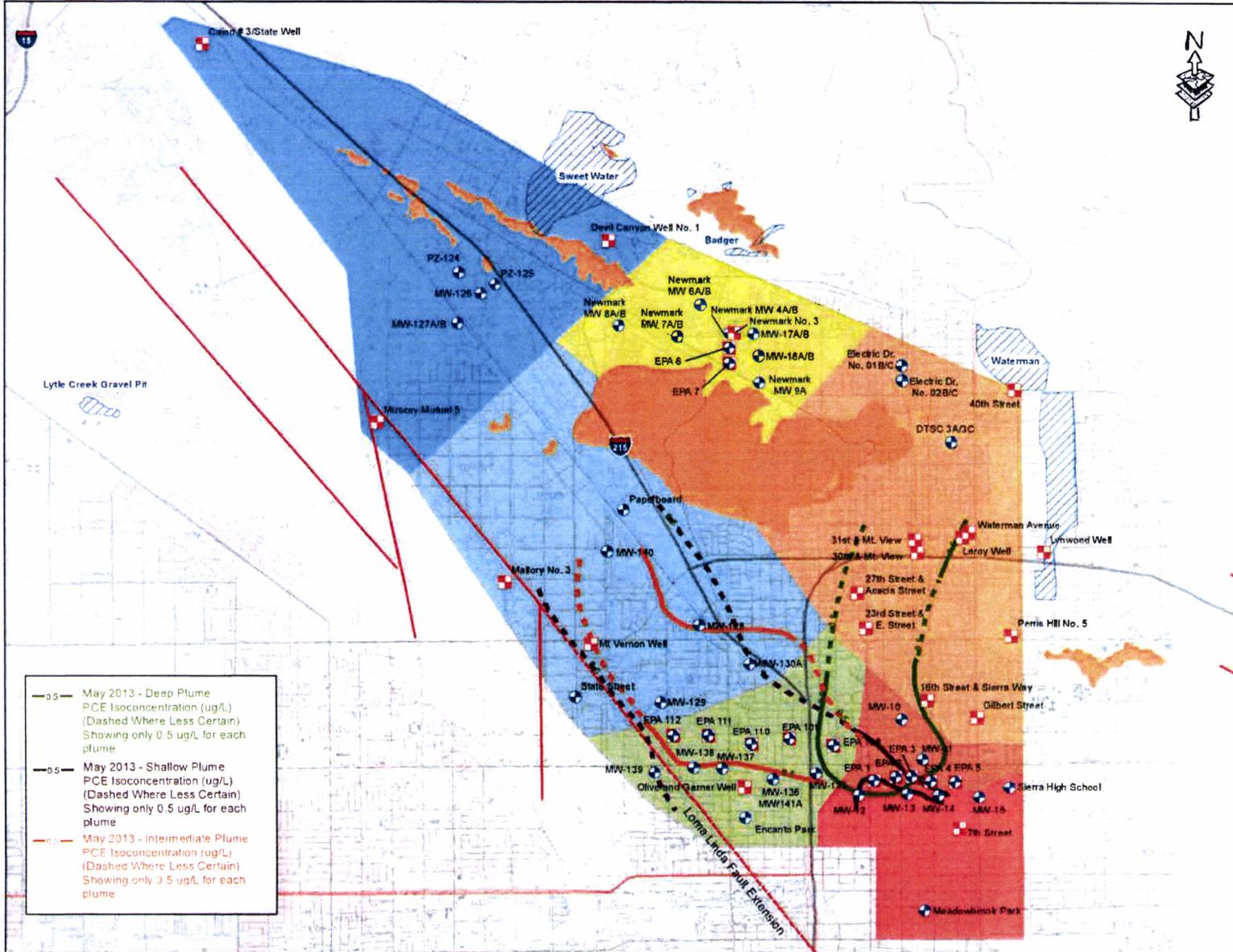


EXHIBIT A



-0.5- May 2013 - Deep Plume
 PCE Isoconcentration (ug/L)
 (Dashed Where Less Certain)
 Showing only 0.5 ug/L for each
 plume

-0.5- May 2013 - Shallow Plume
 PCE Isoconcentration (ug/L)
 (Dashed Where Less Certain)
 Showing only 0.5 ug/L for each
 plume

-0.5- May 2013 - Intermediate Plume
 PCE Isoconcentration (ug/L)
 (Dashed Where Less Certain)
 Showing only 0.5 ug/L for each
 plume

Legend

Hydrograph Wells

- Extraction/Production Well
- Monitoring Well
- Recharge Basins

Hydrograph Areas

- Upgradient
- Muscoy Mid-Plume
- Muscoy Plume
- Newmark North
- Newmark Mid-Plume
- Newmark Plume Front
- Newmark Downgradient

Faults/Hydraulic Barriers

0 2 250 4 500 9 000
Feet

Datum: NAD 1983 State Plane CA V

Job Number: 185602557	PREPARED BY:	
	Stantec Consulting, Inc. 280 Carnegie Ridge Ave. Suite 200 Thousand Oaks, CA 91321 (805) 230-1286/230-1277 (fax)	
Data Generated by: W. Bartosik	For:	City of San Bernardino Municipal Water Department
Approved By: W. Eisen	Hydrograph Areas San Bernardino, California	
Date:	Figure:	1-1
3/24/14		

Hydrographs

Region: Cajon Creek

Upgradient Production and Monitoring Wells

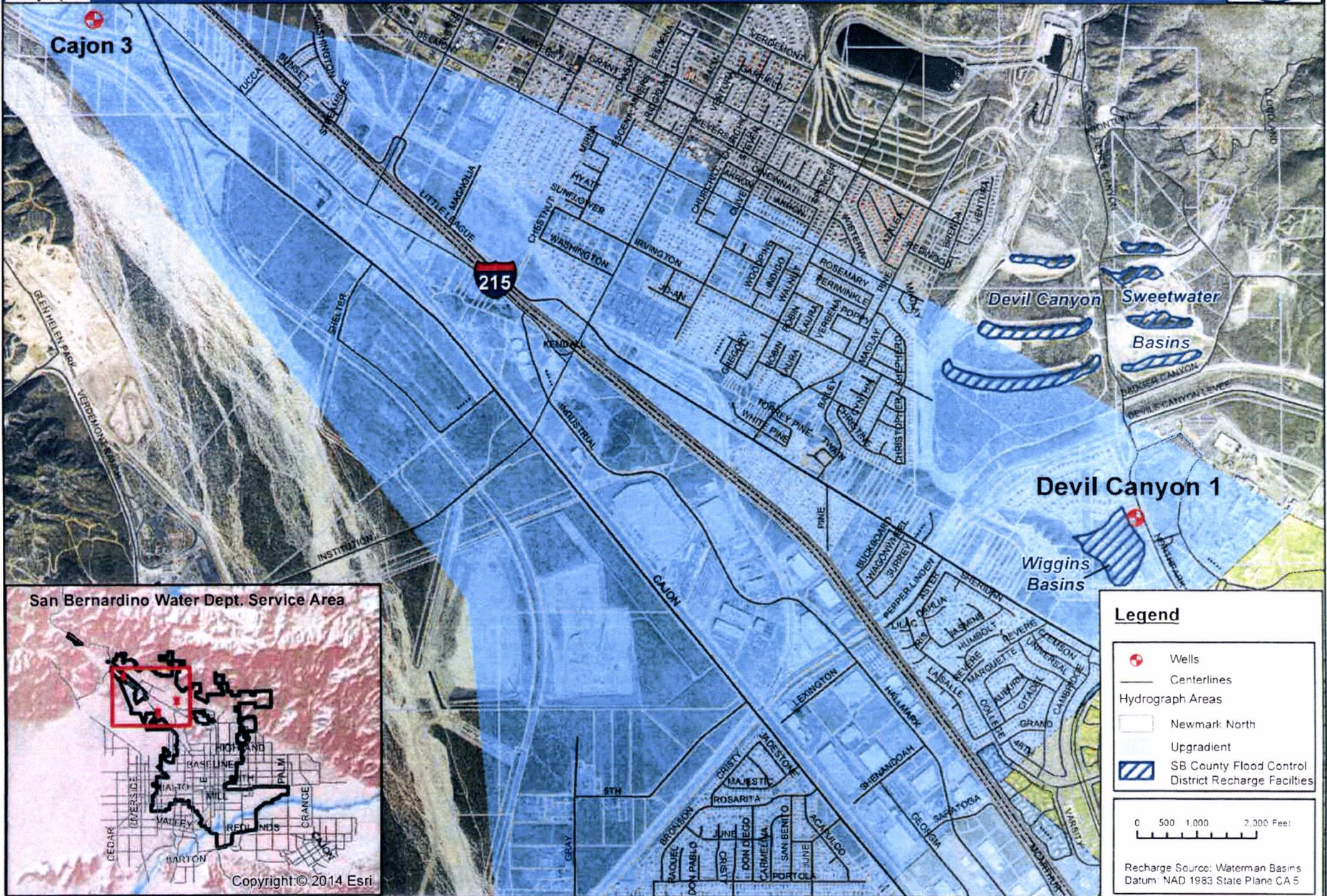
Recharge Source:

Cajon Creek (No Artificial Recharge)

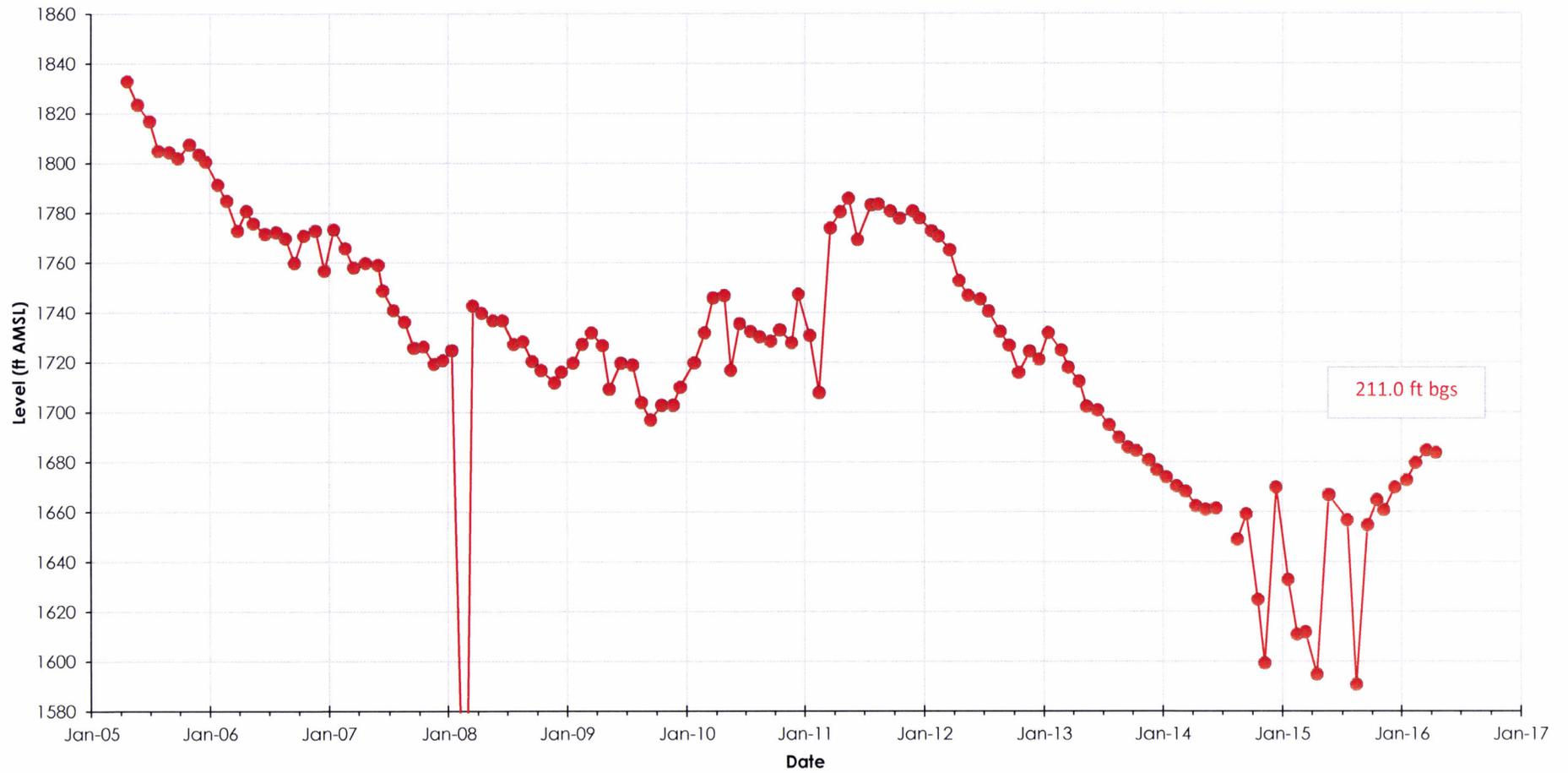


CAJON CREEK REGION

Upgradient Production and Monitoring Wells



1894.9
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

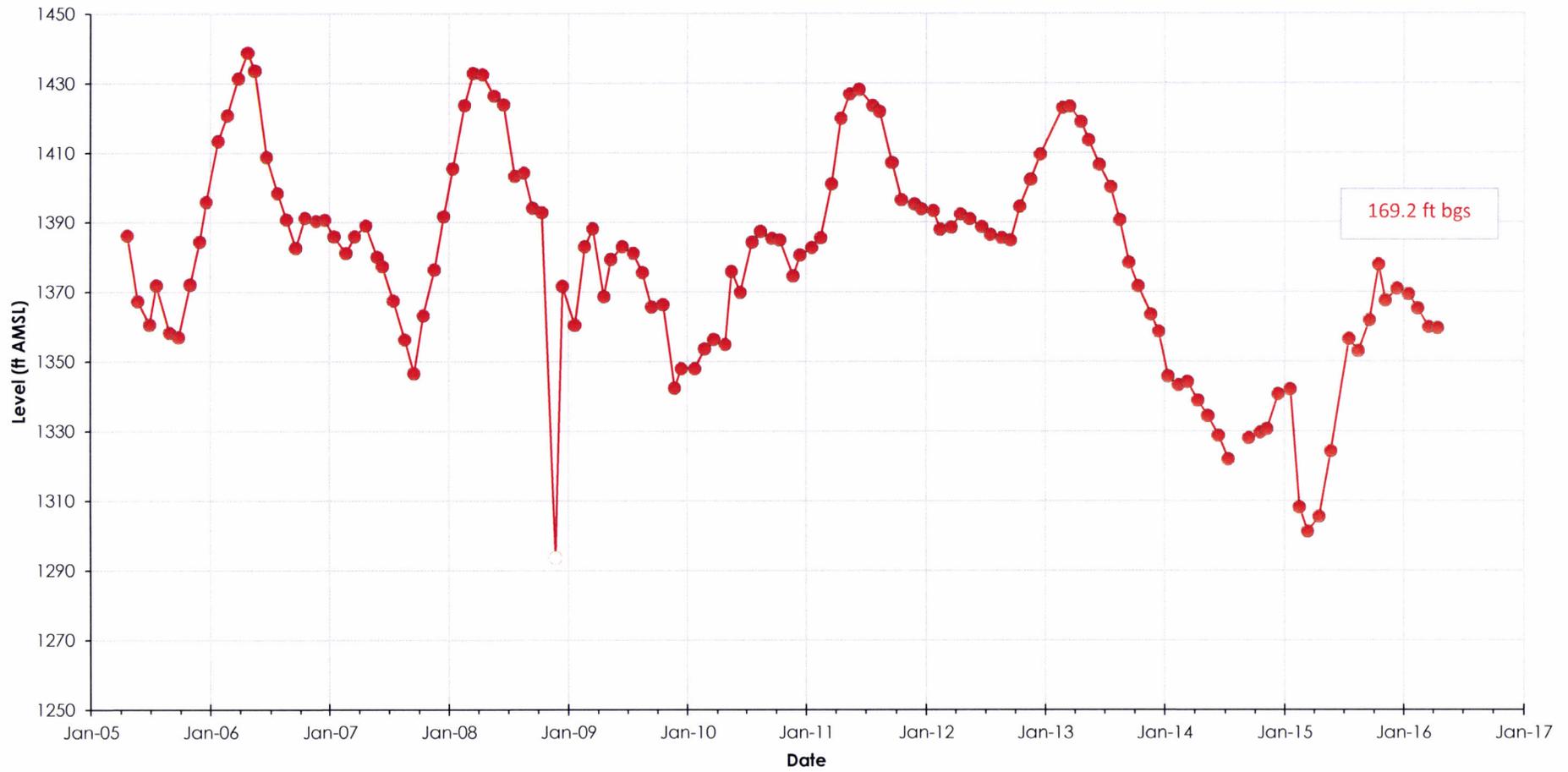
Cajon 3

Title

Water Level Elevations



1528.9
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

Devil Canyon 1

Title

Water Level Elevations



Hydrographs

Region: Newmark North

Extraction and Monitoring Wells

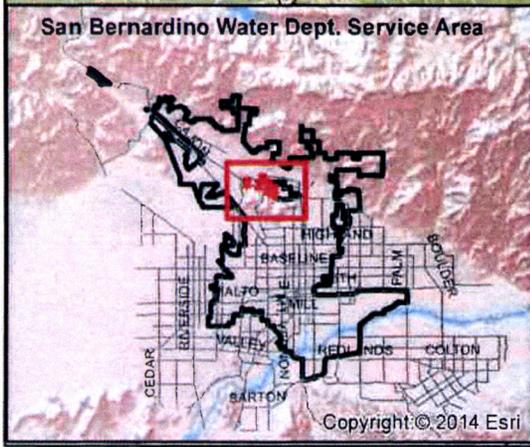
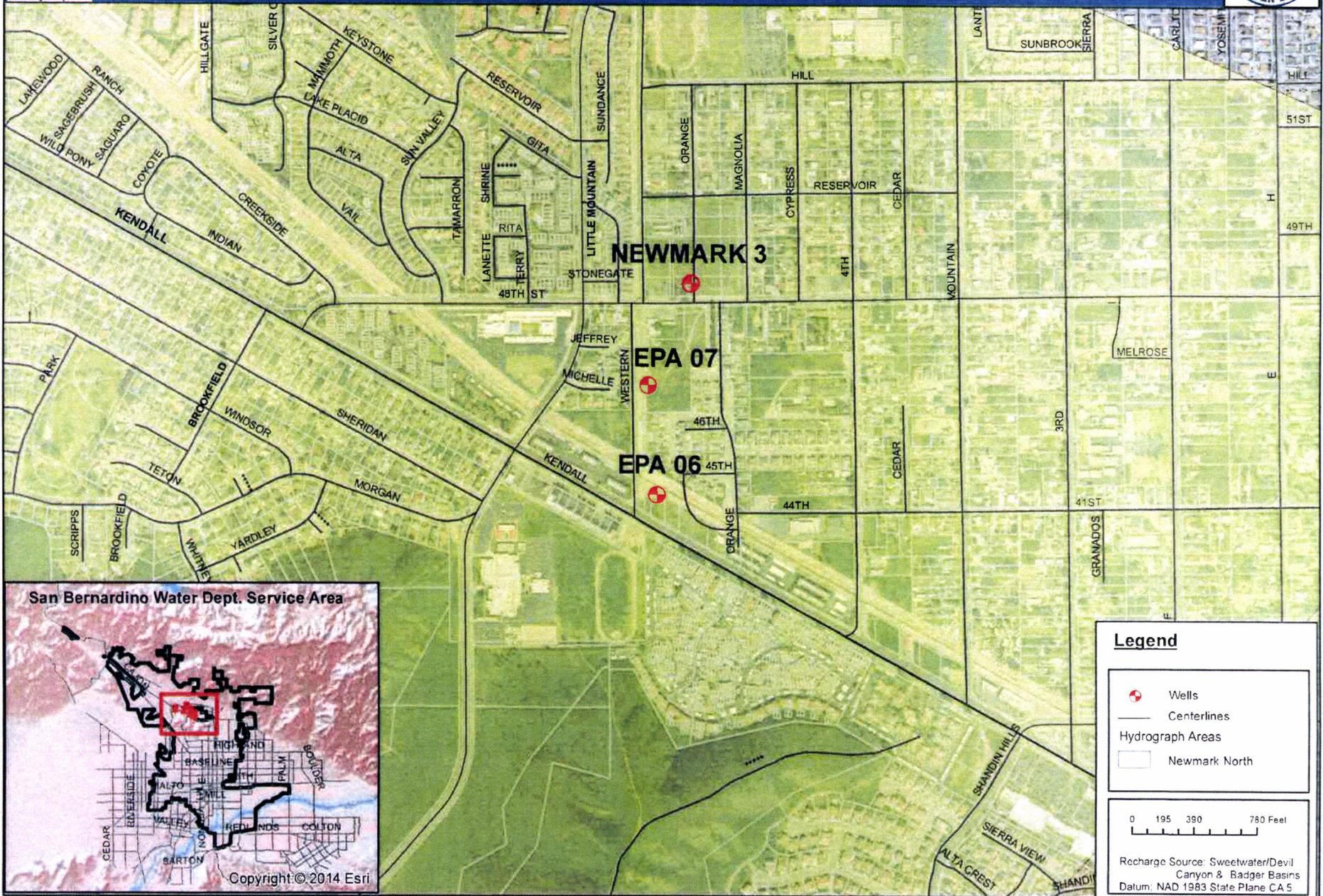
Recharge Source:

Sweetwater/Devil Canyon Basins and Badger Basins

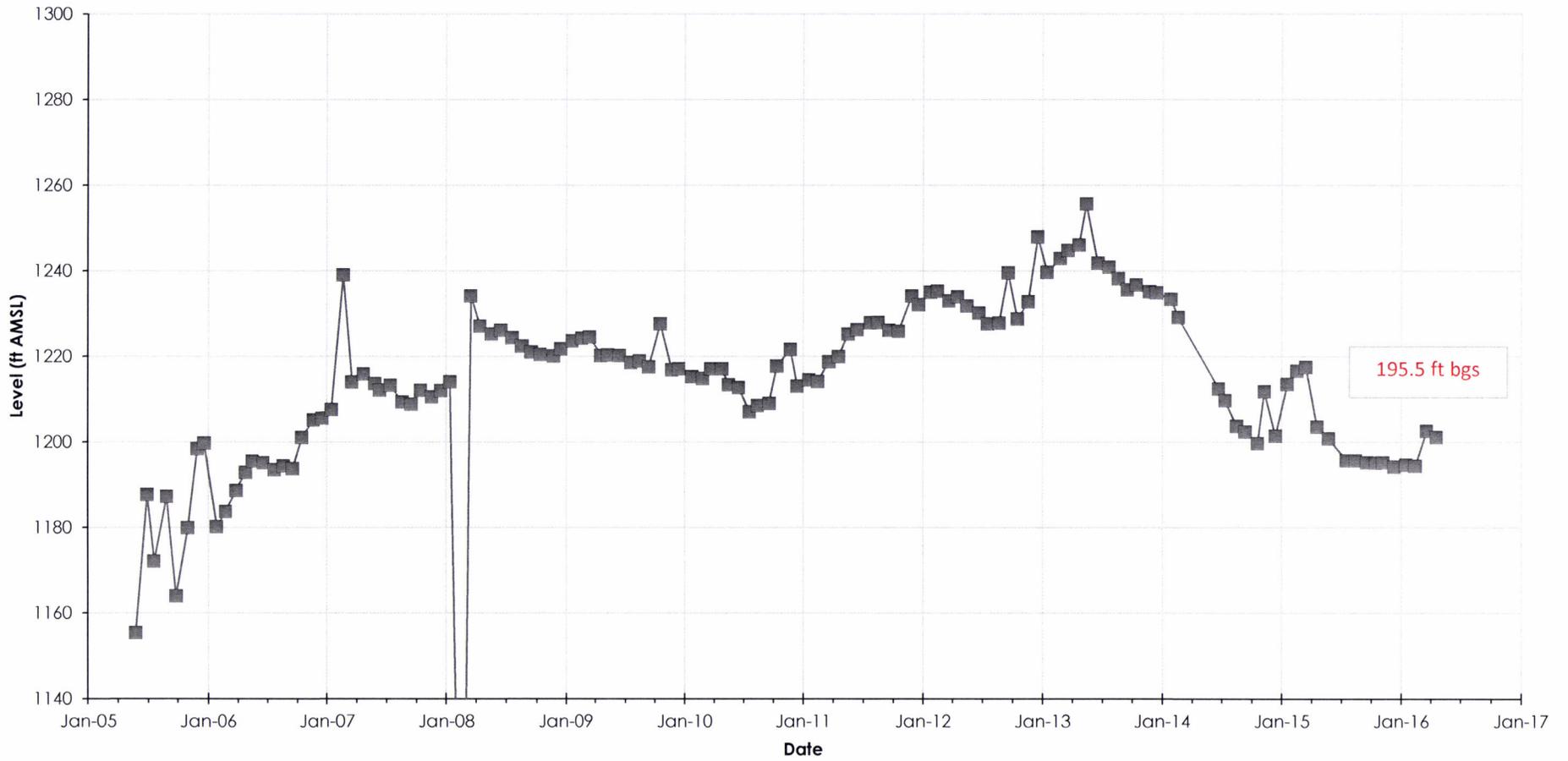


NEWMARK NORTH REGION

Extraction and Monitoring Wells



1396.6
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

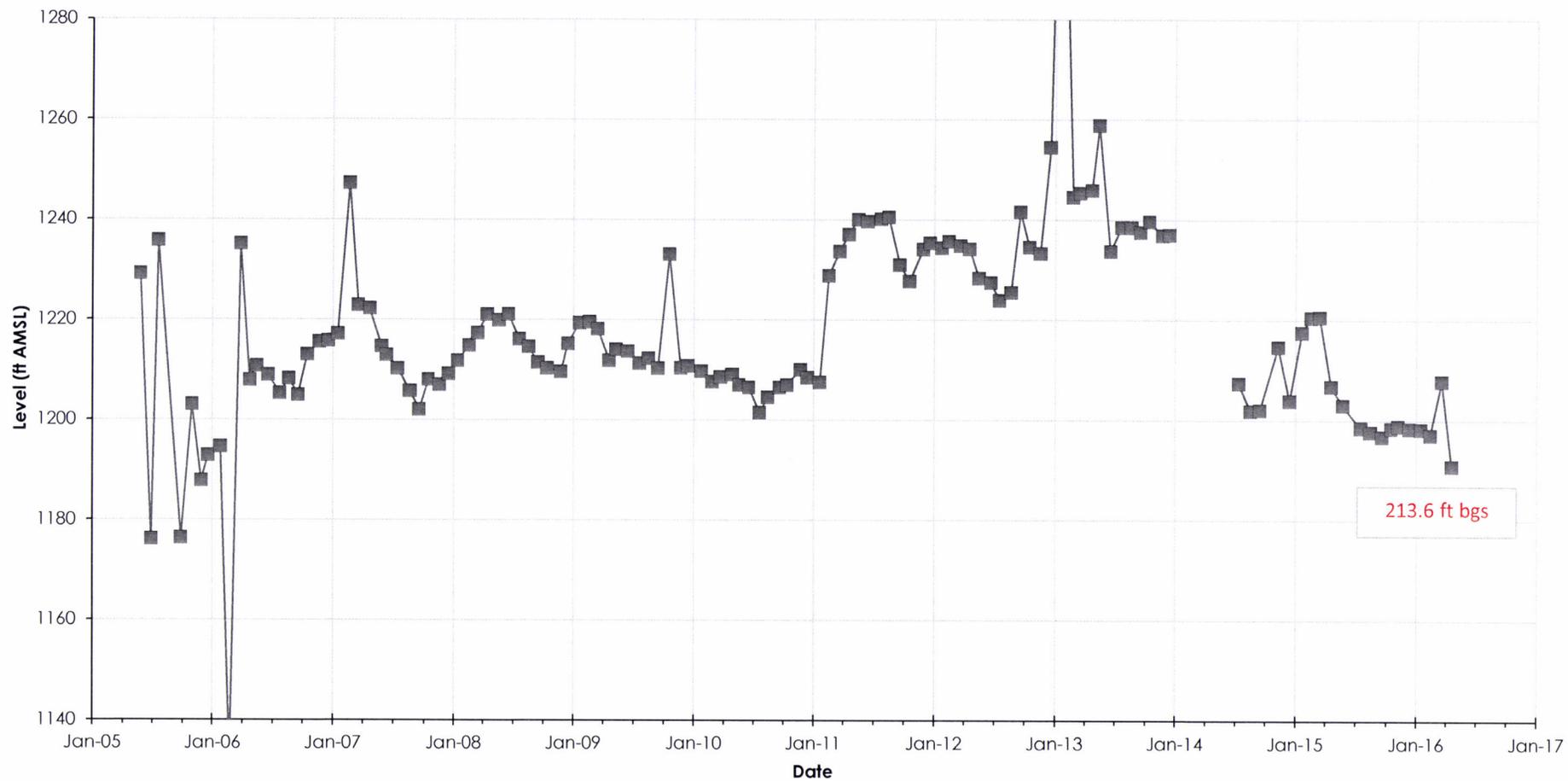
Figure/Well No.

EPA 006

Title

Water Level Elevations

1404.5
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

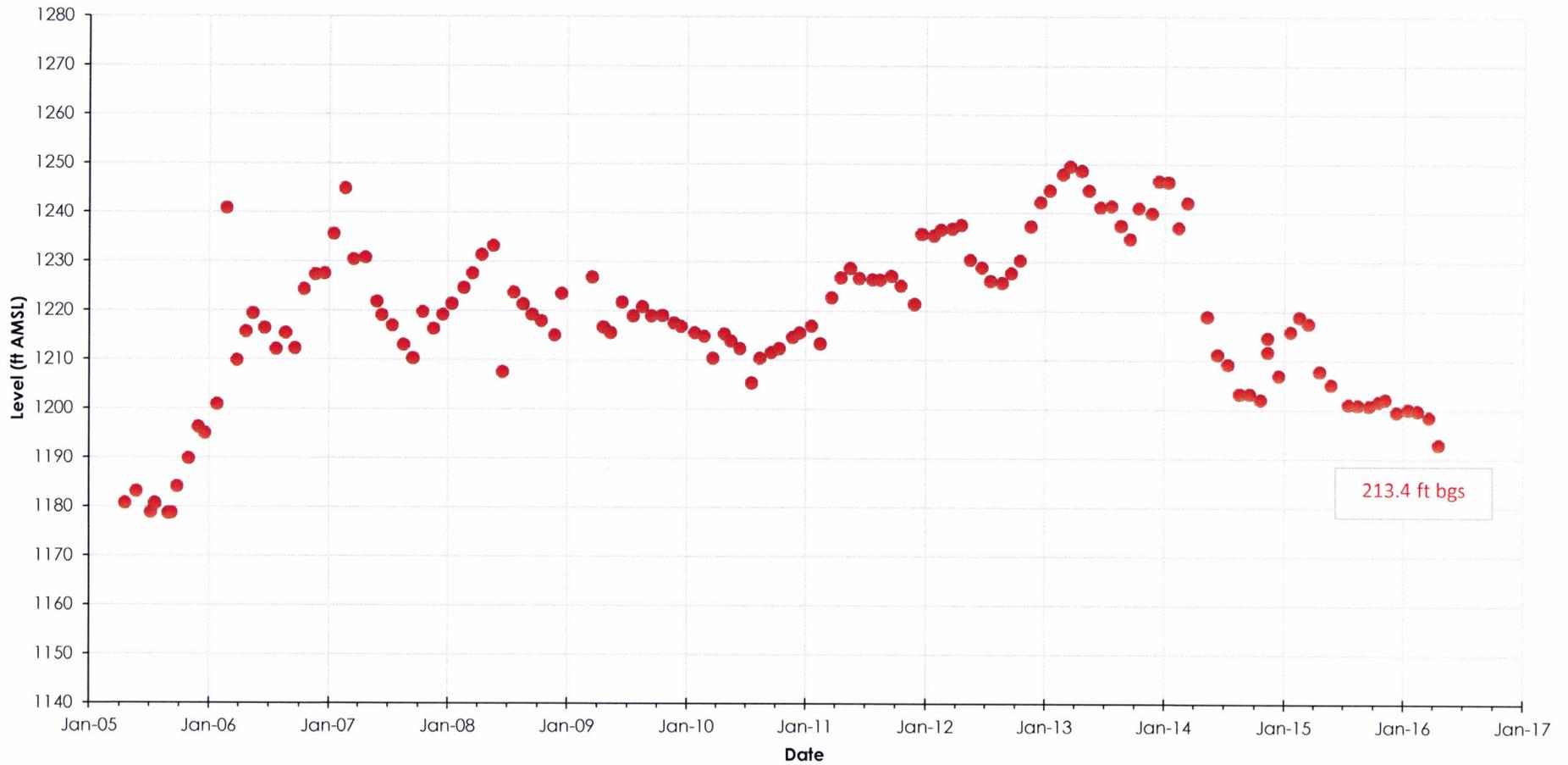
EPA 007

Title

Water Level Elevations



1407.9
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

Newmark 3

Title

Water Level Elevations



Hydrographs

Region: Newmark Mid-Plume

Production and Monitoring Wells

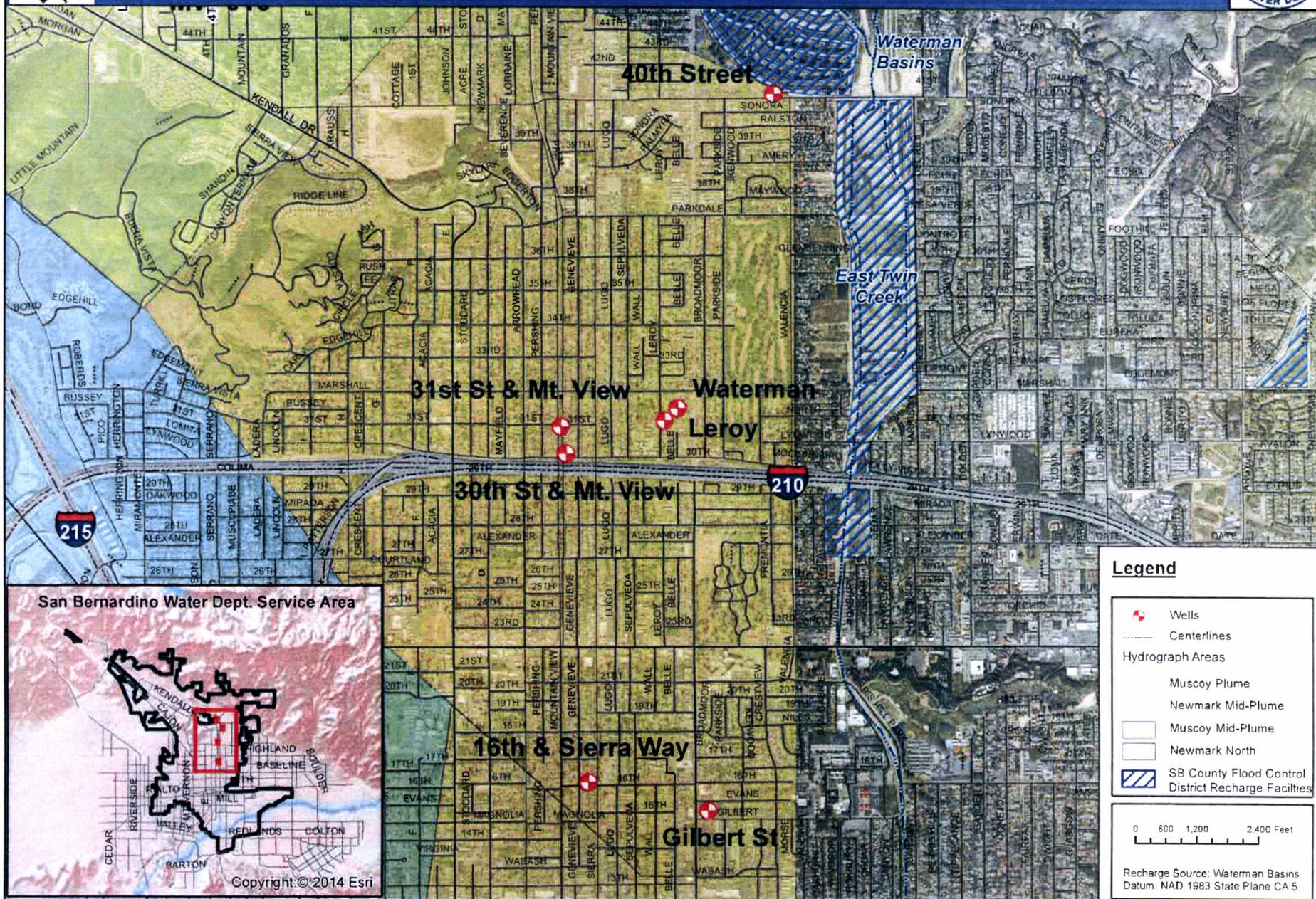
Recharge Source:

Waterman Basins

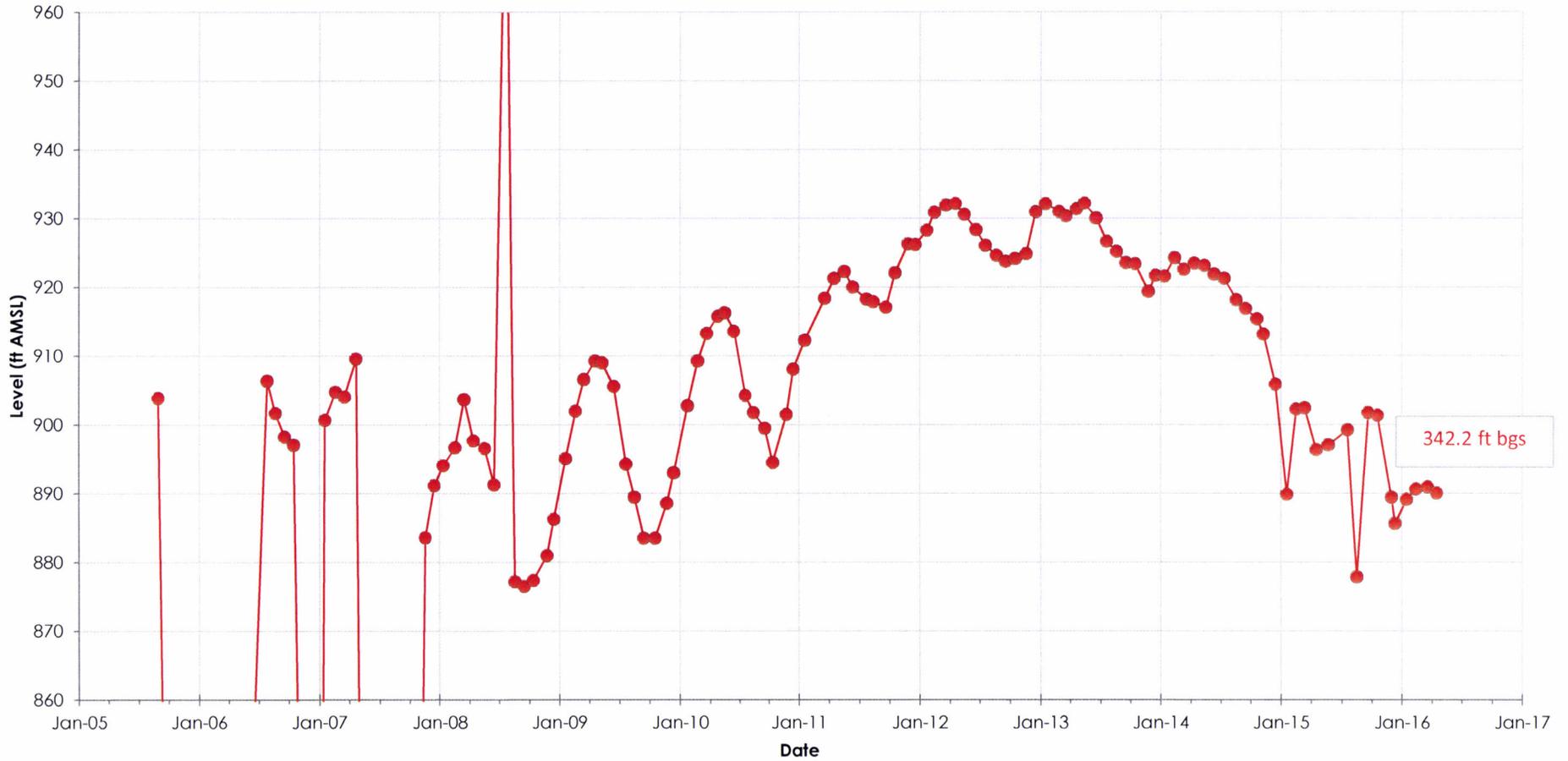


NEWMARK MID-PLUME REGION

Production and Monitoring Wells



1232.3
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

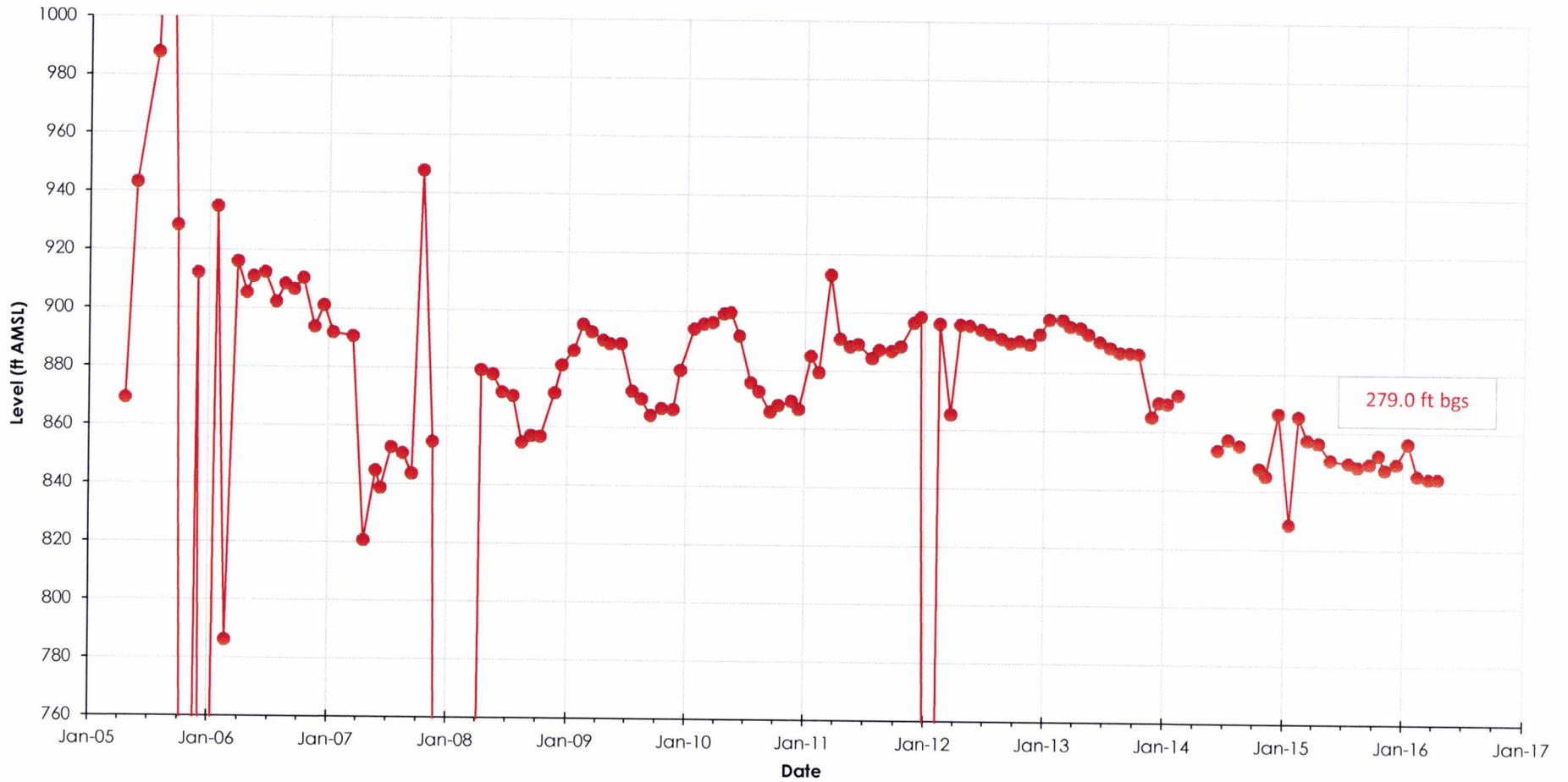
31st & Mt. View

Title

Water Level Elevations



1123.5
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

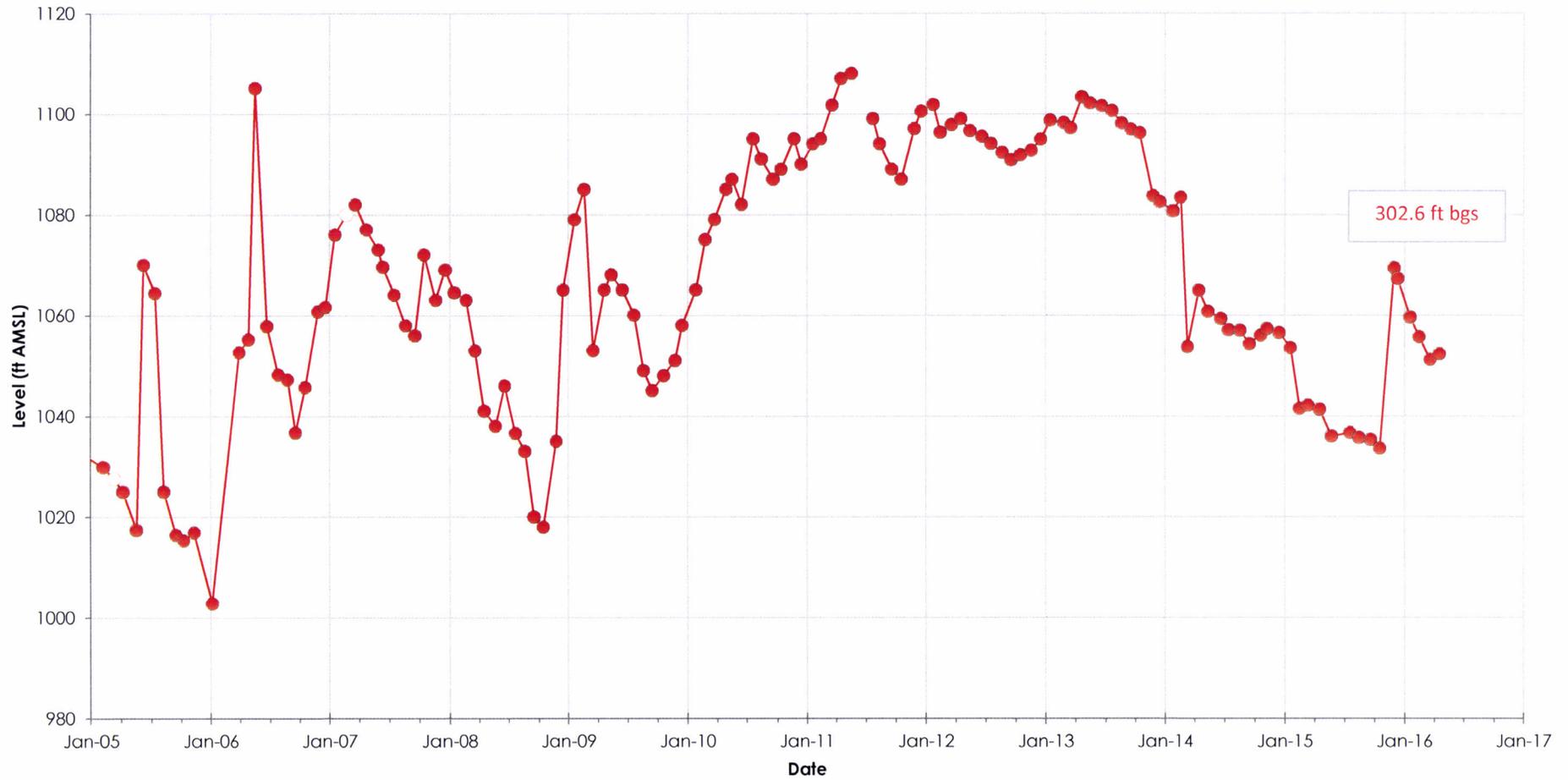
Gilbert

Title

Water Level Elevations



1355.0
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

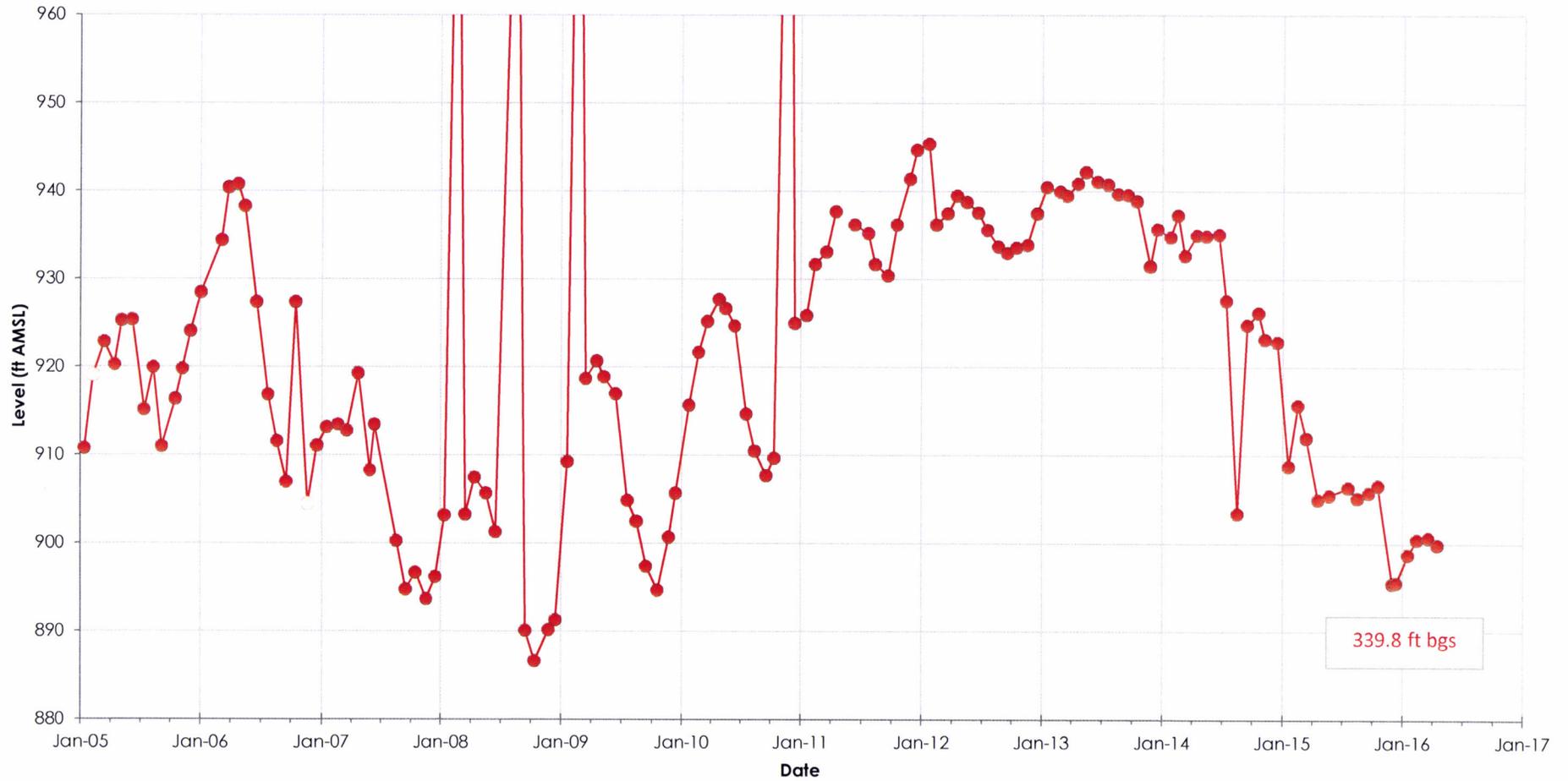
40th Street Well

Title

Water Level Elevations



1239.7
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

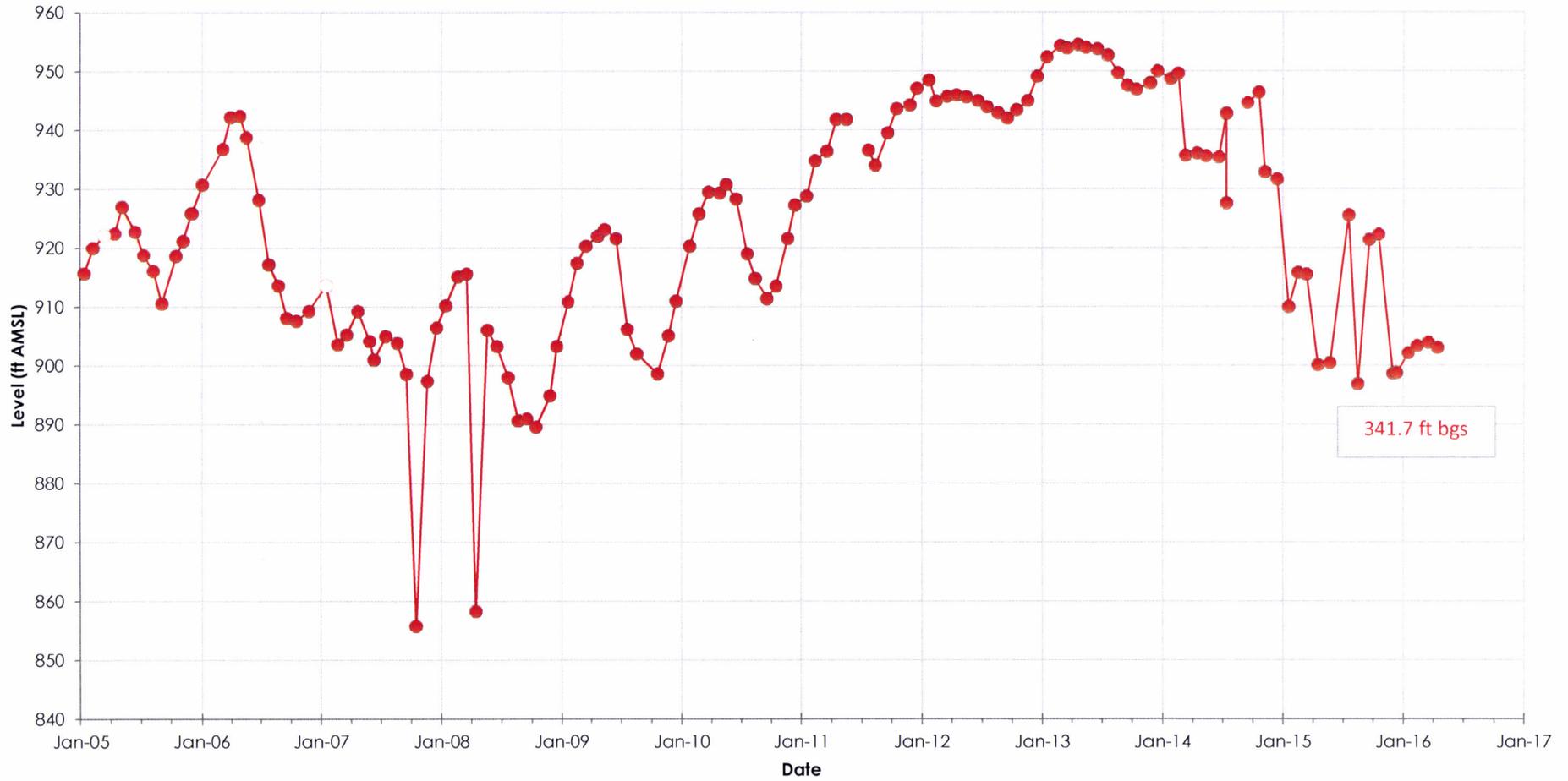
Leroy Well

Title

Water Level Elevations



1244.8
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

Waterman Well

Title

Water Level Elevations

Hydrographs

Region: Newmark Plume Front

Extraction and Monitoring Wells

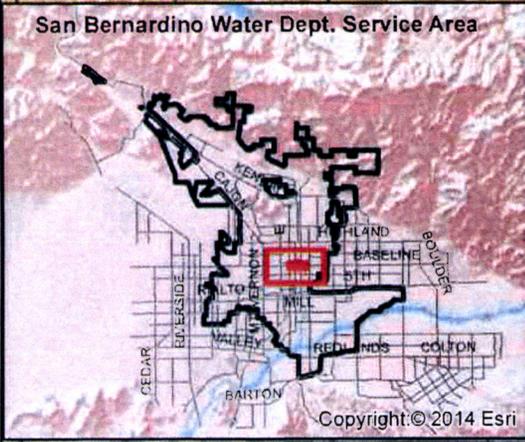
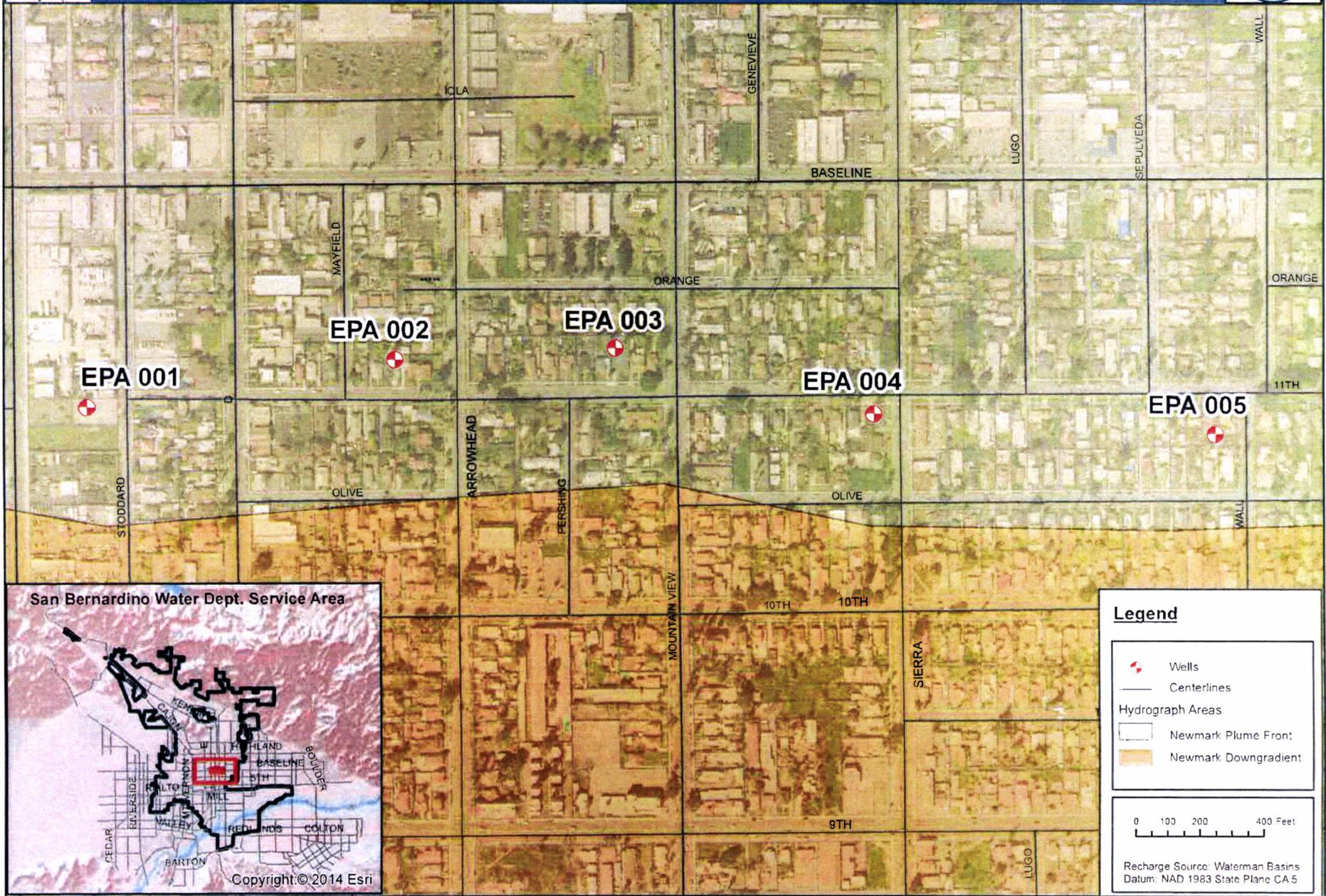
Recharge Source:

Waterman Basins



NEWMARK PLUME FRONT REGION

Extraction and Monitoring Wells



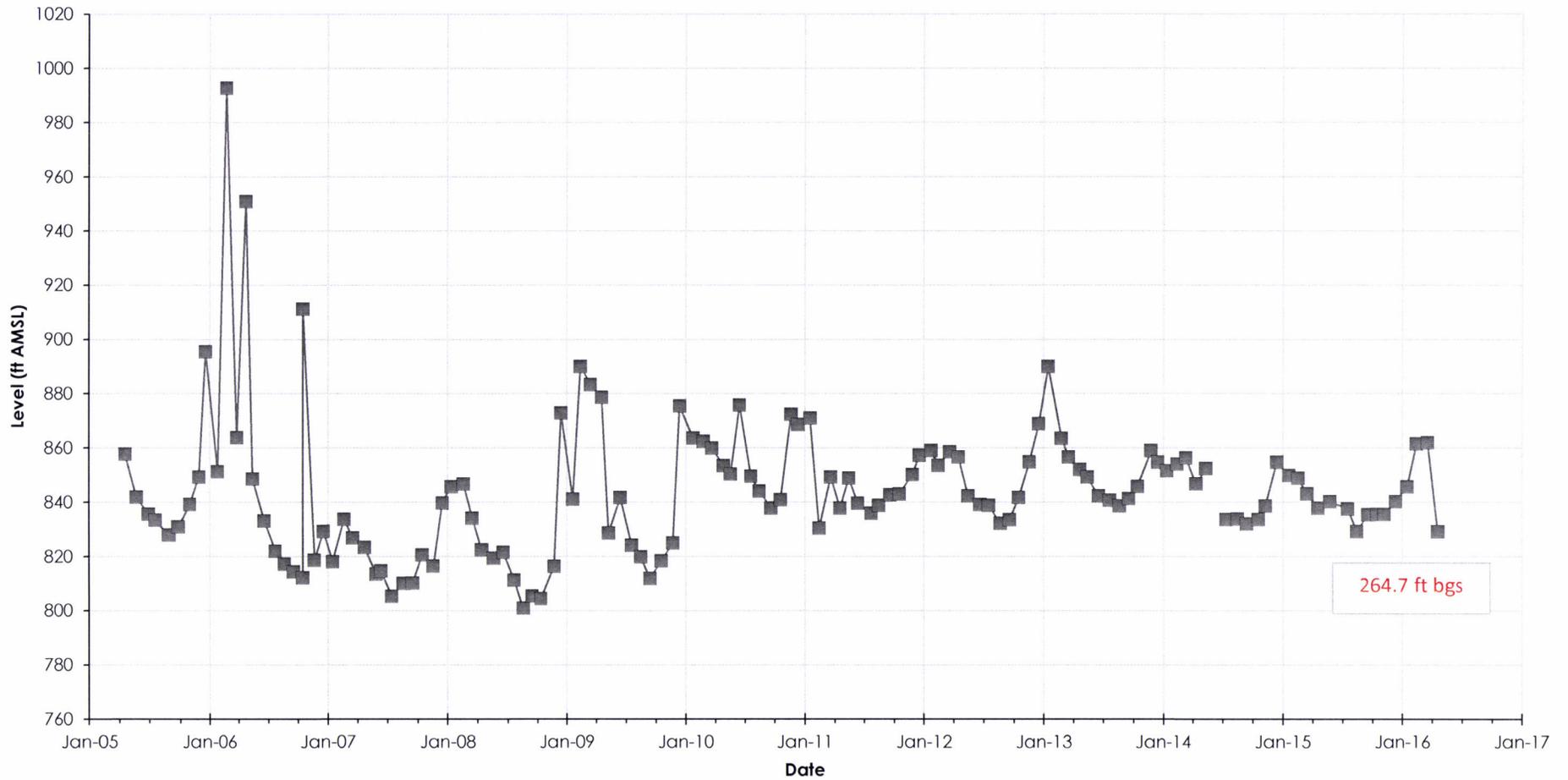
Legend

- Wells
- Centerlines
- Hydrograph Areas**
 - Newmark Plume Front
 - Newmark Downgradient

0 100 200 400 Feet

Recharge Source: Waterman Basins
Datum: NAD 1983 State Plane CA 5

1093.9
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

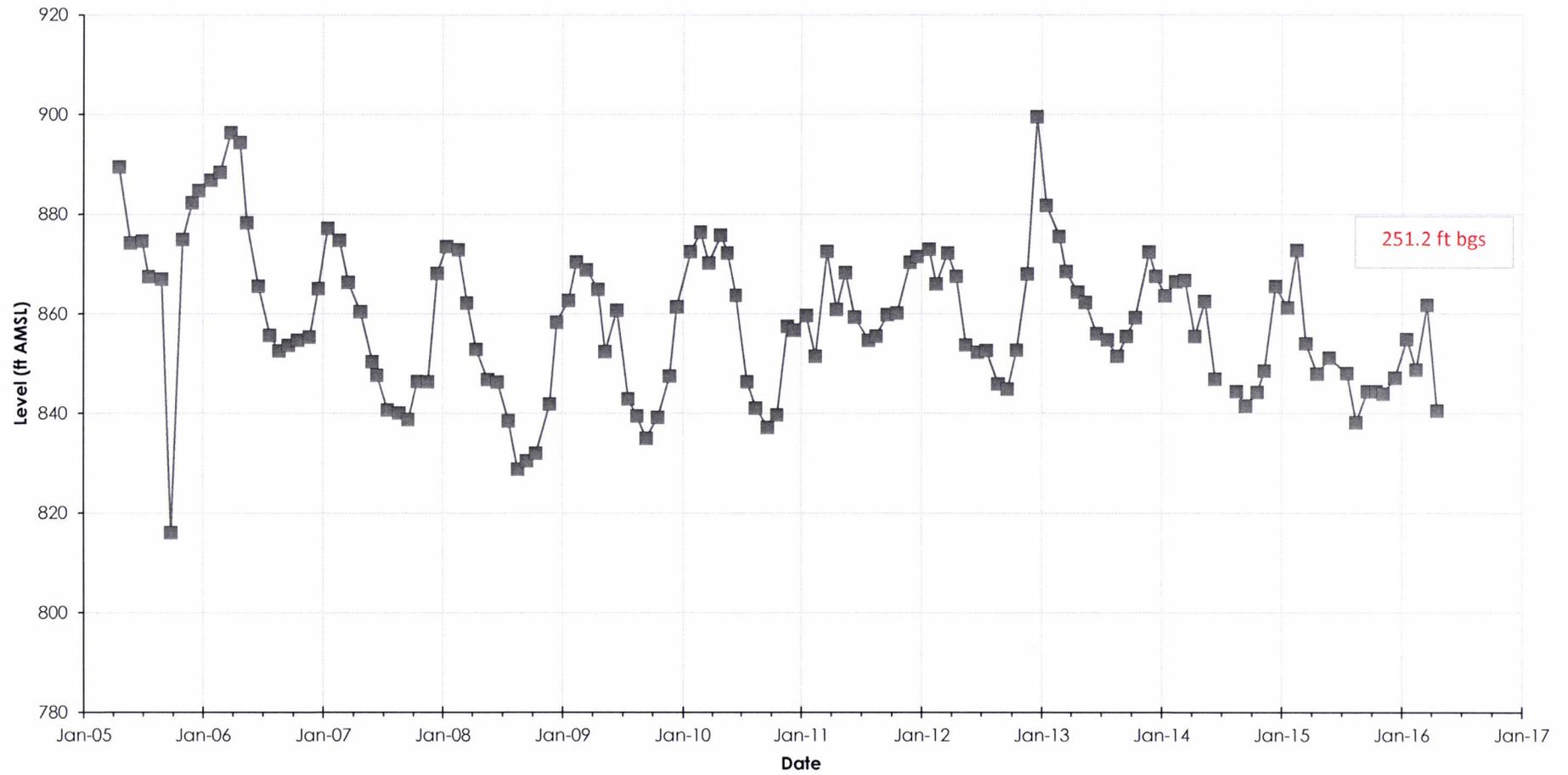
EPA 001

Title

Water Level Elevations



1091.7
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

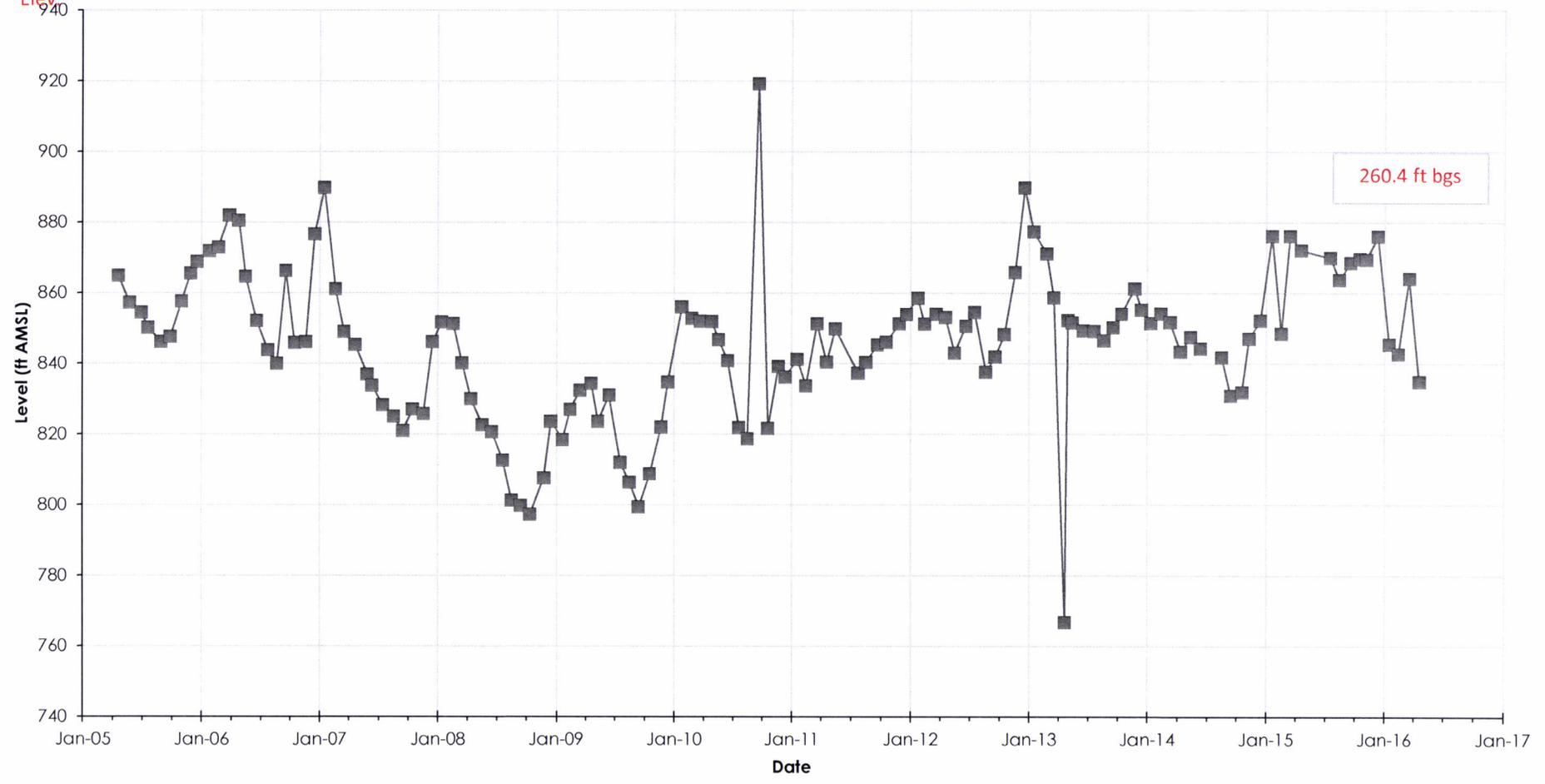
EPA 002

Title

Water Level Elevations



1095.4
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

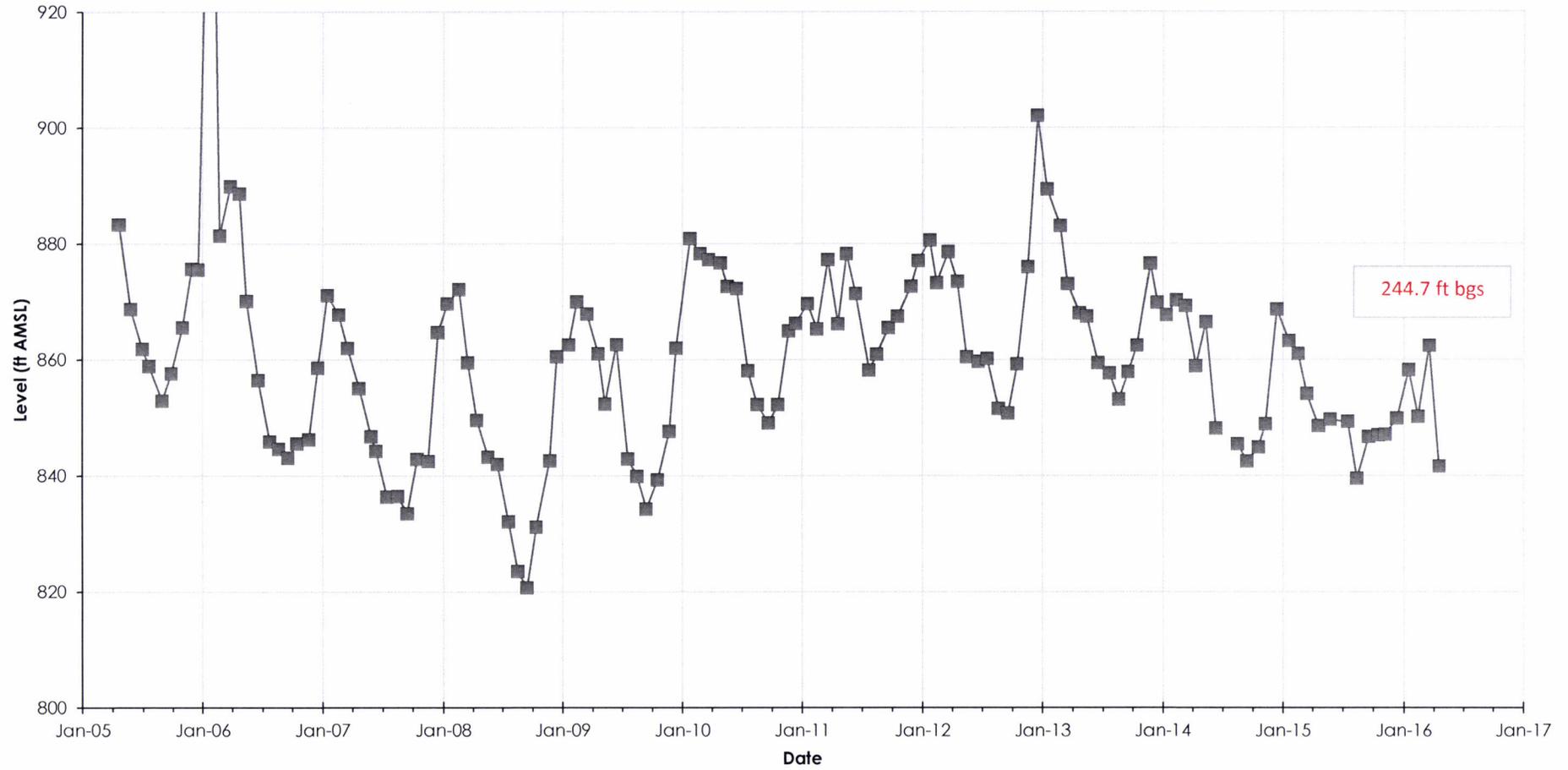
Figure/Well No.

EPA 003

Title

Water Level Elevations

1086.3
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

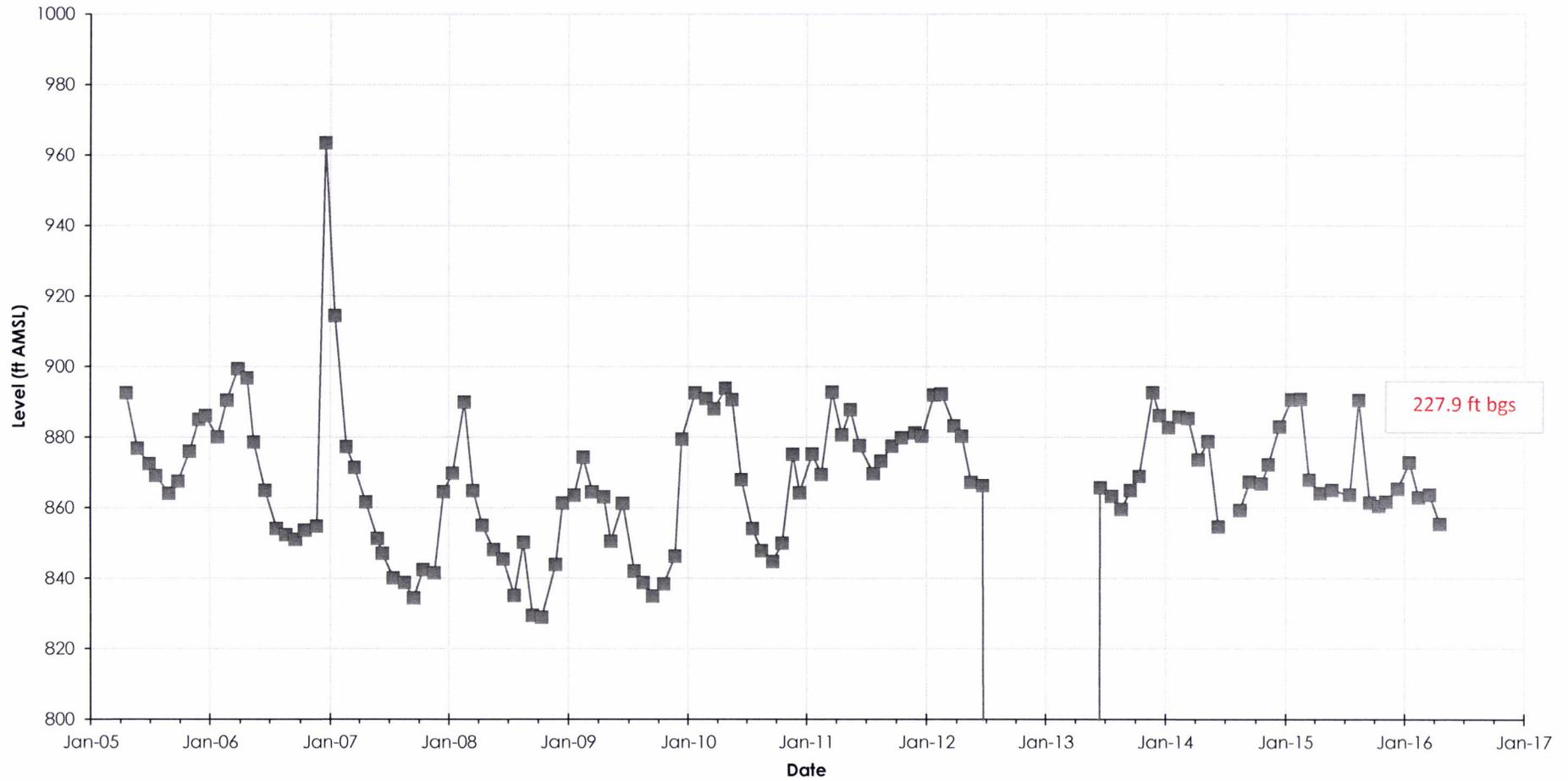
Figure/Well No.

EPA 004

Title

Water Level Elevations

1083.3
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

EPA 005

Title

Water Level Elevations

Hydrographs

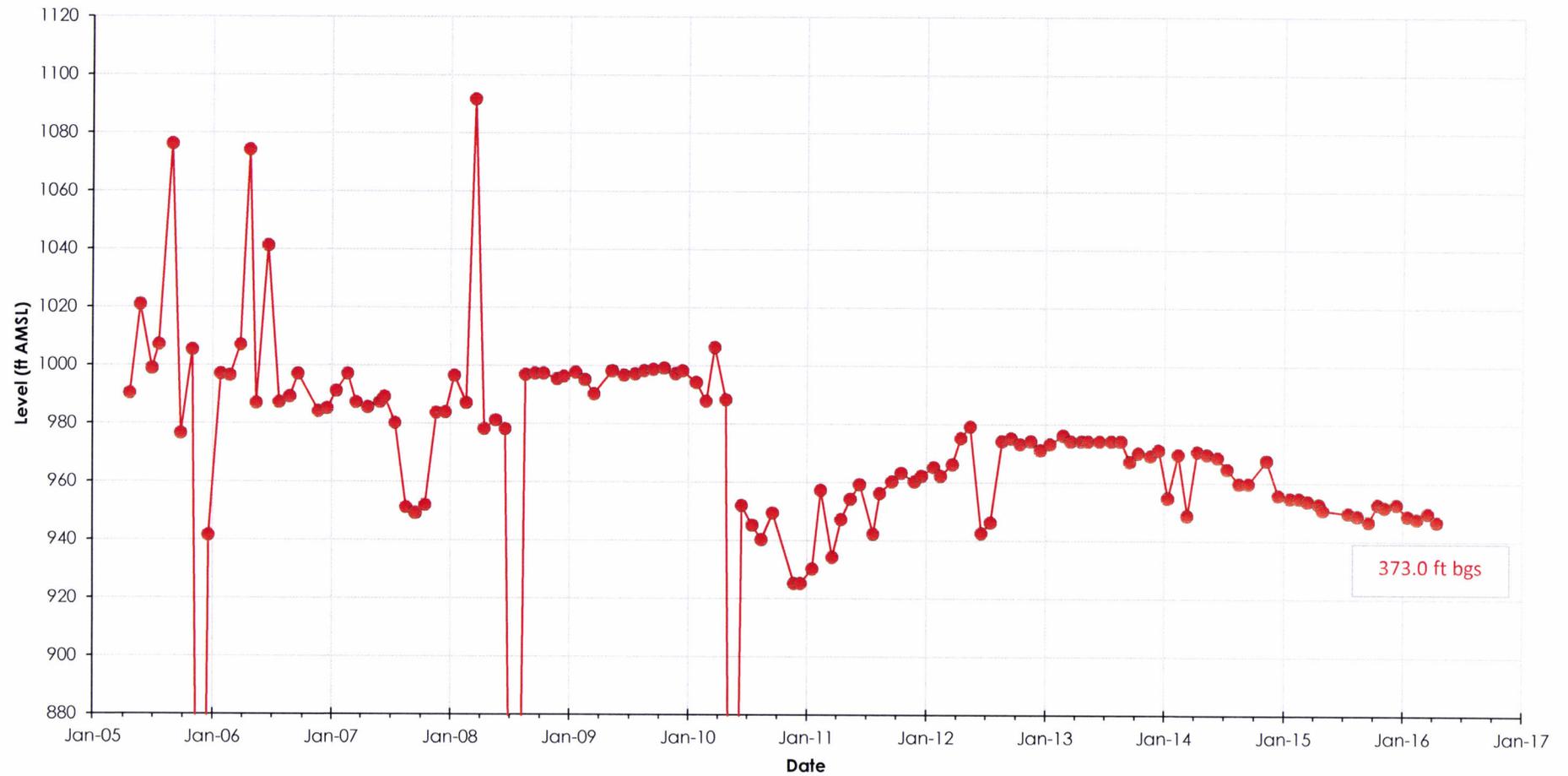
Region: Muscoy Mid-Plume

Production and Monitoring Wells

Recharge Source:

Cajon Creek (No Artificial Recharge)

1319.8
Ground
Elev.



373.0 ft bgs



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

Mallory 3

Title

Water Level Elevations

Hydrographs

Region: Muscoy Plume

Production, Extraction, and Monitoring Wells

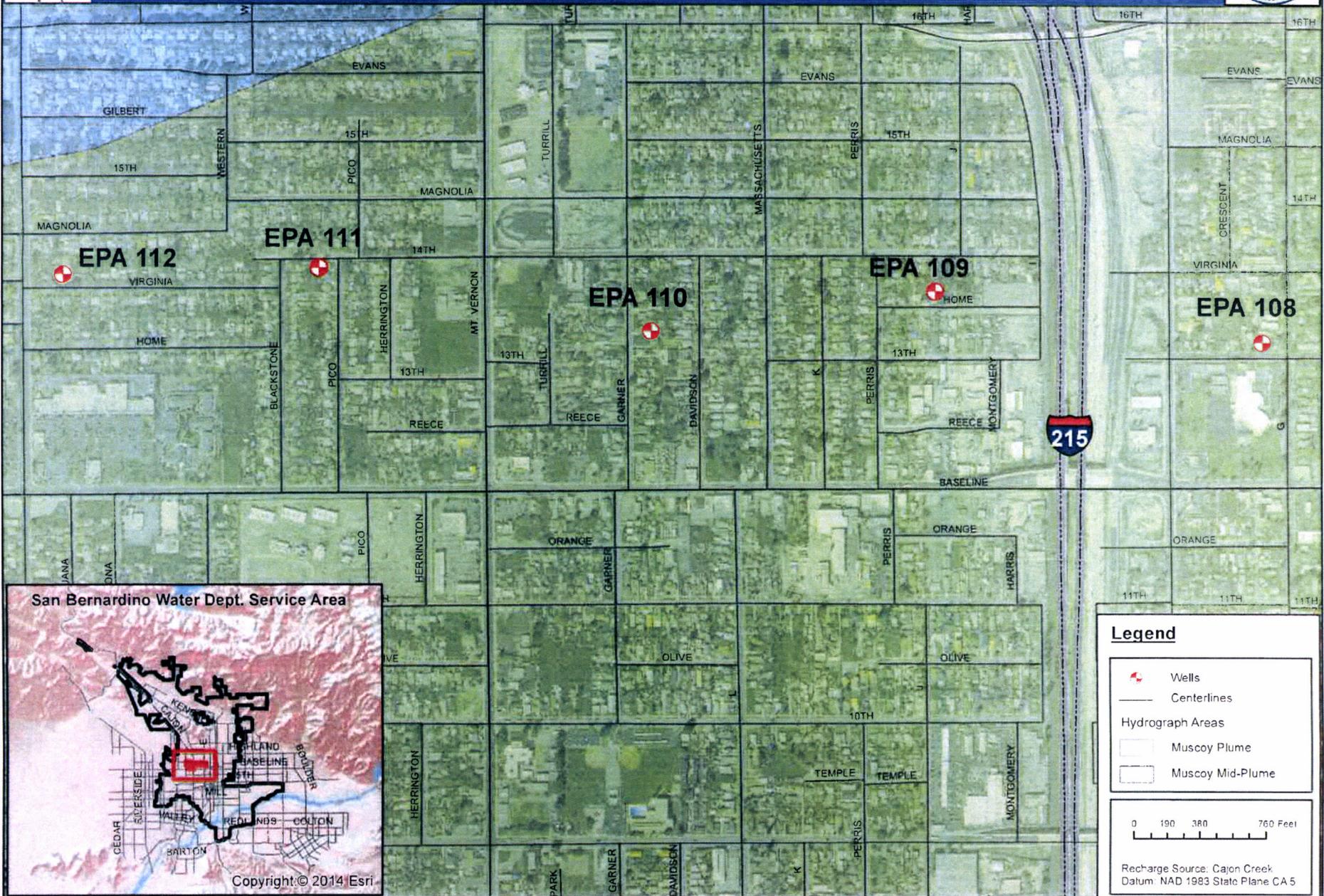
Recharge Source:

Cajon Creek (No Artificial Recharge)

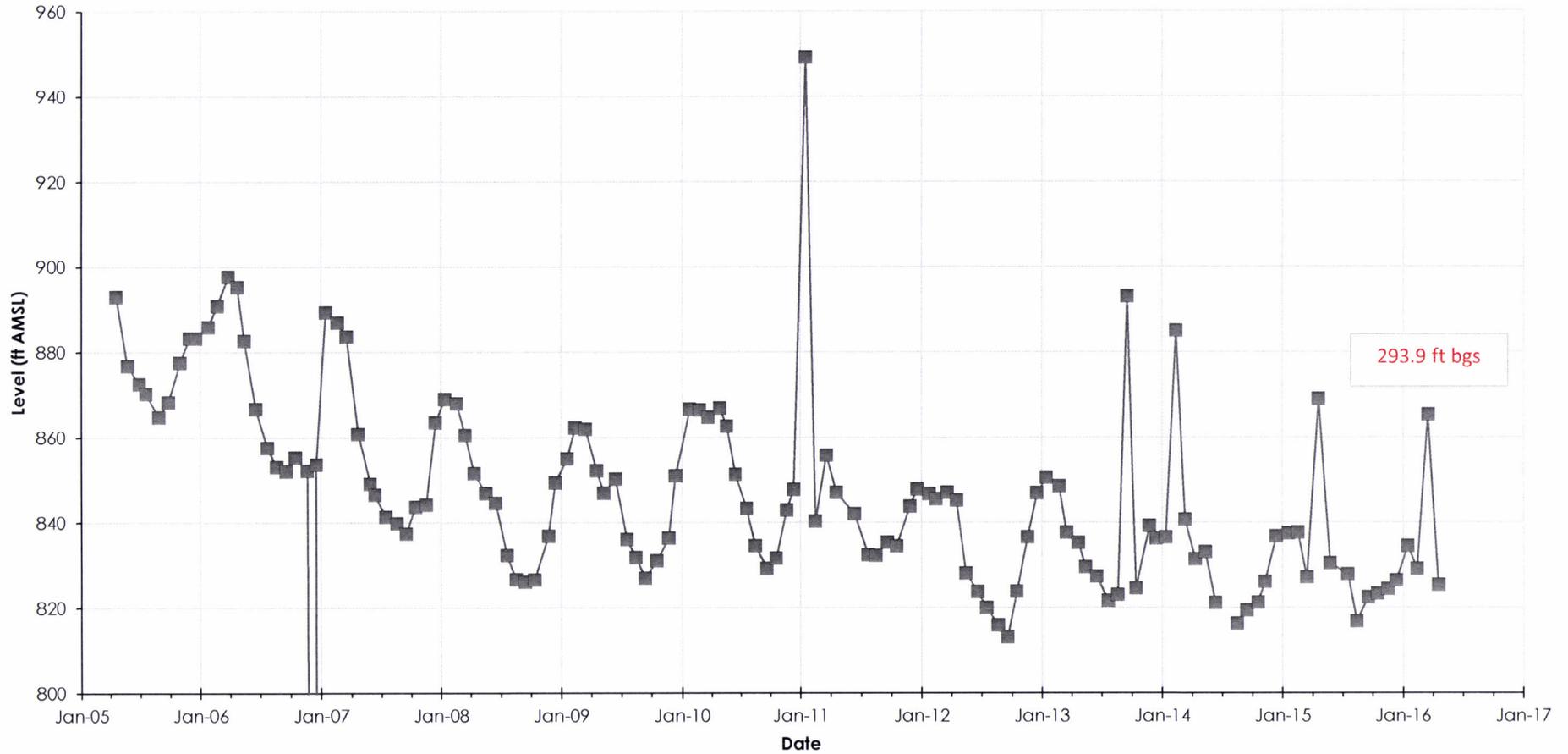


Muscoy Plume Region

Production, Extraction, and Monitoring Wells



1119.3
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

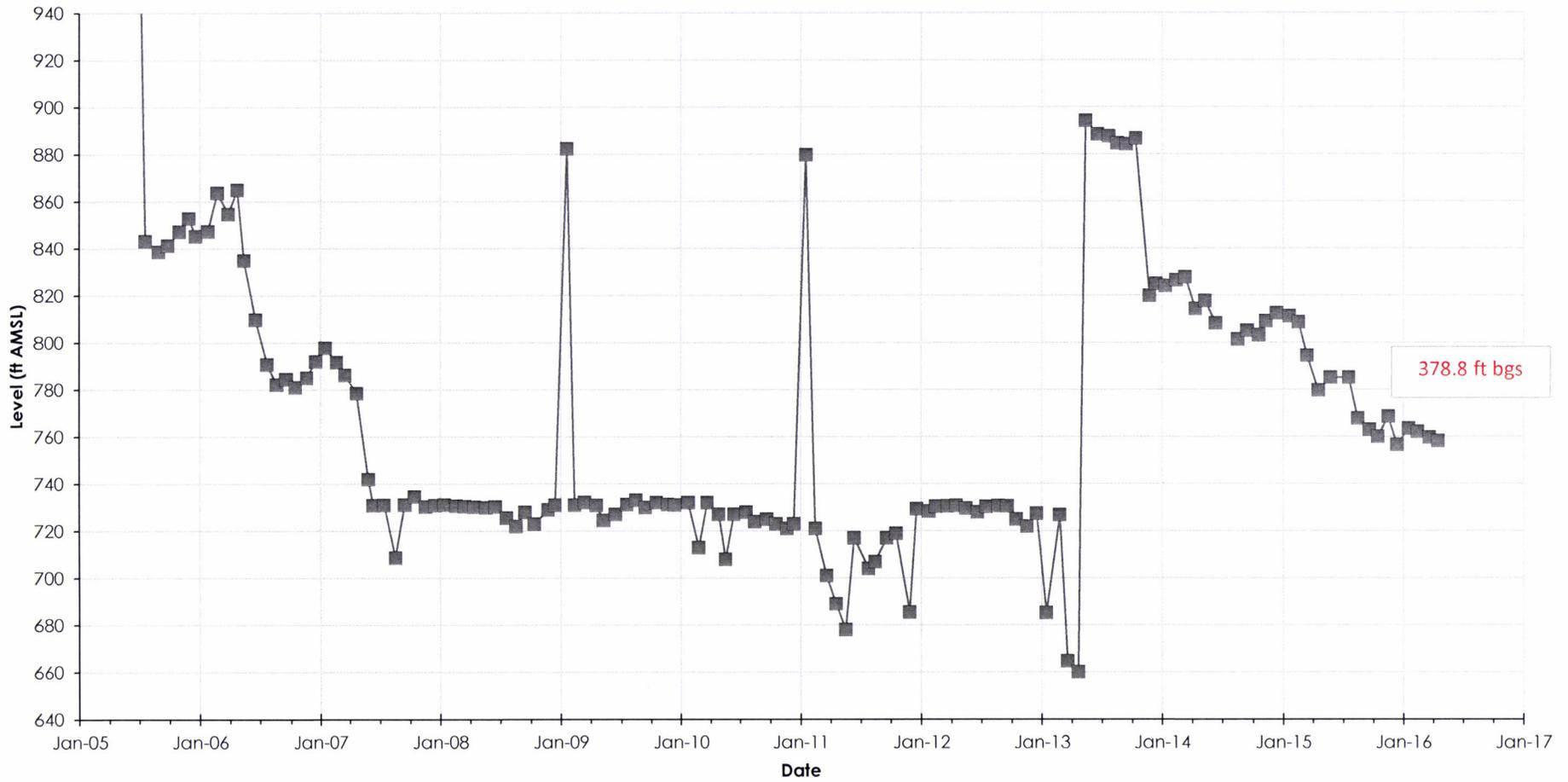
EPA 108

Title

Water Level Elevations



1137.0
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

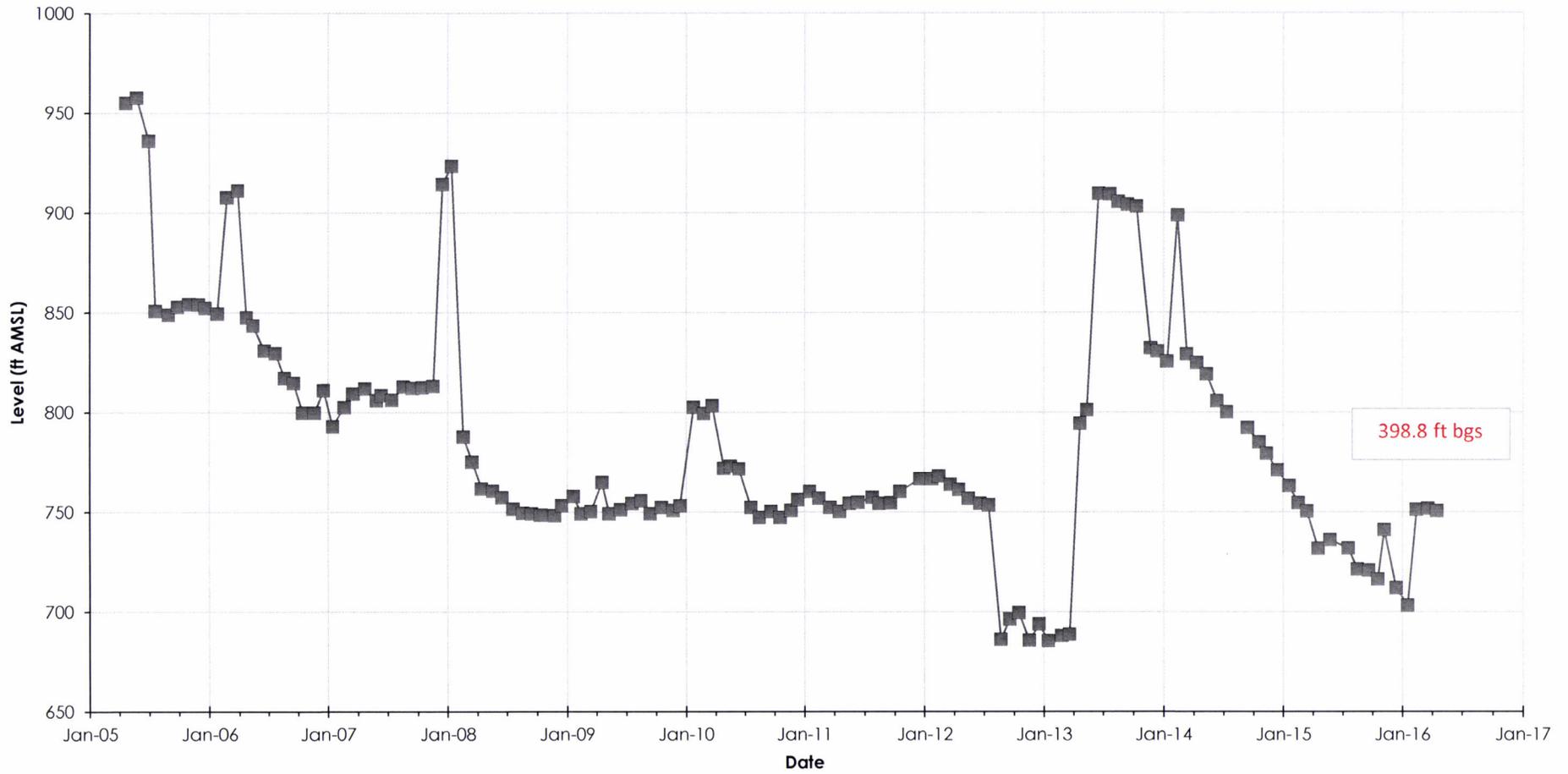
EPA 109

Title

Water Level Elevations



1149.3
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

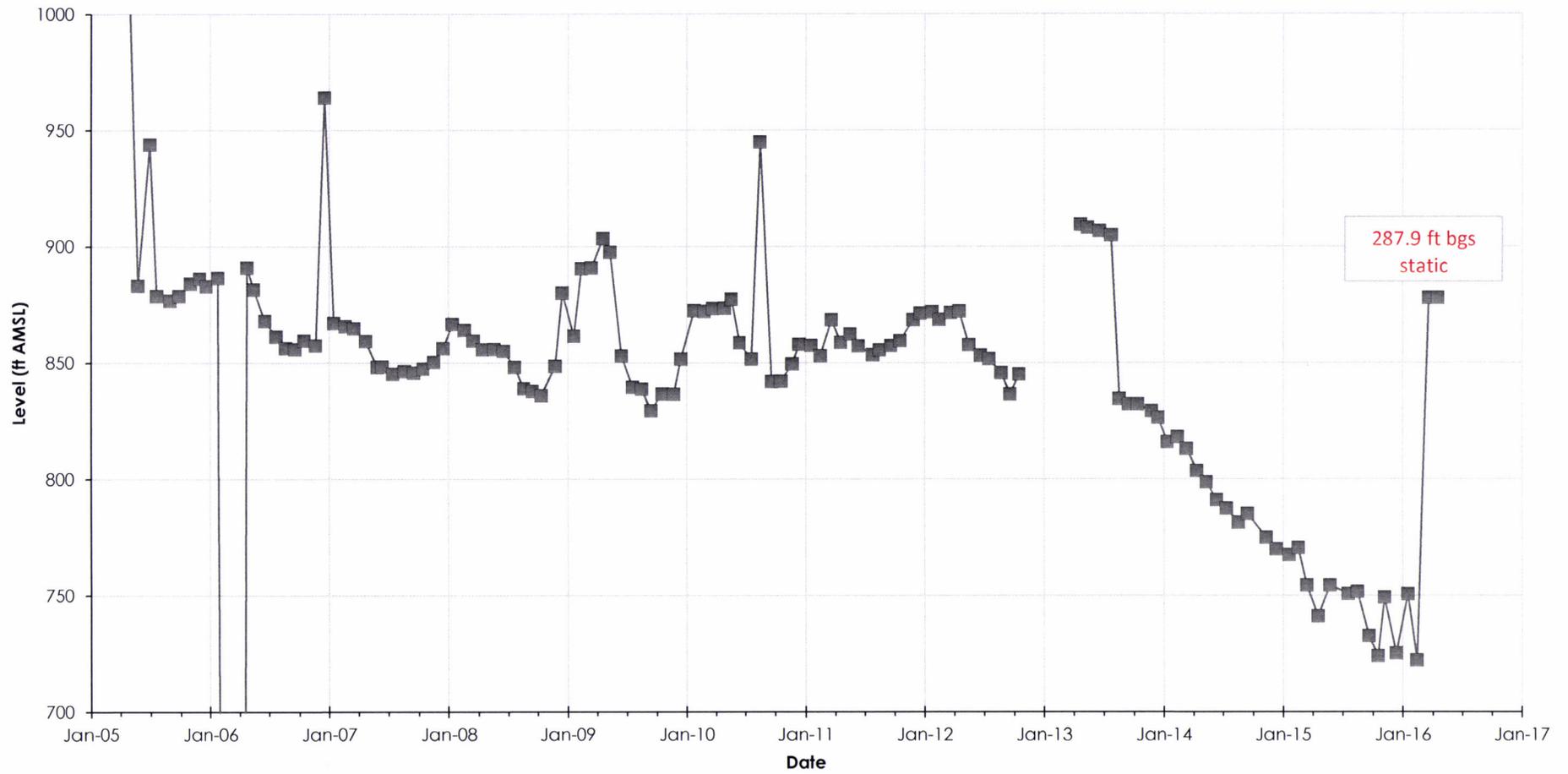
EPA 110

Title

Water Level Elevations



1165.7
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

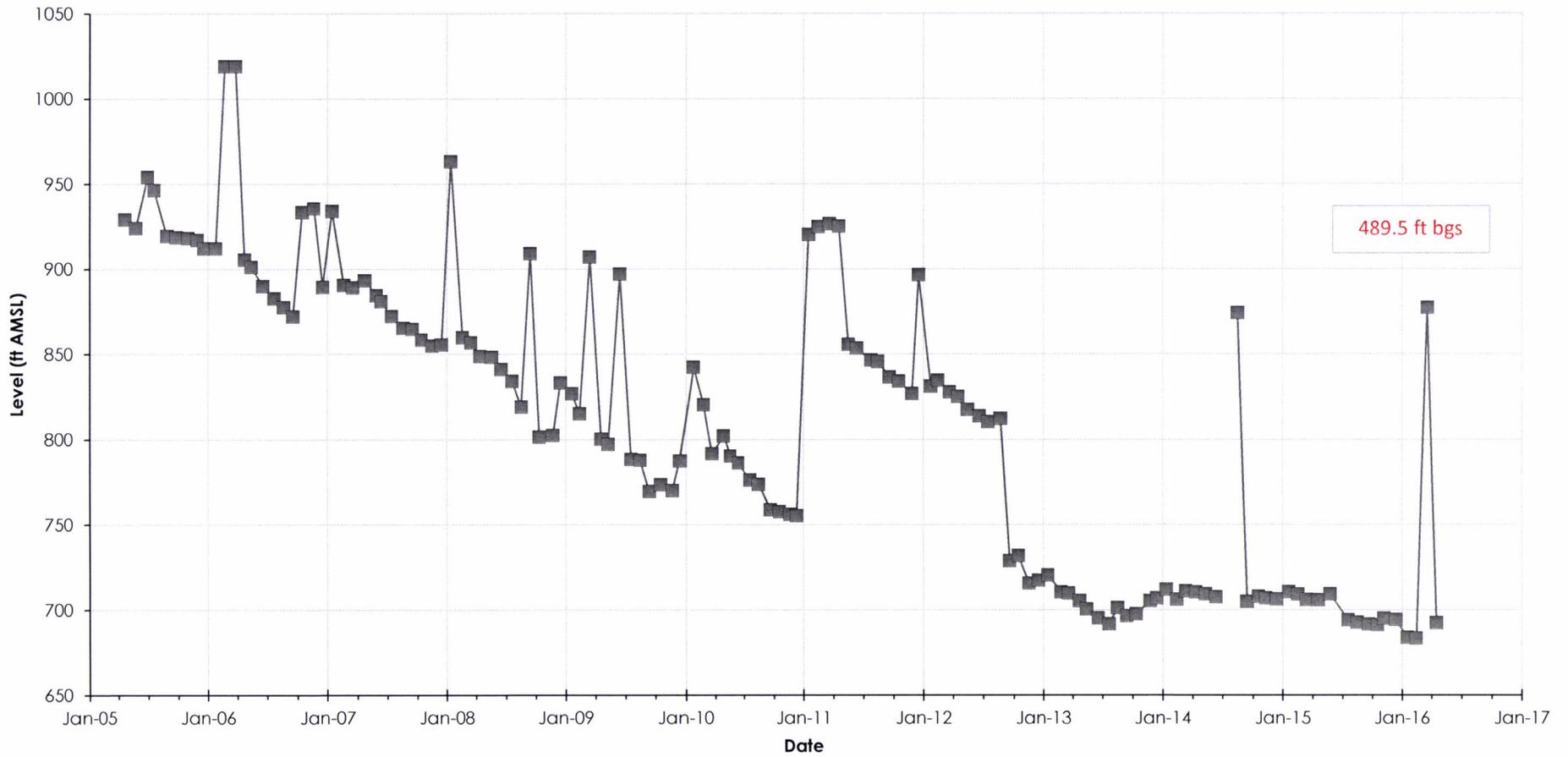
EPA 111

Title

Water Level Elevations



1181.8
Ground
Elev.



Client/Project

Water Level Monitoring Program
City of San Bernardino California

Figure/Well No.

EPA 112

Title

Water Level Elevations



EXHIBIT B

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
Monthly Depth To Water For Wells Maintained By Operations
April 2016

Well Name	State Well Number Rec. Number	Reading Date	Static Depth to Water	Pumping Depth to Water	Ref. Point Elev.	Static WL Elev.	Pumping WL Elev.	Pump Elev.	Static WL- Pump Elev.	Pumping WL-Pump Elev.	Tech	Not Measured/Why	Method
10TH & J ST	01S/04W-B04S 3603207	4/18/2016	253.00	280.00	1112.8	859.8	832.8	762.8	97.0	70.0	JMA	[]	Airline
16TH & SIERRA WAY	01N/04W-34G03 S 3600726	4/18/2016	266.30	280.10	1135.3	869.0	855.2	757.3	111.7	97.9	NH	[]	Electric Wire Sounder
17TH & SIERRA WAY 2	01N/04W-34G01 S 3603208	4/18/2016						766.9	0.0		NH	[X] No Data	Electric Wire Sounder
19TH ST 1	01N/04W-32D03 S 3600717	4/19/2016	341.10		1231.2	890.1		881.2	8.9		NH	[]	Electric Wire Sounder
19TH ST 2	01N/04W-32D04 S 3600718	4/19/2016	347.40	484.50	1236.1	888.7	751.6	616.1	272.6	135.5	NH	[]	Electric Wire Sounder
25TH & NORTH E ST	01N/04W-27M01 S 3600721	4/18/2016	313.20		1192.1	878.9		912.1	33.2		NH	[]	Electric Wire Sounder
27TH & ACACIA	01N/04W-27M02 S 3600720	4/18/2016	300.50	304.80	1183.4	882.9	878.6	843.4	39.5	35.2	NH	[]	Electric Wire Sounder
30TH ST	01N/04W-27G01 S 3600719	4/18/2016	335.30	347.70	1226.8	891.5	879.1	826.8	64.7	52.3	NH	[]	Electric Wire Sounder
31ST ST & MT. VIEW	01N/04W-27B01 S 3602081	4/19/2016	342.20	346.70	1232.3	890.1	885.6	792.3	97.8	93.3	NH	[]	Electric Wire Sounder
40TH & VALENCIA	01N/04W-14P01 3603472	4/20/2016	302.60		1355.0	1052.4		905.0	147.4		NH	[]	Electric Wire Sounder
7TH STREET	01S/04W-03J05 S 3602265	4/18/2016	202.50	209.40	1056.5	854.0	847.1	726.5	127.5	120.6	NH	[]	Electric Wire Sounder
ANTIL 5	01S/04W-02K02 S 3600731	4/18/2016						787.8	0.0		NH	[X] Well Blocked	Electric Wire Sounder

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
Monthly Depth To Water For Wells Maintained By Operations
April 2016

Well Name	State Well Number Rec. Number	Reading Date	Static Depth to Water	Pumping Depth to Water	Ref. Point Elev.	Static WL Elev.	Pumping WL Elev.	Pump Elev.	Static WL- Pump Elev.	Pumping WL-Pump Elev.	Tech	Not Measured/Why	Method
ANTIL 6	01S/04W-02K08 S 3602422	4/18/2016	193.10		1052.5	859.4		777.5	81.9		NH	[]	Electric Wire Sounder
BASELINE & CALIFORNIA	01N/04W-32N01 S 3602400	4/19/2016	330.00	370.00	1184.9	854.9	814.9	799.9	55.0	15.0	AO	[]	Airline
CAJON 2	01N/05W-03HO2 S 3601844	4/19/2016	240.00	245.00	1887.1	1647.1	1642.1	1537.1	110.0	105.0	AO	[]	Airline
CAJON 3	01N/05W-03A02 S 3602821	4/19/2016	211.00	228.00	1894.9	1683.9	1666.9	1537.9	146.0	129.0	AO	[]	Airline
CAJON 4	01N/05W-03A-S G363792	4/19/2016	215.10	230.83	1923.0	1707.9	1692.2	1523.0	184.9	169.2	AO	[]	Electric Wire Sounder
CAJON CANYON	02N/05W-19K02 S 3600710	4/19/2016	69.30	84.20	2328.0	2258.7	2243.8	2178.0	80.7	65.8	AO	[]	Electric Wire Sounder
DEVIL CANYON 1	01N/04W-08M01 S 3600712	4/18/2016	169.23	178.14	1528.9	1359.7	1350.8	1278.9	80.8	71.9	AO	[]	Electric Wire Sounder
DEVIL CANYON 2	01N/04W-07F01 S 3600711	4/18/2016	150.50	163.88	1622.0	1471.5	1458.1	1370.5	101.0	87.6	AO	[]	Electric Wire Sounder
DEVIL CANYON 3	01N/04W-06H02 S 3602206	4/18/2016	28.70		1888.5	1859.8		1853.5	6.3		AO	[]	Electric Wire Sounder
DEVIL CANYON 4	01N/04W-06H01 S 3602205	4/18/2016	45.10	46.22	1903.4	1858.3	1857.2	1848.4	9.9	8.8	AO	[]	Electric Wire Sounder
DEVIL CANYON 5	01N/04W-08M02 S 3602844	4/18/2016	163.42	181.20	1561.7	1398.2	1380.5	1261.7	136.6	118.8	AO	[]	Electric Wire Sounder
DEVIL CANYON 6	01N/04W-06A01 S 3603580	4/18/2016	22.35	33.10	2039.3	2017.0	2006.2	1994.3	22.7	11.9	AO	[]	Electric Wire Sounder

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
Monthly Depth To Water For Wells Maintained By Operations
April 2016

Well Name	State Well Number Rec. Number	Reading Date	Static Depth to Water	Pumping Depth to Water	Ref. Point Elev.	Static WL Elev.	Pumping WL Elev.	Pump Elev.	Static WL- Pump Elev.	Pumping WL-Pump Elev.	Tech	Not Measured/Why	Method
DEVIL CANYON 7	01N/04W-06A02 S 3603579	4/18/2016	22.15	32.00	2041.9	2019.7	2009.9	1996.9	22.8	13.0	AO	[]	Electric Wire Sounder
ELLENA BROTHERS	01N/04W-08P01 S 3602712	4/18/2016	191.30		1476.7	1285.4		1175.7	109.7		AO	[]	Electric Wire Sounder
EPA 001	01S/04W-03D04 S G3603688	4/21/2016		264.70	1093.9		829.2	731.9		97.3	AO	[]	Electric Wire Sounder
EPA 002	01S/04W-03C03 S G3603689	4/21/2016		251.20	1091.7		840.5	791.7		48.8	AO	[]	Electric Wire Sounder
EPA 003	01S/04W-03C04 S G3603690	4/21/2016		260.44	1095.4		834.9	660.4		174.6	AO	[]	Electric Wire Sounder
EPA 004	01S/04W-03B03 S G3603691	4/21/2016		244.70	1086.3		841.6	786.3		55.3	AO	[]	Electric Wire Sounder
EPA 005	01S/04W-03A04 S G3603692	4/21/2016	227.94	235.00	1083.3	855.4	848.3	779.3	76.1	69.0	AO	[]	Electric Wire Sounder
EPA 006	01N/04W-16M03 S G3603693	4/21/2016	195.50		1396.6	1201.1		1096.6	104.5		AO	[]	Electric Wire Sounder
EPA 007	01N/04W-16M04 S G3603694	4/21/2016		213.60	1404.5		1190.9	1144.5		46.4	AO	[]	Electric Wire Sounder
EPA 108	01N/04W-33Q-S G363786	4/21/2016		293.92	1119.3		825.3	654.3		171.1	AO	[]	Electric Wire Sounder
EPA 108S	01N/04W- 33R003S G3603917	4/21/2016		255.62	1119.3		863.6	669.3		194.4	AO	[]	Electric Wire Sounder
EPA 109	01N/04W-33P-S G363787	4/19/2016		378.80	1137.0		758.2	482.0		276.2	JMA	[]	Electric Wire Sounder

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
Monthly Depth To Water For Wells Maintained By Operations
April 2016

Well Name	State Well Number Rec. Number	Reading Date	Static Depth to Water	Pumping Depth to Water	Ref. Point Elev.	Static WL Elev.	Pumping WL Elev.	Pump Elev.	Static WL- Pump Elev.	Pumping WL-Pump Elev.	Tech	Not Measured/Why	Method
EPA 110	01N/04W-33N-S G363788	4/19/2016		398.75	1149.3		750.6	589.3		161.2	JMA	[]	Electric Wire Sounder
EPA 111	01N/04W-32R-S G363789	4/19/2016	287.85		1165.7	877.9		625.7	252.2		JMA	[]	Electric Wire Sounder
EPA 112	01N/04W-32P-S G363790	4/19/2016		489.50	1181.8		692.3	616.8		75.5	JMA	[]	Electric Wire Sounder
GILBERT ST .	01N/04W-35M03 S 3600729	4/19/2016		279.00	1123.5		844.5	783.5		61.0	NH	[]	Electric Wire Sounder
INTER CITY IRRIGATION		4/18/2016			-999.0			-999.0				[X] No Data	
INTER CITY MUTUAL 08	01S/04W-23N 3601316	4/18/2016	149.10		1028.0	878.9		1028.0	0.0		NH	[]	Electric Wire Sounder
IVDA 11	01S/03W-07A06 S 3603649	4/18/2016	226.90		1140.0	913.1		910.0	3.1		NH	[]	Electric Wire Sounder
KENWOOD 1	02N/05W-19R01S 3603471	4/18/2016	108.40	161.13	2350.8	2242.4	2189.7	2027.8	214.6	161.9	AO	[]	Electric Wire Sounder
KENWOOD 2	02N/05W-19R-S G363791	4/18/2016	108.00	124.00	2289.0	2181.0	2165.0	2089.0	92.0	76.0	AO	[]	Electric Wire Sounder
LEROY	01N/04W-27A02 S 3602401	4/18/2016	339.80		1239.7	899.9		859.7	40.2		NH	[]	Electric Wire Sounder
LYNWOOD	01N/04W-26E02 S 3600727	4/19/2016	326.00	335.50	1236.2	910.2	900.7	791.2	119.0	109.5	NH	[]	Electric Wire Sounder
LYTLE CREEK 2	01N/05W-36J01 3603027	4/18/2016			1252.2			722.2	722.2		AO	[X] Blocked	Electric Wire Sounder

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
Monthly Depth To Water For Wells Maintained By Operations
April 2016

Well Name	State Well Number Rec. Number	Reading Date	Static Depth to Water	Pumping Depth to Water	Ref. Point Elev.	Static WL Elev.	Pumping WL Elev.	Pump Elev.	Static WL- Pump Elev.	Pumping WL-Pump Elev.	Tech	Not Measured/Why	Method
LYTLE CREEK 3-1	01N/05W-36R01 3600713	4/18/2016						1247.8	0.0		AO	[X] Depth of Water Exceeds Tape Length	Electric Wire Sounder
MALLORY NO.3	01N/04W-30M01S 3601845	4/18/2016	373.00	379.00	1319.8	946.8	940.8	829.8	117.0	111.0	JMA	[]	Airline
MILL & D	01S/04W-10N06 S 3600737	4/18/2016	108.70	162.50	1001.1	892.4	838.6	711.1	181.3	127.5	NH	[]	Electric Wire Sounder
MT VERNON WATER CO	01N/04W-31A01 S 3600319	4/18/2016	369.22	383.82	1258.8	889.6	875.0	838.8	50.8	36.2	AO	[]	Electric Wire Sounder
NEWMARK 1	01N/04W-16E01 S 3600714	4/18/2016	210.94	209.48	1412.7	1201.8	1203.2	1092.7	109.1	110.5	AO	[]	Electric Wire Sounder
NEWMARK 2	01N/04W-16E02 S 3600715	4/18/2016	206.00	222.00	1405.3	1199.3	1183.3	1065.3	134.0	118.0	AO	[]	Electric Wire Sounder
NEWMARK 3	01N/04W-16E03 S 3600716	4/21/2016		213.40	1406.4		1193.0	1086.4		106.6	AO	[]	Electric Wire Sounder
NEWMARK 4	01N/04W-16E04 S 3602399	4/18/2016	204.70	223.60	1413.6	1208.9	1190.0	1113.6	95.3	76.4	AO	[]	Electric Wire Sounder
OLIVE & GARNER	01S/04W-04D02S 3603206	4/18/2016	260.65	319.80	1132.5	871.9	812.7	682.5	189.4	130.2	JMA	[]	Electric Wire Sounder
PERRIS HILL 4	01N/04W-35C03 S 3601117	4/18/2016	284.50		1168.3	883.8		898.3	14.5		NH	[]	Electric Wire Sounder
PERRIS HILL 5	01N/04W-26P03 S 3601115	4/18/2016	285.00		1173.5	888.5		873.5	15.0		NH	[]	Electric Wire Sounder
SB COUNTY 1-34A	01S/04W-03Q	4/20/2016						47.0	0.0		ED	[X] Dry	Electric Wire Sounder

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
Monthly Depth To Water For Wells Maintained By Operations
April 2016

Well Name	State Well Number Rec. Number	Reading Date	Static Depth to Water	Pumping Depth to Water	Ref. Point Elev.	Static WL Elev.	Pumping WL Elev.	Pump Elev.	Static WL- Pump Elev.	Pumping WL-Pump Elev.	Tech	Not Measured/Why	Method
VINCENT	02N/05W-19Q01 S 3602426	4/19/2016	70.54	86.34	2314.3	2243.8	2228.0	2144.3	99.5	83.7	AO	[]	Electric Wire Sounder
WATERMAN AVE.	01N/04W-27A01 S 3600728	4/18/2016	341.70	350.80	1244.8	903.1	894.0	794.8	108.3	99.2	NH	[]	Electric Wire Sounder

EXHIBIT C

City of San Bernardino Municipal Water Department

Monthly Weather Report

April 2016

Location	Yards			Mill & D	Lytle Creek	Newmark	Devil Canyon
Date	Max Temp deg F	Min Temp deg F	1/100 of an inch increments				
1	80.3	51.2	0.00	0.00	0.00	0.00	0.00
2	88.2	54.7	0.00	0.00	0.00	0.00	0.00
3	89.3	58.0	0.00	0.00	0.00	0.00	0.00
4	88.6	59.0	0.00	0.00	0.00	0.00	0.00
5	94.6	58.4	0.00	0.00	0.00	0.00	0.00
6	100.4	61.5	0.00	0.00	0.00	0.00	0.00
7	72.2	62.1	0.00	0.00	0.00	0.01	0.00
8	66.4	58.9	0.11	0.11	0.02	0.16	0.09
9	68.4	59.4	0.02	0.01	0.00	0.10	0.07
10	69.7	58.9	0.09	0.06	0.02	0.00	0.00
11	77.0	59.5	0.00	0.00	0.00	0.00	0.00
12	79.6	55.7	0.00	0.00	0.00	0.00	0.00
13	79.6	55.6	0.00	0.00	0.00	0.00	0.00
14	76.8	56.1	0.00	0.00	0.00	0.00	0.00
15	80.1	54.1	0.00	0.00	0.00	0.00	0.00
16	85.2	65.8	0.00	0.00	0.00	0.00	0.00
17	89.8	57.8	0.00	0.00	0.00	0.00	0.00
18	94.4	58.5	0.00	0.00	0.00	0.00	0.00
19	92.3	60.5	0.00	0.00	0.00	0.00	0.00
20	91.4	58.1	0.00	0.00	0.00	0.00	0.00
21	89.6	59.7	0.00	0.00	0.00	0.00	0.00
22	81.6	58.1	0.00	0.00	0.00	0.00	0.00
23	80.9	59.9	0.00	0.00	0.00	0.00	0.00
24	79.6	56.9	0.00	0.00	0.00	0.00	0.00
25	68.2	51.6	0.51	0.38	0.39	0.15	0.11
26	74.5	47.6	0.01	0.00	0.00	0.00	0.00
27	74.8	53.5	0.00	0.00	0.00	0.00	0.00
28	70.2	52.7	0.00	0.00	0.01	0.15	0.18
29	75.8	52.9	0.00	0.00	0.00	0.00	0.00
30	69.5	54.3	0.30	0.24	0.37	0.22	0.17
31							
	Max	Min					
TOTALS	100.4	47.6	1.04	0.80	0.81	0.79	0.62
YTD			5.87	5.26	5.98	5.20	6.89

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

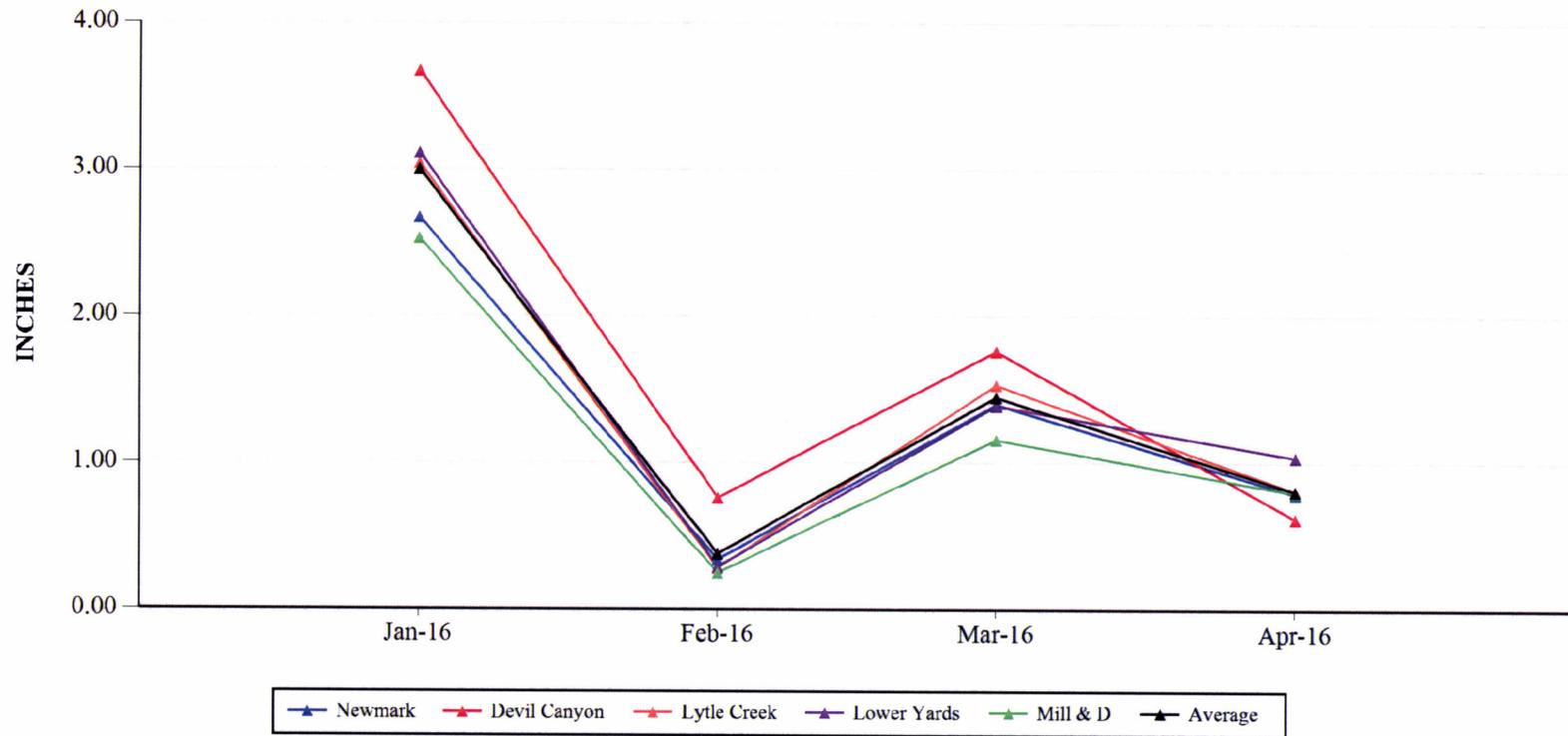
CALENDAR YEAR 2016
RAIN READS

DATE	MILL & D	LOWER YARDS	D.C.	L.C.	NEWMARK	AVERAGE
Jan-16	2.53	3.11	3.67	3.04	2.67	3.00
Feb-16	0.25	0.29	0.76	0.28	0.34	0.38
Mar-16	1.16	1.39	1.76	1.53	1.40	1.45
Apr-16	0.80	1.04	0.62	0.81	0.79	0.81
TOTAL	4.74	5.83	6.81	5.66	5.20	5.65

All values are in inches

MICHAEL GARLAND
Water Utility
Operations Superintendent

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT
RAINFALL
CALENDAR YEAR 2016



**CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT**

APR 28 2016

**BOARD OF WATER COMMISSIONERS
STAFF REPORT**

TO: Stacey R. Aldstadt, General Manager
FROM: Terri A. Willoughby, Director of Finance
SUBJECT: WATER RATE ADJUSTMENT PRESENTATION
DATE: April 28, 2016

BACKGROUND:

On January 5, 2010, the Board of Water Commissioners approved a three-step water rate increase, the last of which was effective January 1, 2012. As part of staff's FY 2013/14 budget presentation, staff expressed the need to establish updated water revenue requirements.

In June 2013, the Department retained SAIC Energy, Environment & Infrastructure, LLC, now known as Leidos, a nationally recognized utility engineering and rate consulting firm, to, among other tasks, update revenue requirements for the water fund. In 2014, the Board approved an additional contract with FG Solutions, a firm organized by the former principal of Leidos to complete an update of the rate study. In 2015, staff directed Leidos to rework the rate structure so that the Minimum Monthly Charge more fully covers the Water Utility's fixed costs. This change in structure is necessary to stabilize the Utility's revenue stream, in light of decreasing usage from mandated conservation. Adjustments were also made to the conservation charge based on expected increases in the cost of water production.

The concept of the change in rate structure was presented to the Board of Water Commissioners earlier in the year and was discussed as part of the Board's strategic planning session. The attached Water Rate Study represents a gradual shift to a higher fixed component (Minimum Monthly Charge) while still maintaining appropriate incentives through assessment of the Conservation Charge which will assist the Department in meeting its conservation mandates. The revised structure would gradually increase revenue recovery from the fixed component from 32 percent (current level) to approximately 50 percent within a six-year period.

At their April 19, 2016 meeting, the Board of Water Commissioners reviewed the information and requested that a detailed presentation be made at their next meeting. Staff has prepared a detailed presentation and engaged our consultant, FG Solutions, to attend to discuss the process of developing the rates.

DISCUSSION:

Attachment "A" contains a Water Rate Study conducted by FG Solutions, which summarizes projected water revenue requirements for six years (FY 2016-2021), documents fiscal policy issues that affect the revenue requirements, and provides detailed support calculations. The study balances the need to meet key financial targets with the need to minimize impacts to ratepayers.

FG Solutions reviewed historical operating expenses, existing assets, existing debt service, projected expenditures, potential financing strategies, required capital improvements, local economic factors and system revenues, both historic and projected. The revenue requirement analysis was an iterative process and draft versions were revised based on comments and input provided by staff. Next, the revenue requirement was compared with the revenues generated by the existing rates to calculate the amount of additional revenues needed from rate increases. In general, rate increases were minimized while meeting reserve and debt service coverage requirements. The table below shows the overall impact of the proposed rate adjustments on the average residential customer.

Average Monthly Bill		Proposed		
Hcf/month	Current	FY 16/17	FY 17/18	FY 18/19
16	\$35.59	\$39.11	\$43.07	\$47.36
Annual % Increase		10%	10%	10%

The results of the analysis include:

1. A recommendation to increase the Minimum Monthly Charge incrementally as shown in Table 11 of the attached report. For the majority of residential customers, the Minimum Monthly Charge would increase from the current rate of \$12.90 to \$16.09 effective in 2016, \$19.58 effective July 1, 2017 and \$23.39 effective July 1, 2018. This meets the Department's debt service coverage and funds required capital projects while maintaining an appropriate level of cash.
2. A recommendation to increase the Replenishment Charge from the current \$.09 per hcf to \$.11 per hcf effective in 2016; \$.14 per hcf effective July 1, 2017, and \$.17 per hcf effective July 1, 2018. These increases are necessary to accommodate projected increases in the cost of State Water Project water.
3. A recommendation to increase the Conservation Charge from \$.35 per hcf to \$.49 per hcf effective in 2016. No subsequent increases are proposed.

The information presented in the report supports the following staff recommendations:

Staff recommends:

1. A three-step adjustment in the Minimum Monthly Charge as reflected in Attachment B, effective in 2016, July 1, 2017 and July 1, 2018. For the majority of residential customers, the Minimum Monthly Charge will increase from the current \$12.90 to \$16.09 effective in 2016, \$19.58 effective July 1, 2017 and \$23.39 effective July 1, 2018.
2. A three-step adjustment to the Replenishment Charge per HCF: \$.02 in 2016; \$.05 on July 1, 2017 and \$.03 on July 1, 2018.
3. A one-time adjustment to the Conservation Charge from \$.35 to \$.49 per HCF effective in 2016.

The Department has developed the following timeline for adoption of the adjustment for water fees and charges.

January 19, 2016	Board of Water Commissioners Strategic Planning Session
February 16, 2016	Board of Water Commissioners Presentation
April 19, 2016	Board of Water Commissioners – First Review of Study
May 17, 2016	Board of Water Commissioners Workshop on Water Rates
TBD	Citizen's Rate Review Committee Meeting
June 1, 2016	Public notification of rate adjustment hearing
July 19, 2016	Public Hearing and rate adoption
August 1, 2016	Rate implementation

RECOMMENDATION:

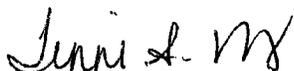
Staff recommends that the Board of Water Commissioners make the following motion:

Approve the date of July 19, 2016 for a Public Hearing to be held in the Council Chambers at 10:00 a.m. to hear public comments relative to the proposed water rate increases, and authorize staff to send official notices of the proposed rates and notices of Public Hearing to all property owners;

Or

Continue discussion on this item until the next Regular Board of Water Commissioners Meeting on June 7, 2016, at 9:30 a.m.

Respectfully submitted,



Terri A. Willoughby
Director of Finance

Attachment A: FG Solutions Water Rate Study
Attachment B: Proposed three-step rate schedule

Water Rate Study

City of San Bernardino Municipal Water Department



April 2016



Water Rate Study

City of San Bernardino Municipal Water Department



April 2016



This report has been prepared for the use of the client for the specific purposes identified in the report. The conclusions, observations and recommendations contained herein attributed to FG Solutions, LLC constitute the opinions of FG Solutions, LLC. To the extent that statements, information and opinions provided by the client or others have been used in the preparation of this report, FG Solutions, LLC has relied upon the same to be accurate, and for which no assurances are intended and no representations or warranties are made. FG Solutions, LLC makes no certification and gives no assurances except as explicitly set forth in this report.

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Water Rate Study

City of San Bernardino Municipal Water Department

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WATER RATE STUDY

Background

The City of San Bernardino Municipal Water Department (“Department”) provides services to approximately 46,000 connections throughout the City of San Bernardino. The Department is a semi-autonomous agency governed by a five-member Board of Water Commissioners (“BOWC”).

As part of its ongoing management of the water system, the Department has recognized the need to evaluate expenditures, revenues, and water rates to ensure that the Department can continue to provide safe and reliable water service.

Since the most recent water rate study was completed in approximately 2010, there have been ongoing changes in the Department’s water system, and the Department seeks to update its water rate schedule. In 2013, the Department hired Leidos Engineering, LLC (“Leidos”) to complete this update. In 2014, the Leidos project manager founded FG Solutions, LLC (“FG Solutions”), and subsequently, the Department hired FG Solutions to complete the project.

The results of this Study are summarized in this report, the purposes of which are:

- To summarize the projected water revenue requirements for the six-year study period for fiscal years (“FY”) 2015/16 through 2020/21¹.
- To show a proposed schedule of water rates effective for FY 2016/17 through FY 2018/19 for BOWC consideration.
- To outline potentially changing conditions with financial implications and recommendations for ongoing monitoring of these items.

Methodology and Key Assumptions

To provide for the continued operation of a utility on a sound financial basis, revenues must be sufficient to meet the cash requirements for operation and maintenance (O&M) expense, debt service requirements, debt service coverage requirements, reserves, and cash funded capital expenditures not financed with debt. The sum of these cost components for a given year is referred to as a utility’s revenue requirement.

Historical and budgeted financial and operational data were provided by the Department and used by FG Solutions to develop the projected revenue requirement for the six-year study period. The revenue requirement analysis was an iterative process and draft versions were revised based on comments and input provided by

¹ The Department’s fiscal year begins on July 1. Although FY 15/16 is nearly over as of the date of this report, the results of this Rate Study depend on data from FY 15/16.

Department staff. Next, the revenue requirement was compared with the revenues generated by the existing rates to generate additional revenues needed from rate increases. The reserve requirements, described below, are met in the later years of the six-year projection period as the proposed rates were developed to generate these reserve levels over time.

Key assumptions used in this Study are listed below. Additional assumptions are provided in the printout of the rate calculations that comprise Appendix A.

Expenses

- Projected O&M expenditures are primarily based on the Department's FY 15/16 budget, and some specific adjustments to the Department's budget were made based on other known or anticipated conditions. Additional detail for O&M expense projections is included in later sections of this report.
- Inflation projected at 2.1 percent per year, unless otherwise noted.
- Projected capital expenditures through FY 20/21 were obtained from the Department's Water Capital Improvement Program ("CIP") provided in February 2016.
- Debt issuances are sized and timed to fund the projected capital expenditures and balance the magnitude of projected rate increases, reserve accounts, and Debt Service Coverage Ratio ("DSCR") values. Additional detail is found below.

Revenue Assumptions

- Projected water rate revenues for FY 15/16 are based on an analysis of past and present water consumption and revenues. An account-by-account analyses of water consumption patterns was completed to project water revenues.
- Systemwide customer growth of 1% per year.
- No change in per-connection water consumption compared with FY 15/16.
- Non-rate revenues are based on the Department's FY 15/16 budget with adjustments made where appropriate based on review of year to date FY 15/16 revenues.
- The following two types of revenues are projected to increase with inflation: (a) revenue from the Sewer Fund as reimbursement for certain administrative services initially funded by the Water Fund, and (b) reimbursement for certain Department non-capital expenses associated with the Consent Decree.

Policy Assumptions

The proposed water rates are influenced by the financial policy targets shown in Table 1. The Reserve Policy has been adopted by the BOWC. The other policies in Table 1 have not been formally adopted by the Department, but were used in the development of the adopted rate structure.

Table 1
Financial Policies

Policy Issue	Importance of Financial Policy	Financial Policy Target
Debt Service Coverage Ratio (DSCR)	A minimum DSCR is a requirement of lenders. Exceeding the minimum DSCR provides additional flexibility for the Department to accommodate changing conditions such as unanticipated expenses and may help the Department obtain more favorable future debt terms.	A 1.75 minimum for ratemaking purposes is used to ensure sufficient revenue is collected to cover debt service expenditures. This ratio is expected to exceed the requirements in existing and/or future debt covenants. Department staff report that existing debt covenants specify a 1.1 minimum.
Amount of Future Debt Issued	A pay-as-you-go capital funding strategy (without issuing debt) requires higher up-front rate increases but decreases future costs.	Debt is issued to fund certain capital improvements, as described below.
Reserve Balance	Reserves provide more flexibility for the Department to react to changing conditions with financial implications (such as changes in capital costs, development activity, or the economy).	Described in further detail below.

Revenue Projections

Revenue projections are a critical part of the revenue requirement analysis. The three aspects of revenue projections described in the sections below are non-rate revenues, rate revenues under the current rate schedule (effective since January 1, 2012), and rate revenues from proposed rate increases.

Non-Rate Revenues

The key sources of water revenues other than water rates are the following:

- **Interest Income.** The Department invests its capital and operating reserves and earns interest income on these reserves. For the remainder of the Study period, annual interest income is estimated to be 2.0 percent of Water Fund reserves.
- **Other Operating Revenues.** The Department is projected to receive approximately \$2.0 million per year in other operating revenues. These revenues include:
 - **Service Charges.** Examples of Service Charges include connection charges, customer application fees, and disconnection fees.
 - **Administrative Services - Sewer.** This is a reimbursement from the Sewer Fund for certain administrative services provided for the sewer utility but originally paid for by the Water Fund.
 - **Other Sources.** Additional revenue sources are broken lock charges, returned check charges, backflow protection administration fees, plan check fees,

hydroelectric generation revenues, and income from other services provided by the Department.

- **Capital Grants.** The Department aggressively pursues grant funding for capital projects. Grant funding is competitive and is difficult to obtain. No further grant funding is incorporated into this Study to avoid developing water rates based on funding that is not guaranteed. Any future grant funding the Department receives will help reduce the rate impacts of capital projects.
- **Consent Decree.** A Consent Decree was awarded through judgment by the United States District Court to settle the City's and the State's claims arising from the groundwater contamination allegedly caused by the U.S. Army. The Consent Decree contains a number of provisions obligating the City to operate and maintain the Newmark Groundwater Superfund site. The City (through the Department) is reimbursed for certain O&M and capital costs.
- **Non-Operating Income.** The Department receives additional revenues from the following: interest income, as described above; rental income, primarily from communication services providers; acquisition fees; and service installation fees.

In most cases, non-rate revenues are projected to be equal to the FY 15/16 budget and remain at that level through the six-year rate study period. Some revenues, such as the administrative services from sewer, are projected to increase with inflation. Some revenues were adjusted for FY 15/16 only based on a review of actual year-to-date performance, with the Department's expectation that subsequent years will more closely resemble the FY 15/16 budget.

Additional detail of projected non-rate revenues is included in Appendix A.

Rate Revenues under Current Rates

Rates that became effective on January 1, 2012 are shown in Table 2. These rates are used to project the revenues found in the Department's FY 15/16 budget. In this Study, projected water rate revenues for FY 15/16 are based on an analysis of past and present water consumption and revenues. An account-by-account analyses of water consumption patterns was completed to project water revenues.

There are several components to the Department's water rates:

- **Minimum Monthly Charge.** This charge is the same for each customer class, and varies depending on meter size. For a 1/2-inch meter, the Minimum Monthly Charge is \$12.90.
- **Commodity Charge.** Most customers pay a Commodity Charge of \$1.15 per hundred cubic feet ("hcf") of water use. Some customers who have prior agreements with the Department pay a reduced amount.
- **Replenishment Charge.** In addition to the Commodity Charge, customers pay a \$0.09 per hcf Replenishment Charge, which is used to fund additional purchases of State Water Project ("SWP") water for aquifer replenishment purposes.

- **Conservation Charge.** In 2010, the Department implemented a two-tier commodity charge rate. As described above, the Commodity Charge is applied to all water use. Above a certain amount of usage (as shown in Table 2, and which varies by water meter size), an additional \$0.35 per hcf Conservation Charge is applied.
- **Elevation Charge.** The Department serves customers at a variety of elevations and in numerous pressure zones. As a result, the costs to pump water varies throughout the Department's service area. The Department applies an Elevation Charge to all water use that depends on geographic location. The Elevation Charge ranges from \$0.11 to \$0.23 per hcf.

The Minimum Monthly Charge is an example of a fixed charge, that does not depend on water use. The Commodity Charge, Replenishment Charge, Conservation Charge, and Elevation Charge are examples of variable charges that depend on water use. In FY 15/16, approximately 31 percent of the Department's water sales revenues is expected to come from fixed charges.

Table 2
Current Water Rate Schedule

Line	Customer Type	Unit	Existing Rate (1)
1	Single Family Residences, Multiple Family Connections, Commercial, Landscape, and Industrial Service Minimum Monthly Charge		
3	1/2 " & 5/8" meter	per Month	\$12.90
4	3/4" meter	per Month	\$16.15
5	1" meter	per Month	\$22.60
6	1 1/2" meter	per Month	\$38.80
7	2" meter	per Month	\$58.20
8	3" meter	per Month	\$103.50
9	4" meter	per Month	\$158.20
10	6" meter	per Month	\$330.00
11	8" meter	per Month	\$524.15
12	10" meter	per Month	\$750.65
13			
14	Commodity Charge	per HCF	\$1.15
15			
16	Replenishment Charge	per HCF	\$0.09
17			
18	Assessment Districts	per HCF	\$0.45
19			
20	Conservation Charge and Tiers		
21	Conservation Charge	per HCF	\$0.350
22	Conservation Tiers (cutoff) (2)		
23	Residential	HCF per Month	32
24	MDU (2 per unit)	HCF per Month	42
25	MDU (2+) per unit	HCF per Month	17
26	Non-Residential		
27	1/2 " & 5/8" meter	HCF per Month	24
28	3/4" meter	HCF per Month	36
29	1" meter	HCF per Month	65
30	1 1/2" meter	HCF per Month	150
31	2" meter	HCF per Month	250
32	3" meter	HCF per Month	740
33	Commercial		
34	1/2 " & 5/8" meter	HCF per Month	42
35	3/4" meter	HCF per Month	55
36	1" meter	HCF per Month	130
37	1 1/2" meter	HCF per Month	275
38	2" meter	HCF per Month	445
39	3" meter	HCF per Month	875
40	4" meter	HCF per Month	2,400
41	6" meter	HCF per Month	9,000
42			
43	Elevation Charge (all water users)		
44	Zone 1	per HCF	\$0.11
45	Zone 2	per HCF	\$0.19
46	Zone 3	per HCF	\$0.17
47	Zone 4	per HCF	\$0.14
48	Zone 5	per HCF	\$0.23
49	Zone 6	per HCF	\$0.23
50			
51	Additional Charges		
52	Surcharge - Area Outside City (no Zone)	% of \$/hcf	50%
53	Unmetered Construction Rate	per Month	\$50.00

Notes:

(1) Source: City of San Bernardino Municipal Water Department Rule and Regulation No. 21

General Water Service/Water Rates. Rates effective January 1, 2012. HCF means hundred cubic feet.

(2) The Conservation Charge is applicable to water use exceeding the cutoff value.

Table 3 summarizes water rate revenues under the current rate schedule. Shown in this table are FY 13/14 actual revenues, the FY 14/15 budget, and projected for FY 15/16. The majority of rate revenues are labeled as “Water Sales – Regular” which consists of the Minimum Monthly Charge and the Commodity Charge. The revenues from the Replenishment Charge, Conservation Charge, and Elevation Charge are also shown in Table 3. The Department receives smaller amounts of revenue from fire service charges, sales to other municipalities, and from sales through the Encanto Booster Station.

Table 3
Rate Revenues under Current Rates

Type of Rate Revenue	Historical FY 2013/14	Budget FY 2014/15	Projected FY 2015/16
Water Sales - Regular	\$27,562,842	\$27,600,000	\$22,325,518
Replenishment Fee	1,701,462	1,700,000	1,155,468
Water Conservation Charge	1,192,046	1,200,000	1,140,000
Elevation Charge	2,820,407	2,800,000	2,036,160
Water Sales - Fire Service	461,679	460,000	464,600
Water Sales - Municipal	914,016	900,000	548,000
Geothermal Heat Sales	140,314	140,000	90,000
Water Sales - Geothermal	20	0	0
Water Sales - Other	683,897	600,000	120,000
Total: Rate Revenue	\$35,476,683	\$35,400,000	\$27,879,746

The projected FY 15/16 revenues are less than previous amounts because water consumption patterns are different from those of FY 13/14.

The average consumption per single-family residential connection decreased from 21 hcf/month in 2013 to 16 hcf/month in 2015.

Rate Revenues from Proposed Rate Increases

Rate revenues resulting from proposed rate increases are shown later in this report.

Expense Projections

O&M Expenses

Operation and maintenance (“O&M”) expenses for FY 14/15 were obtained from the Department, as was the FY 15/16 budget. These records, along with conversations with Department staff, were used to identify any significant deviations in O&M expenses compared with the Department’s FY 15/16 budget.

Table 4 shows the basis for projection of O&M expenses for the Study period, and beyond. Additional detail is included in the Appendix and a summary of O&M expenses by Department section is shown in Table 5.

Table 4
O&M Expenses – Basis for Projection

Type of Expense	FY 15/16 Projection	Succeeding Years	Notes
All Expenses Not Described Below	FY 15/16 Budget	Previous Year + Inflation	
Personnel Costs	FY 15/16 Budget - Vacancies	Previous Year + Infl; Fill Vacancies	1
PERS	% of Salary times Actuarial Projections	% of Salary times Actuarial Projections	2
Customer Relations and Billing	FY 15/16 Budget	Previous Year + Inflation + Growth	3
Electricity	FY 15/16 Budget	Previous Year + Inflation + Growth	3
Chemicals	FY 15/16 Budget	Previous Year + Inflation + Growth	3
City-Provided Services	Per 2015 Agreement	Per 2015 Agreement	4
Supplemental Water Purchases	Calculated: Rate * Sales	Calculated: Rate * Sales	5
Water Loss Management	FY 15/16 Budget	Less Non-Recurring \$	6

Notes:

1. There are a number of budgeted, but unfilled, positions within the Water Division. The cost of vacant positions is excluded from financial projections, and it is assumed that the vacancies will be filled during FY 16/17 and 17/18, with some level of vacancies occurring on an ongoing basis in subsequent years.
2. PERS projections were obtained from CalPERS actuarial data provided by the Department. Generally, PERS costs are increasing faster than inflation.
3. In addition to inflation, these expenses are projected to increase with growth at a rate of 1% per year.
4. The Department and the City negotiated an agreement that defines these costs through FY 15/16. For the purposes of this rate study, payments in future years are not projected to change.
5. Supplemental water purchase costs are projected to equal Replenishment Charge revenues. Replenishment Charge revenues are discussed in more detail below.
6. Certain expenses in the FY 15/16 are expected to be non-recurring after FY 16/17.

As shown in Table 5, the majority of O&M expenses pay for services provided by the Department’s Administrative Services and Water Utility Divisions. The Water Fund also pays for a portion of the Electrical, Instrumentation, and SCADA Section which is housed in the Department’s Water Reclamation Division.

Overall, O&M expenses through FY 20/21 are projected to increase at an average rate of 3.8 percent per year. This is higher than the projected 2.1% annual inflation rate. Although most expenses are projected to increase at the rate of inflation, several factors cause the projected increases that exceed inflation:

- Increase in supplemental water purchase costs from \$250,000 in FY 14/15 to over \$2,000,000 per year by FY 20/21 to provide resources to purchase over 12,000 acre-feet per year and accommodate increases in water purchase costs from the Department’s respective SWP Contractor, San Bernardino Valley Municipal Water District (“Valley District”). This is the most significant reason that projected increases in O&M expenses exceed the rate of inflation.
- Additional personnel costs after vacant positions are filled.
- PERS expenses that increase faster than inflation.
- Some expenses, such as billing expenses, that are also projected to increase with customer growth.

**Table 5
Projected Operation and Maintenance Expenses**

Line	Division and Section	Section Number	Projected					
			FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
1	Administration Division							
2	Board of Water Commissioners	1010	\$59,300	\$60,540	\$61,800	\$63,100	\$64,420	\$65,780
3	Administration	1050	516,297	530,280	544,080	558,080	572,420	584,440
4	Administration Services	1055	188,708	195,800	202,570	209,380	216,400	220,940
5	Environmental and Regulatory Compliance	1060	573,245	592,210	610,500	628,980	647,970	661,570
6	Human Resources	1070	196,551	203,270	209,730	216,260	222,970	227,650
7	Finance	2010	607,799	627,550	646,640	665,930	685,760	700,150
8	Information Technology	2030	852,278	876,220	899,740	923,590	948,040	967,950
9	Purchasing, Warehouse & Fleet	2040	340,022	351,540	362,620	373,820	385,310	393,400
10	Fleet	2045	962,542	985,470	1,008,450	1,031,840	1,055,770	1,077,950
11	Customer Relations	2050	187,107	200,050	208,520	217,210	226,240	233,310
12	Water Conservation	2055	290,898	298,260	305,590	313,040	320,660	327,390
13	Customer Service	2060	837,963	866,930	894,760	922,870	951,760	971,740
14	Billing	2070	792,711	821,990	850,280	879,370	909,470	937,850
15	Cashiering	2080	305,662	316,620	327,110	337,700	348,580	355,910
16	Field and Meter Services	2090	1,053,341	1,090,750	1,126,630	1,162,810	1,200,040	1,225,240
17	General Administration Expense	2510	5,373,500	5,440,400	5,508,700	5,578,430	5,649,640	5,722,350
18	Subtotal Administration Division		\$13,137,924	\$13,457,880	\$13,767,720	\$14,082,410	\$14,405,450	\$14,673,620
19								
20	Water Utility Division							
21	Water Utility Administration	3010	\$608,904	\$627,470	\$645,530	\$663,830	\$682,610	\$696,930
22	Distribution Administration	3020	447,789	463,740	479,030	494,450	510,310	521,030
23	Distribution Service and Repair	3021	2,426,614	2,500,980	2,573,310	2,646,510	2,721,660	2,778,810
24	Distribution Maintenance	3023	2,144,349	2,212,050	2,277,710	2,344,110	2,412,290	2,462,950
25	Water Loss Management	3024	387,239	145,880	150,330	154,830	159,450	162,600
26	Water Administration	3040	347,178	359,500	371,320	383,250	395,510	403,820
27	Production and Treatment	3041	7,585,781	8,119,841	8,737,672	9,369,113	9,881,757	10,119,910
28	Plant and Facility Maintenance	3042	1,162,342	1,196,710	1,230,280	1,264,260	1,299,150	1,326,430
29	Specialty Construction	3043	683,065	706,630	729,290	752,160	775,680	791,970
30	Engineering	3060	1,394,057	1,423,330	1,453,210	1,483,740	1,514,900	1,546,710
31	Quality and Backflow	3063	1,257,467	1,296,950	1,335,260	1,374,010	1,413,790	1,443,480
32	Subtotal, Water Utility Division		\$18,444,785	\$19,053,081	\$19,982,942	\$20,930,263	\$21,767,107	\$22,254,640
33								
34	Water Reclamation Division							
35	Electrical, Instrumentation, and SCADA	4042	\$582,160	\$603,130	\$623,210	\$643,440	\$664,270	\$678,210
36	Subtotal Water Reclamation Division		\$582,160	\$603,130	\$623,210	\$643,440	\$664,270	\$678,210
37								
38	Adjustment for Vacancies		(\$1,480,000)	(\$1,110,000)	(\$600,000)	(\$600,000)	(\$600,000)	(\$600,000)
39								
40	Total, O&M Expenses		\$30,684,869	\$32,004,091	\$33,773,872	\$35,056,113	\$36,236,827	\$37,006,470

Capital Improvements and Capital Improvement Funding

The Department provided its Capital Improvement Plan (“CIP”), covering the years through FY 20/21. This CIP contains 60 projects incorporated into this Study, and in Table 6, the projects are grouped into one of five categories shown in the table.

**Table 6
Projected Capital Improvements**

Capital Expenditure Category	Projected						FY 15/16-20/21	Notes
	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	Total	
Total Capital Expenditures, FY 15/16 Dollars								1
Replacement/Rehabilitation Assets	\$4,142,000	\$7,352,000	\$11,312,000	\$9,047,000	\$5,537,000	\$2,047,000	\$39,437,000	
New System Assets	3,457,000	5,045,000	395,000	4,045,000	395,000	5,895,000	19,232,000	
Generators	0	300,000	300,000	300,000	300,000	0	1,200,000	
Rolling Stock	145,000	145,000	330,000	0	0	0	620,000	
Pipeline Construction Crew	0	500,000	500,000	500,000	500,000	500,000	2,500,000	
Subtotal, Capital Expenditures, FY 15/16 Dollars	\$9,142,500	\$14,740,500	\$14,235,500	\$15,290,500	\$8,130,500	\$9,840,500	\$71,380,000	
Total Capital Expenditures, Inflation Adjusted Dollars								2
Replacement/Rehabilitation Assets	\$4,142,000	\$7,506,000	\$11,792,000	\$9,629,000	\$6,017,000	\$2,271,000	\$41,357,000	
New System Assets	3,457,000	5,151,000	412,000	4,305,000	429,000	6,541,000	20,295,000	
Generators	0	306,000	313,000	319,000	326,000	0	1,264,000	
Rolling Stock	145,000	148,000	344,000	0	0	0	637,000	
Pipeline Construction Crew	0	511,000	521,000	532,000	543,000	555,000	2,662,000	
Subtotal, Capital Expenditures, Inflation Adjusted Dollars	\$9,142,500	\$15,050,000	\$14,840,000	\$16,273,000	\$8,834,000	\$10,919,000	\$75,058,500	

Notes:

(1) Source: Department's CIP, excluding projects funded by non-Department agencies or developers.

(2) Projected inflation rate of 2.1 percent per year.

The majority of projected capital expenditures are either the replacement or rehabilitation of existing assets, or construction of new system assets. The Department also plans to replace eight of its portable generators by FY 19/20. Rolling stock expenditures for vehicles are also projected, as is the implementation of a pipeline construction crew to complete pipeline construction projects in-house.

The CIP provided by the Department was in FY 15/16 dollars, and Table 6 shows how inflation was applied to develop projected capital expenditures used in this rate study.

Not included in this rate study are Department projects that are funded by outside agencies or that are funded by developers, since these capital projects do not affect water rates.

The Department anticipates issuing debt to fund much of this CIP. In general, debt issuances are sized and timed to fund the CIP and minimize rate increases. The anticipated debt proceeds would fund approximately 69 percent of the estimated capital project cost through FY 20/21. Debt service payments would be paid through rate revenue and other non-rate revenues.

Existing and Projected Debt Service

Table 7 shows existing debt service, consisting of three California Infrastructure and Economic Development Bank (“CIEDB”) loans and notes payable to Valley District. Existing debt service is currently approximately \$2.3 million per year which drops to approximately \$2.1 million year in FY 17/18.

**Table 7
Existing and Projected Debt Service Payments**

Line	Existing Debt Service	Type of Payment	Projected					Notes	
			FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20		FY 20/21
1	2002 CIEDB	Principal	\$594,440	\$614,290	\$634,810	\$656,010	\$677,930	incl. in total	1
2	2007 CIEDB	Principal	492,780	506,130	519,850	533,940	548,400	incl. in total	1
3	2012 CIEDB	Principal	435,110	446,470	458,120	470,080	482,350	incl. in total	1
4	2002 CIEDB	Interest/Annual Fee	\$153,710	\$133,850	\$113,340	\$92,138	\$70,218	incl. in total	1
5	2007 CIEDB	Interest/Annual Fee	179,754	166,219	152,317	138,060	123,600	incl. in total	1
6	2012 CIEDB	Interest/Annual Fee	233,468	221,963	210,158	197,920	185,650	incl. in total	1
7	SBVMWD Note Payable	Principal and Interest	229,227	229,227	0	0	0	incl. in total	1
8	Total, Existing Debt Service		\$2,318,489	\$2,318,149	\$2,088,595	\$2,088,148	\$2,088,148	\$2,088,148	
9									
10	Debt Service For use in DSCR Calculations		\$2,089,262	\$2,088,922	\$2,088,595	\$2,088,148	\$2,088,148	\$2,088,148	2

Line	Proposed Debt Service	Issue Date	Amount	Interest Rate	Total Principal and Interest Payment							
					FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20		FY 20/21
11	CIEDB	16/17	\$10,000,000	3.5%			773,200	773,200	773,200	773,200	773,200	3
12	CIEDB	18/19	\$10,000,000	3.5%				781,790	781,790	781,790		3
13	Revenue Bond/Private Placement	16/17	\$0	6.0%			0	0	0	0	0	3
14	Revenue Bond/Private Placement	17/18	\$13,000,000	6.0%			1,035,000	1,035,000	1,035,000	1,035,000		3
15	Revenue Bond/Private Placement	18/19	\$4,000,000	6.0%				318,460	318,460	318,460		3
16	Revenue Bond/Private Placement	19/20	\$7,000,000	6.0%					557,310	557,310		3
17	Revenue Bond/Private Placement	20/21	\$8,000,000	6.0%						636,920		3
18	Total				\$0	\$773,200	\$1,808,200	\$2,908,450	\$3,465,760	\$4,102,680		

Notes:

- (1) Source: Department's FY 14/15 Comprehensive Annual Financial Report. Annual expenses are available through FY 19/20, and starting in FY 20/21 are grouped into five-year totals. For this analysis, FY 20/21 debt service payments are assumed to equal FY 19/20
- (2) In SBVMWD Note Payable appears to be not included in the debt service coverage ratio calculation in the Department's Financial Statements.
- (3) Issuance terms for CIEDB debt: 3.5% interest over 20 years, with 10% capitalized bond reserve and 1% cost of issuance. Private placement financing assumes 6% interest over 30 years, no cost of issuance, senior lien (per 2013 conversation with City). Also includes capitalized bond reserve of 8.75% of bond proceeds (per 2014 conversation with City).

The Department is anticipating \$10 million in CIEDB funding in FY 16/17 and another \$10 million in FY 18/19. Anticipated CIEDB loan terms are 3.5 percent interest over 20 years, with a 10 percent capitalized bond reserve and 1 percent cost of issuance.

Remaining debt financing would come from either a revenue bond or a private placement issuance. For the purposes of this rate study, anticipated terms are 6 percent interest over 30 years, with an 8.75 percent capitalized bond reserve and no additional costs of issuance.

Reserves

The Department has created several water system reserves, and has established desired reserve amounts and timelines for accumulating them. In this Rate Study, the Department is projected to balance the benefits of maintaining and accumulating reserves per these policies with the financial impacts of doing so. A description of these reserves, the desired minimum reserve balances, and projected reserve balances through the Study period follows:

- **Operating Reserve.** The minimum Operating Reserve balance is 45 days of O&M expenses. This minimum balance is projected to be maintained

throughout the Study period, gradually increasing to approximately \$4.6 million by the end of the rate study planning period in FY 20/21.

- **Revenue Stabilization Reserve.** The minimum Revenue Stabilization Reserve balance is 20 percent of annual water sales revenue. The Department would like to gradually accumulate this reserve by FY 16/17. However, because of changed water consumption patterns and decreased water consumption, there is projected to be insufficient reserves to keep a revenue stabilization reserve through the remainder of the Study period.
- **Emergency Reserve.** The minimum Emergency Reserve balance is two percent of the total plant in service. The Department is phasing in the accumulation of this reserve over a ten-year period, where FY 14/15 is the third year and FY 20/21 is the ninth year. By FY 20/21 the Department's goal is for the reserve to contain 90 percent of its ultimate goal of two percent of plant in service. This reserve is not projected to be funded at the levels described by the Department's phase in schedule. By the end of FY 20/21, the projected reserve balance is 80 percent of the goal of two percent of plant in service.
- **Capital Replacement Reserve.** The minimum Capital Replacement Reserve balance is 20 percent of the cash-funded CIP. After FY 15/16, this reserve is projected to be unfunded through the remainder of the Study period.
- **Unrestricted Fund Balance.** The balance of Department reserves, for the purposes of this rate study, as Unrestricted Fund Balance. There is no minimum balance established for Unrestricted Funds, but in this Study, the intent is to keep this balance above \$0.

By the end of FY 20/21, the Department is projected to have a total of approximately \$10.2 million in water reserve balances, as shown in further detail in Table 9 below.

Financial Projection

To provide for the continued operation of a utility on a sound financial basis, revenues must be sufficient to meet the cash requirements for operation and maintenance (O&M) expense, debt service and debt service coverage requirements, reserves, and cash funded capital expenditures.

Table 8 shows the Department's revenue requirement projections through FY 20/21. Lines 1 through 15 show sources of funds, including beginning year reserves, water rate revenues, other revenues, and debt proceeds.

The financial projection includes rate increases effective each July 1 starting in 2016 that are described in further detail below.

Lines 17 through 25 show the projected uses of funds. These uses of funds include O&M expenses shown in Table 5 of this report, existing and proposed debt service shown in Table 7 of this report, and capital expenditures. Line 27 shows the projected end year reserve balance.

Table 8
Revenue Requirement Projections

Line	Projected						Notes	
	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21		
1	SOURCES OF FUNDS							
2	Beginning Fund Balance	\$17,789,720	\$7,951,348	\$4,620,713	\$5,021,275	\$6,055,363	\$8,205,457	
3	Operating Revenues							
4	Water Rate Revenues (Includes Rate Increases)	22,873,518	25,290,963	27,963,973	30,919,563	32,938,756	35,089,867	1
5	Elevation Charge Revenues	2,036,160	2,056,522	2,077,085	2,097,857	2,118,838	2,140,027	2
6	Replenishment Fee Revenues	1,155,468	1,426,361	1,833,522	2,248,683	2,538,367	2,563,750	2
7	Water Conservation Charge	1,140,000	1,613,053	1,629,180	1,645,470	1,661,920	1,678,540	2
8	Other Operating Revenues	2,266,550	2,720,330	2,734,350	2,748,610	2,763,120	2,777,880	2
9	Non-Operating Revenues						2	
10	Investment Income	355,790	159,030	92,410	100,430	121,110	164,110	
11	Service Installation and Acquisition Fees	500,000	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000	
12	Non-Capital Grant Fund (AIG)	1,500,000	1,531,500	1,563,660	1,596,500	1,630,030	1,664,260	
13	Other Non-Operating Revenues	480,000	340,000	340,000	340,000	340,000	340,000	
14	Debt Proceeds	0	10,000,000	13,000,000	14,000,000	7,000,000	8,000,000	3
15	Total Sources of Funds	\$50,097,206	\$54,789,105	\$57,554,893	\$62,418,388	\$58,867,503	\$64,323,891	
16								
17	USES OF FUNDS							
18	O&M Expenditures	\$30,684,869	\$32,004,091	\$33,773,872	\$35,056,113	\$36,236,827	\$37,006,470	4
19	Debt Service							
20	Existing Debt	2,318,489	2,318,149	2,088,595	2,088,148	2,088,148	2,088,148	3
21	Proposed Debt	0	796,152	1,831,151	2,945,764	3,503,071	4,139,993	3
22	Capital Expenditures							
23	Cash Funded	9,142,500	5,050,000	1,840,000	2,273,000	1,834,000	2,919,000	5
24	Debt Funded	0	10,000,000	13,000,000	14,000,000	7,000,000	8,000,000	5
25	Total Expenditures	\$42,145,858	\$50,168,392	\$52,533,617	\$56,363,026	\$50,662,046	\$54,153,611	5
26								
27	ENDING FUND BALANCE	\$7,951,348	\$4,620,713	\$5,021,275	\$6,055,363	\$8,205,457	\$10,170,280	6

Notes:

- (1) Refer to Table 10 below for the projected rate schedule that is anticipated to generate this rate revenue income
- (2) Refer to the Appendix for more detail on other operating revenues and non-operating revenues
- (3) Refer to Table 7
- (4) Refer to Table 5
- (5) Refer to Table 6
- (6) Refer to Table 9 below

Table 9 shows the various reserve balances and the projected Debt Service Coverage Ratio. The Debt Service Coverage Ratio is projected to exceed the Department's bond covenants throughout the study period, exceed 1.5 beginning in FY 16/17, and exceed 1.75 beginning in FY 20/21.

Table 9
Financial Performance Indicators

Line	Projected						Notes	
	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21		
37	USES OF FUNDS							
38	O&M Expenditures	\$30,684,869	\$32,004,091	\$33,773,872	\$35,056,113	\$36,236,827	\$37,006,470	
39	Debt Service							
40	Existing Debt	\$2,318,489	\$2,318,149	\$2,088,595	\$2,088,148	\$2,088,148	\$2,088,148	
41	Proposed Debt	\$0	\$796,152	\$1,831,151	\$2,945,764	\$3,503,071	\$4,139,993	
42								
43	Capital Projects	\$9,142,500	\$15,050,000	\$14,840,000	\$16,273,000	\$8,834,000	\$10,919,000	
44								
45	Total Expenditures	\$42,145,858	\$50,168,392	\$52,533,617	\$56,363,026	\$50,662,046	\$54,153,611	
46								
47								
48	FINANCIAL PERFORMANCE INDICATORS							
49	EOY Reserve Balance (Target in Parentheses)							
50	Operating Reserve (45 Days of Operating Expenses)	\$3,783,070	\$3,945,710	\$4,163,900	\$4,321,990	\$4,467,550	\$4,562,440	1
51	Rate Stabilization Reserve (20% of Water Sales)	360,759	0	0	0	0	0	2
52	Emergency Replacement Reserve (2% of Total Capital Assets)	2,257,772	672,715	845,338	1,697,383	3,695,496	5,566,475	3
53	Capital Replacement Reserve (Avg of Next 5 Years PAYG CIP)	1,519,600	0	0	0	0	0	4
54	Unencumbered Reserves	30,146	2,289	12,037	35,990	42,411	41,366	5
55	Total EOY Reserve Balance	\$7,951,348	\$4,620,713	\$5,021,275	\$6,055,363	\$8,205,457	\$10,170,280	
56								
57	Debt Service Coverage Ratio							
58	Gross Revenue	\$32,307,486	\$36,837,758	\$39,934,179	\$43,397,113	\$45,812,140	\$48,118,434	
59	Less O&M Expenses	(30,684,869)	(32,004,091)	(33,773,872)	(35,056,113)	(36,236,827)	(37,006,470)	
60	Revenue Available for Debt Service	\$1,622,617	\$4,833,667	\$6,160,307	\$8,341,000	\$9,575,313	\$11,111,964	
61								
62	First Tier Debt Service	\$2,089,262	\$2,885,074	\$3,919,746	\$5,033,912	\$5,591,219	\$6,228,141	
63								
64	Debt Service Coverage Ratio	0.78	1.68	1.57	1.66	1.71	1.78	
65	DSCR Criterion: Minimum	1.75	1.75	1.75	1.75	1.75	1.75	

Proposed Water Rate Schedule

Conservation Charge

When implemented in 2010, the Conservation Charge was designed to apply to water use that exceeded 50 percent of the customer class average for 2009, creating a 2nd tier that included this charge. It was set at \$0.35/hcf in order to provide a conservation signal. In this rate study, the Conservation Charge is re-evaluated, with a focus on defining costs associated with high water consumption.

Water Conservation Program

The Department's water conservation program is contained in Section 2055. The Department has 1 FTE devoted to conservation efforts, and the Department provides community outreach and advertising. Total costs in the Department's FY 15/16 budget are \$290,898.

Water Loss Management

The Department's water loss management program is contained in Section 3024. The Department has 2 FTEs devoted to these efforts, and the Department's FY 15/16 budget also includes \$250,000 for a city-wide median and turf removal conservation project. The total cost in the Department's FY 15/16 budget is \$413,739.

Well Rehabilitation

In recent years, the water table has been dropping in the aquifers the Department’s wells pump from. The Department is planning on a series of well rehabilitation projects that will lower the submersible pumps and vertical turbine pump bowls. The estimated cost to complete 10 of these rehabilitation projects per year is approximately \$790,000.

Additional Electricity from Pumping from Deeper Wells

A lower water table means that water has to be pumped a greater height to reach the water distribution system. This in turn requires additional electricity costs. The annual cost of this electricity, assuming a 50-foot increase in pumping head, electricity costs of approximately \$0.086/kWh, 60% pump/motor efficiency, and the volume of water sold in the 2nd rate tier, is approximately \$56,000 per year.

Additional Costs from Using Peaking Wells

The Department has wells that operate year-round and wells that operate seasonally. The wells that operate seasonally are, on average, more expensive to operate than those that operate year round². The additional cost to operate these seasonal wells, applied to the volume of water sold in the 2nd rate tier during the summer, is approximately \$127,000 per year.

Water Sold in the 2nd Tier

Based on an account-by-account review of the Department’s billing records, in FY 13/14, a total of 3,422,170 e^hcf of water was sold in the 2nd tier.

Calculation of Conservation Charge

Table 10 summarizes the revised conservation charge, calculated to be \$0.49/hcf.

Table 10
Proposed Revision to Conservation Charge

Component of Conservation Charge	Amount
Billing Unit 2055, Water Conservation, FY 15/16 Budget	\$291,000
Billing Unit 3024, Water Loss Management, FY 15/16 Budget	\$414,000
Estimated Annual Cost for Well Rehabilitation	\$790,000
Estimated Additional Electricity from Pumping from Deeper Wells	\$56,000
Estimated Additional Costs from Using Peaking Wells	\$127,000
Total	\$1,678,000
Calculation of Conservation Charge	
Costs Included in Conservation Charge	\$1,678,000
Projected 2nd Tier Consumption, hcf	3,422,170
Conservation Charge, \$/hcf	\$0.49

² This discussion excludes the Department’s EPA wells, which the Department is required to operate year round. These EPA wells are more expensive to operate because of the cost of the treatment facilities. The Department is reimbursed for certain costs associated with operating these wells.

Replenishment Fee

Replenishment Fee revenues are used solely for purchase of regional water for aquifer recharge. The proposed increase is from the current \$0.09/hcf to \$0.11/hcf on July 1, 2016, with further increases to \$0.14/hcf and \$0.17/hcf on July 1, 2017 and July 1, 2018. The increases are in anticipation of increases in the cost of regional water from Valley District, while maintaining the ability to purchase, subject to availability, approximately 12,000 acre-feet of water each year.

Elevation Charge

No changes to the Elevation Charge are proposed.

Minimum Monthly Charge and Commodity Charge

Combined, the Minimum Monthly Charge and the Commodity Charge make up the majority of the Department's water sales revenues. The Minimum Monthly Charge is a fixed charge, which does not vary by water use. The Commodity Charge (along with the Conservation Charge, Replenishment Fee, and Elevation Charge) are variable charges, which are assessed per unit of water used. Currently, approximately 32 percent of the Department's water rate revenue is from fixed charges.

Water utilities are often faced with a tradeoff when establishing rate structures. Higher fixed charges provide greater revenue stability, where water sales revenues are more constant and do not fluctuate as water use fluctuates. This is desirable, given that many of a utility's costs are fixed – they remain necessary even if water consumption fluctuates. Variable costs, by contrast, are those that fluctuate with water consumption.

However, higher fixed charges reduce the ability of a customer to control their water bill by reducing water consumption. Higher fixed charges also result in lower variable charges, which may not provide as much of an incentive for customers to use water wisely.

Most of the Department's costs are fixed costs. In FY 15/16, for example the Department's total expenditures are approximately \$42 million (see Table 8). Variable costs for electricity, supplemental water purchases, and treatment chemicals (such as chlorine and granular activated carbon) are approximately \$6 million. The remainder of the expenses are labor, materials, supplies, equipment, services, debt service, and capital expenses.

Regardless of water consumption, debt service must be paid, and the majority of labor, materials, supplies, equipment, and services are necessary to operate and maintain the water system. Capital expenditures for service reliability, repair and replacement, and regulatory compliance are also required, though capital spending to add system capacity is often deferred if water consumption decreases.

The Department recognizes that most of its costs are fixed costs, but only about a third of its revenue are from fixed charges. Mindful of the tradeoffs described above, the

Department desires to gradually increase revenue recovery from fixed charges to approximately 50 percent over a six-year period.

The proposed water rate schedule shown in Table 11 shows how this would occur through 2018. Minimum Monthly Charge and Commodity Charge increases effective July 1 of 2016, 2017, and 2018 are proposed. The rate increases are proposed to be applied to the various components of the rate structure as follows:

- Commodity Charge: Remains at \$1.15/hcf
- Minimum Monthly Charge: For a 5/8"x3/4" meter (the size most customers use), the Minimum Monthly Charge increases from the current \$12.90 to \$16.09, \$19.58, and \$23.39 on 7/1/16, 7/1/17, and 7/1/18, respectively. Minimum Monthly Charges for other meter sizes would increase proportionately.
- Replenishment charge: increases from the current \$0.09/hcf to \$0.11/hcf on July 1, 2016, with further increases to \$0.14/hcf and \$0.17/hcf on July 1, 2017 and July 1, 2018. Replenishment Charge revenues are used solely for purchase of regional water for aquifer recharge.
- Elevation charge: unchanged
- Conservation charge: as described in Table 10 above, increases from \$0.35/hcf to \$0.49/hcf on July 1, 2016. No subsequent increases are proposed in 2017 or 2018.

Table 11
Proposed Water Rate Schedule

	Current	Proposed		
		Effective Date		
		7/1/2016	7/1/2017	7/1/2018
Monthly Minimum Charge				
<u>Water Meter Size</u>				
1/2" & 5/8"	\$12.90	\$16.09	\$19.58	\$23.39
3/4"	\$16.15	\$20.15	\$24.51	\$29.28
1"	\$22.60	\$28.19	\$34.30	\$40.98
1 1/2"	\$38.80	\$48.40	\$58.88	\$70.35
2"	\$58.20	\$72.60	\$88.32	\$105.52
3"	\$103.50	\$129.12	\$157.06	\$187.66
4"	\$158.20	\$197.36	\$240.07	\$286.83
6"	\$330.00	\$411.68	\$500.78	\$598.33
8"	\$524.15	\$653.88	\$795.40	\$950.34
10"	\$750.65	\$936.44	\$1,139.12	\$1,361.01
Commodity Charge (\$/hcf)	\$1.15	\$1.15	\$1.15	\$1.15
Replenishment Charge (\$/hcf)	\$0.09	\$0.11	\$0.14	\$0.17
Elevation Charge (\$/hcf)				
Zone 1	\$0.11	\$0.11	\$0.11	\$0.11
Zone 2	\$0.19	\$0.19	\$0.19	\$0.19
Zone 3	\$0.17	\$0.17	\$0.17	\$0.17
Zone 4	\$0.14	\$0.14	\$0.14	\$0.14
Zone 5	\$0.23	\$0.23	\$0.23	\$0.23
Zone 6	\$0.23	\$0.23	\$0.23	\$0.23
Conservation Charge (\$/hcf exceeding cutoff)	\$0.35	\$0.49	\$0.49	\$0.49

Not included in Table 11 are the remaining projected increases to the Minimum Monthly Charge that would take effect (if adopted) in 2019 and 2020. Further increases to \$25.80 and \$28.35 are projected and are presented here for informational purposes. Similarly, an increase in the Replenishment Charge to \$0.19/hcf is projected in 2019. Included below is further discussion of ongoing considerations that the Department should monitor as it evaluates its water rates in the future.

Example Monthly Water Bill Comparison

In 2015, the average monthly water consumption for a single-family residence in San Bernardino was 16 hcf/month. Table 12 shows example monthly water bills for a customer with a 1/2-inch x 5/8-inch water meter served by the Department and using 16 hcf/month. Under current rates, the monthly bill is \$35.59. Proposed increases would result in a monthly bill of \$39.67 effective 7/1/16, with subsequent increases to \$43.65 on 7/1/17 and \$49.15 on 7/1/18.

This table shows that the Department’s monthly water bill for this average residential customer is lower than most neighboring agencies, even after the proposed three water rate increases. It is important to note that most of the neighboring water systems have either adopted rate increases that will take effect in the future, or are currently reviewing their water rates.

Table 12
Monthly Single-Family Residential Bill Comparison (1)

Utility	Monthly Bill	Consumption hcf/month	Notes
SBMWD Existing	\$35.59	16	Average of six elevation charge zones
SBMWD Proposed	\$39.11	16	Proposed, effective 7/1/16
SBMWD Proposed	\$43.07	16	Proposed, effective 7/1/17
SBMWD Proposed	\$47.36	16	Proposed, effective 7/1/18
Fontana Water Company	\$65.33	16	Not including any potential drought surcharges
Cucamonga Valley Water District	\$54.93	16	Includes Stage 6 Drought Surcharge; increases to \$66.28 by 7/1/18
East Valley Water District	\$53.53	16	Increases to \$59.49 by 7/1/16 (indoor allocation ~10 hcf/month)
Rialto	\$50.78	16	Increases to \$51.55 on 1/1/17
Colton	\$42.46	16	
Redlands	\$36.06	16	Increases to \$44.25 by 7/1/18
Riverside	\$33.24	16	Average of summer and winter rates; currently reviewing water rates

Note:

(1) For the Department, the monthly bill is on a customer with a 5/8-inch water meter using 16 hcf/month, paying the average of the six elevation charges. For other jurisdictions, the monthly charge for a 3/4-inch water meter was used if no monthly charge for a 5/8-inch water meter exists or, as is the case of EVWD, single-family residential customers typically have 3/4-inch meters. Note that Fontana Water Company’s monthly bill does not include any potential drought surcharges, but Cucamonga Valley Water District’s (CVWD) monthly bill includes the Stage 6 Drought Surcharge. If this drought stage declaration is lifted by CVWD, the monthly bill will decrease from what is shown in this table.

Table 12 shows that the monthly water bill impact from the proposed first rate increases is approximately \$4 per month. Because the majority of the increase is in the Monthly Service Charge, the financial impact will be approximately \$4 per month for most single-family residential customers, regardless of water consumption. Financial impacts will be higher than \$4 per month for customers with higher water use (over 32 hcf/month) that pay the Conservation Charge.

As a further comparison, in 2013, the average consumption for a single-family residence was 21 hcf/month. The current monthly water bill for a customer using 21 hcf/month is \$42.69.

Comparisons with other jurisdictions can be useful, but they do not in themselves explain why utility rates are set at the levels they are. Each utility is unique and has its own set of circumstances that influence rate setting. In particular, the following are not apparent from a monthly bill comparison:

- Age of infrastructure and needed capital investments in order to maintain service and comply with regulatory mandates.
- The condition of the infrastructure and the extent to which a utility chooses to invest in repairs and replacements to its infrastructure.
- For a utility providing water services, the specific sources of water supply, the degree that the utility relies on imported water, and the types of water treatment facilities that exist.

- Whether a utility is currently deferring capital investment and whether large capital expenditures loom in the future.
- How efficient a utility is in providing service.
- Specifically to the comparison shown in Table 11, whether future rate increases are anticipated for any of the other jurisdictions shown.

Ongoing Considerations

The financial plan shown in Table 8 above extends through FY 20/21, and rate increases are proposed through FY 17/18. There are a number of factors that will change over the next few years that have financial implications. The extent to which these factors change will influence the Department's next review of water rates. Although there are two additional rate increases presented in this report for informational purposes, the Department will review water rates in the future. At a future date, the Department will determine the magnitude and timing of future rate increases beyond those proposed for 2016, 2017, and 2018 in this report.

The Department should continue to monitor its financial status on an ongoing basis, and should continue to monitor the following:

- **State drought regulations.** State emergency drought regulations are continually being reviewed and adjusted. Future adjustments in the regulations may affect water consumption.
- **Water consumption patterns.** Financial projections are based on 2015 water consumption patterns. Changes in water consumption patterns will affect revenues. If water use increases in the future water revenues may be higher than what is projected in this analysis.
- **Customer growth.** This rate study assumes 1.0 annual customer growth through FY 20/21. Customer growth increases the size of the customer base and growth rates exceeding 1.0 percent per year will result in higher connection fee revenue and rate revenues. Conversely, customer growth less than 1.0 percent per year could result in lower revenues than projected in this report.
- **Changes in regional water supply availability and pricing.** The Replenishment Charge projection incorporate anticipated increases in the cost of supplemental water purchases, and they assume that supplemental water deliveries are available.
- **Capital project cost certainty.** The Capital Improvement Plan contains estimates of future project costs. The actual costs will not be known until the projects are designed, bid, and built.
- **Inflation rates.** The projected rates are based on a 2.1 percent annual inflation rate. Changes in inflation rates will have financial implications.
- **Interest rates.** Interest rates that differ from assumptions used in this Study will have financial implications.

Appendix A

City of San Bernardino Municipal Water Department Water Rate Model

Fiscal Years 15/16 through 20/21

Model prepared by FG Solutions, LLC in April 2016



TABLE A-1	Assumptions and General Parameters
TABLE A-2	Existing Water Rate Schedule
TABLE A-3	Projected Revenues, Including Water Sales Revenues Under Existing Rate Schedule (Excluding Interest Income)
TABLE A-4	Historical and Projected Operation and Maintenance Expenses
TABLE A-5	Capital Improvement Plan Funding
TABLE A-6	Existing and Future Debt Service
TABLE A-7	Projected Operating Statement - Cash Basis
TABLE A-8	Rate Design Calculations
TABLES A-3 B-E	Additional Revenue Calculations Supporting Table A-3

TABLE A-1
City of San Bernardino Municipal Water Department - Water Rate Model
Assumptions and General Parameters

Line							
1	Miscellaneous						
2	Rounding		(1)				
3	Rounding, Rate Structures		2				
4	Total Existing Water Depreciable and Non-Depreciable Assets	\$273,078,981		FY 15/16 CAFR, p 14			
5	Interest Income (%)		2%				
6	Fiancial Performance Criterion: DSCR Target		1.75				
7	Fiancial Performance Criterion: DSCR Covenant		1.10				
8	General Inflation (%)		2.1%				
9	6/30/15 Reserve Balance	\$17,789,720		FY 15/16 CAFR, p 14			
10							
11	Debt Issuance Terms						
12	CIEDB						
13	Annual Interest Rate (%)		3.5%				
14	Repayment Period (Years)		20				
15	Capitalized Bond Reserves (% of Principal)		10.0%				
16	Annual Loan Fee Rate (% of outstanding principal)		0.0%				
17	Cost of Issuance (%)		1.0%				
18	Bank Financing Private Placement Revenue Bond						
19	Annual Interest Rate (%)		6.0%				
20	Repayment Period (Years)		30				
21	Capitalized Bond Reserve (% of Proceeds)		8.75%				
22	Cost of Issuance (%)		0.0%				
23							
24	Reserve Balance Policies						
25	Operating Reserve Minimum (days of operating expenses)		45				
26	Revenue Stabilization Reserve (Percent of Sewer Sales)		10%				
27	Emergency Reserve (Percent of Total Plant in Service)		3%				
28	Capital Replacement Reserve (%of the Cash-Funded 5-Yr CIP)		20%	5-Yr PAYG = \$12,848,000 ; 20% =		\$2,569,600	
29							
30							
31	Other Operating Expense Assumptions	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
32	PERS (1)	24.209%	26.5%	28.4%	30.2%	32.0%	32.0%
33	Customer Growth, Residential	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
34	Customer Growth, Non-Res	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
35	Residential Consumption (2)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
36	Non-Res Consumption (2)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
37	Activated Carbon Cost Incr.	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
38							
39	Revenue Adjustments: FY 13/14 to FY 15/16 (3)	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
40	% Regular Water Sales \$ from Consumption \$ (4)	71.1%	71.1%	71.1%	71.1%	71.1%	71.1%
41	Water Use Change	-28.0%	-28.0%	-28.0%	-28.0%	-28.0%	-28.0%
42	Regular Water Sales \$ Change	-19.9%	-19.9%	-19.9%	-19.9%	-19.9%	-19.9%
43	Elevation Charge \$ Change	-28.0%	-28.0%	-28.0%	-28.0%	-28.0%	-28.0%
44	Replenishment Fee \$ Change	-28.0%	-28.0%	-28.0%	-28.0%	-28.0%	-28.0%
45	Conservation Charge \$ Change (5)	-52.5%	-52.5%	-52.5%	-52.5%	-52.5%	-52.5%

Notes:

(1) Per Department, 12/10/14, based on CalPERS Actuarial Valuation dated 6/30/13

(2) Systemwide customer growth, and not a measure of per-capita or per-connection consumption growth

TABLE A-2
City of San Bernardino Municipal Water Department - Water Rate Model
Existing Water Rate Schedule

Line	Customer Type	Unit	Existing Rate (1)
1	Single Family Residences, Multiple Family Connections, Commercial,		
2	Landscape, and Industrial Service Minimum Monthly Charge		
3	1/2 " & 5/8" meter	per Month	\$12.90
4	3/4" meter	per Month	\$16.15
5	1" meter	per Month	\$22.60
6	1 1/2" meter	per Month	\$38.80
7	2" meter	per Month	\$58.20
8	3" meter	per Month	\$103.50
9	4" meter	per Month	\$158.20
10	6" meter	per Month	\$330.00
11	8" meter	per Month	\$524.15
12	10" meter	per Month	\$750.65
13			
14	Commodity Charge	per HCF	\$1.15
15			
16	Replenishment Charge	per HCF	\$0.09
17			
18	Assessment Districts	per HCF	\$0.45
19			
20	Conservation Charge and Tiers		
21	Conservation Charge	per HCF	\$0.350
22	Conservation Tiers (cutoff) (2)		
23	Residential	HCF per Month	32
24	MDU (2 per unit)	HCF per Month	42
25	MDU (2+) per unit	HCF per Month	17
26	Non-Residential		
27	1/2 " & 5/8" meter	HCF per Month	24
28	3/4" meter	HCF per Month	36
29	1" meter	HCF per Month	65
30	1 1/2" meter	HCF per Month	150
31	2" meter	HCF per Month	250
32	3" meter	HCF per Month	740
33	Commercial		
34	1/2 " & 5/8" meter	HCF per Month	42
35	3/4" meter	HCF per Month	55
36	1" meter	HCF per Month	130
37	1 1/2" meter	HCF per Month	275
38	2" meter	HCF per Month	445
39	3" meter	HCF per Month	875
40	4" meter	HCF per Month	2,400
41	6" meter	HCF per Month	9,000
42			
43	Elevation Charge (all water users)		
44	Zone 1	per HCF	\$0.11
45	Zone 2	per HCF	\$0.19
46	Zone 3	per HCF	\$0.17
47	Zone 4	per HCF	\$0.14
48	Zone 5	per HCF	\$0.23
49	Zone 6	per HCF	\$0.23
50			
51	Additional Charges		
52	Surcharge - Area Outside City (no Zone)	% of \$/hcf	50%
53	Unmetered Construction Rate	per Month	\$50.00

Notes:

- (1) Source: City of San Bernardino Municipal Water Department Rule and Regulation No. 21
General Water Service/Water Rates. Rates effective January 1, 2012. HCF means hundred cubic feet
(2) The Conservation Charge is applicable to water use exceeding the cutoff value

TABLE A-3
City of San Bernardino Municipal Water Department - Water Rate Model
Projected Revenues, Including Water Sales Revenues Under Existing Rate Schedule (Excluding Interest Income)

Line		Historical	Historical	Historical	Budget	Projected	Projected					FY 15/16 -	Notes		
		FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21		Annual Growth	
1	Water Sales Revenues													1	
2	Water Sales - Regular (Existing Rates)	\$25,993,264	\$27,111,743	\$27,562,842	\$27,600,000	\$26,220,000	\$27,006,600	\$27,876,000	\$28,154,760	\$28,436,310	\$28,720,670	\$29,007,880	\$29,297,960	-3.4%	2
3	FY 15/16 Adjustment							(\$5,550,482)	(\$5,605,987)	(\$5,662,047)	(\$5,718,667)	(\$5,775,854)	(\$5,833,613)		
4	Replenishment Fee (Existing)	1,543,813	1,605,944	1,701,462	1,700,000	1,615,000	1,615,000	1,155,468						17.3%	3
5	Recalculated								1,426,361	1,833,522	2,248,683	2,538,367	2,563,750		3
6	Conservation Charge (Existing)	850,777	1,117,879	1,192,046	1,200,000	1,140,000	1,140,000	1,140,000						8.0%	4
7	Recalculated								1,613,053	1,629,180	1,645,470	1,661,920	1,678,540		
8	Elevation Charge	2,587,573	2,779,266	2,820,407	2,800,000	2,660,000	2,660,000	2,828,000	2,856,280	2,884,840	2,913,690	2,942,830	2,972,260	1.0%	5
9	FY 15/16 Adjustment							(791,840)	(799,758)	(807,755)	(815,833)	(823,992)	(832,233)		5
10	Water Sales - Fire Service	441,634	443,780	461,679	460,000	460,000	464,600	464,600	469,250	473,940	478,680	483,470	488,300	1.0%	6
11	Water Sales - Municipal	554,384	944,236	914,016	900,000	855,000	855,000	900,000	900,000	900,000	900,000	900,000	900,000	0.0%	7
12	FY 15/16 Adjustment							(352,000)	(352,000)	(352,000)	(352,000)	(352,000)	(352,000)		
13	Water Sales - Unauthorized	500	0	0	0	0	0	0	0	0	0	0	0	n/a	8
14	Geothermal Heat Sales	124,989	139,659	140,314	140,000	140,000	140,000	90,000	140,000	140,000	140,000	140,000	140,000	9.2%	7, 8
15	Water Sales - Geothermal	790	770	20	0	0	0	0	0	0	0	0	0	n/a	8
16	Water Sales - Other	1,343,133	249,509	683,897	600,000	600,000	600,000	120,000	120,000	120,000	120,000	120,000	120,000	0.0%	8, 9
17	Subtotal: Water Sales Revenues	\$33,440,857	\$34,392,786	\$35,476,683	\$35,400,000	\$33,690,000	\$34,481,200	\$27,879,746	\$28,921,958	\$29,595,989	\$30,280,693	\$30,842,620	\$31,142,964	2.2%	
18															
19	Other Operating Revenues														
20	Service Charges	\$988,597	\$911,152	\$998,078	\$950,000	\$950,000	\$950,000	\$890,000	\$950,000	\$950,000	\$950,000	\$950,000	\$950,000	1.3%	7, 10
21	Broken Lock Charges	93,194	80,908	64,979	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	0.0%	7, 10
22	Returned Check Charges	14,950	14,300	13,131	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	0.0%	10
23	Fire Hydrant Flow Test	4,590	5,610	5,982	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	0.0%	10
24	Application Charge	19,890	20,170	14,753	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	0.0%	10
25	Will Serve Letter Charge	900	2,170	1,289	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	0.0%	10
26	Income from Services	108,244	96,990	100,424	95,000	95,000	95,000	45,000	95,000	95,000	95,000	95,000	95,000	16.1%	7, 10
27	Backflow Admin Fee	83,014	86,171	88,453	85,000	85,000	85,000	85,000	85,000	85,000	85,000	85,000	85,000	0.0%	10
28	Plan Check Fee	438,994	288,769	214,822	250,000	250,000	250,000	10,000	250,000	250,000	250,000	250,000	250,000	90.4%	7, 10
29	Hydro Sales	70,388	49,243	21,341	50,000	50,000	50,000	10,000	50,000	50,000	50,000	50,000	50,000	38.0%	7, 10
30	Administrative Services - Sewer	1,841,593	1,920,579	428,657	426,000	426,000	434,950	434,950	444,080	453,410	462,930	472,650	482,580	2.1%	11
31	Total: Other Operating Revenue	\$3,664,354	\$3,476,062	\$1,951,909	\$1,973,000	\$1,973,000	\$1,981,950	\$1,591,950	\$1,991,080	\$2,000,410	\$2,009,930	\$2,019,650	\$2,029,580	5.0%	
32															
33	Non-Operating Revenues														
34	Service Installation Fees	\$905,163	\$661,689	\$472,267	\$500,000	\$500,000	\$500,000	\$300,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	10.8%	7, 10
35	Acquisition Fees	1,067,000	1,228,400	1,253,856	1,200,000	1,200,000	1,200,000	200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	43.1%	7, 10
36	Developer Installed		845,716	86,723	0	1,097,500	0	0	0	0	0	0	0	n/a	10
37	EPA Contract - Capital Cost		661,498	235,312	970,000	75,000	895,000	0	0	0	0	0	0	n/a	12
38	AI&G CD Implementation	0	0	0	2,248,000	0	2,178,700	0	0	0	0	0	0	n/a	12
39	Other	1,041,667	24,218	345,650	50,000	26,000	0	140,000	0	0	0	0	0	n/a	13
40	AI&G O&M CD Implementation	1,838,223	3,110,201	2,169,327	1,500,000	1,700,000	1,500,000	1,500,000	1,531,500	1,563,660	1,596,500	1,630,030	1,664,260	2.1%	14
41	Rental Income	133,400	122,826	147,544	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	0.0%	10
42	Gain (Loss) Asset Disposition	(268,953)	(261,946)	152,971	0	0	0	0	0	0	0	0	0	n/a	10
43	Refunds Received		156,783	192,391	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	0.0%	10
44	Reimbursement Insurance		399	7,305	0	0	0	0	0	0	0	0	0	n/a	10
45	Easements		6,200	4,200	0	0	0	0	0	0	0	0	0	n/a	10
46	Discounts Earned		12,731	10,953	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	0.0%	10
47	Cashier Overages (Shortages)		(663)	0	0	0	0	0	0	0	0	0	0	n/a	10
48	Miscellaneous Revenue		5,218	6,439	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	0.0%	10
49	Non-Taxable Sales - Materials		9,512	18,435	0	0	0	0	0	0	0	0	0	n/a	10
50	Scrap Metal Sales		20,852	36,613	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	0.0%	10
51	Capital Grants	136,967				746,201		0	0	0	0	0	0	n/a	10
52	Total: Non-Operating Revenues	\$4,853,467	\$6,603,634	\$5,139,986	\$6,808,000	\$5,684,701	\$6,613,700	\$2,480,000	\$3,571,500	\$3,603,660	\$3,636,500	\$3,670,030	\$3,704,260	8.4%	
53	Summary														
54	Subtotal: Operating Revenue	\$37,105,211	\$37,868,848	\$37,428,592	\$37,373,000	\$35,663,000	\$36,463,150	\$29,471,696	\$30,913,038	\$31,596,399	\$32,290,623	\$32,862,270	\$33,172,544	2.4%	
55	Subtotal: Non-Operating Revenue	\$4,853,467	\$6,603,634	\$5,139,986	\$6,808,000	\$5,684,701	\$6,613,700	\$2,480,000	\$3,571,500	\$3,603,660	\$3,636,500	\$3,670,030	\$3,704,260	8.4%	
56	Total Revenues	\$41,958,678	\$44,472,482	\$42,568,578	\$44,181,000	\$41,347,701	\$43,076,850	\$31,951,696	\$34,484,538	\$35,200,059	\$35,927,123	\$36,532,300	\$36,876,804	2.9%	

TABLE A-3
 City of San Bernardino Municipal Water Department - Water Rate Model
 Projected Revenues, Including Water Sales Revenues Under Existing Rate Schedule (Excluding Interest Income)

Line	Historial	Historial	Historial	Budget	Projected	Budget	Projected					FY 15/16 - FY 20/21 Annual Growth	Notes
	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 14/15	FY 15/16	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	

Notes:

- (1) FY 11/12 and FY 12/13 source: City of San Bernardino Municipal Water Department Rate Expense by Division (Excel Spreadsheet), provided in 2013
 FY 13/14 source: 2014 Revenue report, provided by Department 12/29/14. 14/15 and FY 15/16 source: FY 15/16 budget provided by Department in February 2016.
 FY 14/15 projection is the Department's projection developed in conjunction with its FY 15/16 budget.
- (2) Projected FY 15/16 water sales revenues are based on the Department's FY 14/15 budget, with an adjustment made to reflect actual consumption patterns from FY 15/16.
 The calculations of this adjustment are included in other tables in this analysis. Projected revenues also incorporate anticipated customer growth of 1% per year.
 Projected regular water sales revenues in this table do not incorporate proposed rate increases.
- (3) Replenishment Fee is recalculated in this rate analysis, and the projected Replenishment Fee shown in this table is based on the recalculation shown in Table A8.
- (4) Conservation Charge revenues are based on FY 15/16 budget and a review of year to date consumption patterns from FY 15/16.
 The Conservation Charge is recalculated beginning FY 16/17, see Table A8
- (5) Elevation Charge revenues are based on the FY 14/15 budget less an adjustment to reflect actual consumption patterns from FY 15/16.
- (6) Projected 14/15 equals the FY 14/15 budget. Future years increased according to a 1% annual customer growth.
- (7) Projections also adjusted by FG Solutions based on review of year to date FY 15/16 revenues.

- (8) Projected revenues equal the FY 14/15 budget.
- (9) Water Sales - Other is revenue accumulated from the sale of excess water through the Encanto Booster Pump, which pumps 24/7. Projections based on FY 15/16 year to date revenues and Department's anticipated future conditions.
- (10) Projected to remain at FY 15/16 levels through the remainder of the Rate Study period.
- (11) Administrative Services - Sewer is revenue to reimburse the Water Department for the expense of the Sewer's Administrative Services. Revenue increasing at 3%/year, per Department.
- (12) Related to consent decree. These revenues pay for specific capital projects. These types of capital projects will occur in the future, but neither the revenue (from EPA or other sources) or expenses (in the capital improvement program) are included in this analysis. FY 14/15 value of \$2,248,000 is not included in the Rate Study because the capital project it pays for is not included.
- (13) Energy rebates received during FY 15/16 that are non-recurring
- (14) Related to consent decree. These revenues pay for specific O&M projects, which in future years, are included in O&M projections.

TABLE A-4
City of San Bernardino Municipal Water Department - Water Rate Model
Historical and Projected Operation and Maintenance Expenses

Line	Section	Section Number	Proj. Actual	Budgeted	FY 15/16	Projected	Escalation (2)	Projected					FY 15/16 -	Notes
			FY 14/15 (1)	FY 15/16 (1)	Basis			FY 15/16	Basis	FY 16/17	FY 17/18	FY 18/19	FY 19/20	
1	Administrative Divisions													
2	Board of Water Commissioners	1010												
3	Salary - Full Time	1010	\$676	\$675	Budget	\$675	Inflation	690	\$700	\$710	\$720	\$740	1.9%	
4	Fringe - Other	1010	44,153	55,125	Budget	\$55,125	Inflation	56,280	57,460	58,670	59,900	61,160	2.1%	
5	All Other Expenses	1010	1,592	3,500	Budget	\$3,500	Inflation	3,570	3,640	3,720	3,800	3,880	2.1%	
6	Administration	1050												
7	Salary - Full Time	1050	116,282	134,361	Budget	\$134,361	Inflation	137,180	140,060	143,000	146,000	149,070	2.1%	5
8	Salary - Other	1050	0	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
9	PERS	1050	25,580	32,527	Budget	\$32,527	PERS	36,350	39,780	43,190	46,720	47,700	8.0%	3
10	Fringe - Other	1050	12,392	15,309	Budget	\$15,309	Inflation	15,630	15,960	16,300	16,640	16,990	2.1%	
11	All Other Expenses	1050	82,308	334,100	Budget	\$334,100	Inflation	341,120	348,280	355,590	363,060	370,680	2.1%	4
12	Administration Services	1055												
13	Salary - Full Time	1055	114,264	133,643	Budget	\$133,643	Inflation	136,450	139,320	142,250	145,240	148,290	2.1%	
14	Salary - Other	1055	0	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
15	PERS	1055	24,394	32,354	Budget	\$32,354	PERS	36,160	39,570	42,960	46,480	47,450	8.0%	3
16	Fringe - Other	1055	8,310	10,211	Budget	\$10,211	Inflation	10,430	10,650	10,870	11,100	11,330	2.1%	
17	All Other Expenses	1055	5,434	12,500	Budget	\$12,500	Inflation	12,760	13,030	13,300	13,580	13,870	2.1%	
18	Environmental and Regulatory Compliance	1060												
19	Salary - Full Time	1060	246,418	295,550	Budget	\$295,550	Inflation	301,760	308,100	314,570	321,180	327,920	2.1%	5
20	Salary - Other	1060	20	500	Budget	\$500	Inflation	510	520	530	540	550	1.9%	
21	PERS	1060	52,936	71,550	Budget	\$71,550	PERS	79,970	87,500	95,000	102,780	104,930	8.0%	3
22	Fringe - Other	1060	36,136	52,045	Budget	\$52,045	Inflation	53,140	54,260	55,400	56,560	57,750	2.1%	
23	All Other Expenses	1060	58,226	153,600	Budget	\$153,600	Inflation	156,830	160,120	163,480	166,910	170,420	2.1%	5
24	Human Resources	1070												
25	Salary - Full Time	1070	73,626	111,082	Budget	\$111,082	Inflation	113,410	115,790	118,220	120,700	123,230	2.1%	5
26	Salary - Other	1070	0	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
27	PERS	1070	15,788	26,892	Budget	\$26,892	PERS	30,050	32,880	35,700	38,620	39,430	8.0%	3
28	Fringe - Other	1070	13,220	26,177	Budget	\$26,177	Inflation	26,730	27,290	27,860	28,450	29,050	2.1%	
29	All Other Expenses	1070	17,908	32,400	Budget	\$32,400	Inflation	33,080	33,770	34,480	35,200	35,940	2.1%	
30	Finance	2010												
31	Salary - Full Time	2010	266,300	298,490	Budget	\$298,490	Inflation	304,760	311,160	317,690	324,360	331,170	2.1%	
32	Salary - Other	2010	100	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
33	PERS	2010	55,854	72,261	Budget	\$72,261	PERS	80,760	88,370	95,940	103,800	105,970	8.0%	3
34	Fringe - Other	2010	34,826	50,548	Budget	\$50,548	Inflation	51,610	52,690	53,800	54,930	56,080	2.1%	
35	All Other Expenses	2010	192,788	186,500	Budget	\$186,500	Inflation	190,420	194,420	198,500	202,670	206,930	2.1%	
36	Information Technology	2030												
37	Salary - Full Time	2030	213,064	258,542	Budget	\$258,542	Inflation	263,970	269,510	275,170	280,950	286,850	2.1%	
38	Salary - Other	2030	40	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
39	PERS	2030	44,640	62,591	Budget	\$62,591	PERS	69,950	76,540	83,100	89,900	91,790	8.0%	3
40	Fringe - Other	2030	37,266	57,845	Budget	\$57,845	Inflation	59,060	60,300	61,570	62,860	64,180	2.1%	
41	All Other Expenses	2030	538,392	473,300	Budget	\$473,300	Inflation	483,240	493,390	503,750	514,330	525,130	2.1%	
42	Purchasing, Warehouse & Fleet	2040												
43	Salary - Full Time	2040	144,078	186,724	Budget	\$186,724	Inflation	190,650	194,650	198,740	202,910	207,170	2.1%	5
44	Salary - Other	2040	186	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
45	PERS	2040	30,136	45,204	Budget	\$45,204	PERS	50,520	55,280	60,020	64,930	66,290	8.0%	3
46	Fringe - Other	2040	18,696	30,594	Budget	\$30,594	Inflation	31,240	31,900	32,570	33,250	33,950	2.1%	
47	All Other Expenses	2040	32,992	77,500	Budget	\$77,500	Inflation	79,130	80,790	82,490	84,220	85,990	2.1%	
48	Fleet	2045												
49	Salary - Full Time	2045	149,498	115,526	Budget	\$115,526	Inflation	117,950	120,430	122,960	125,540	128,180	2.1%	
50	Salary - Other	2045	0	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
51	PERS	2045	23,798	27,958	Budget	\$27,958	PERS	31,260	34,200	37,130	40,170	41,020	8.0%	3
52	Fringe - Other	2045	18,666	29,858	Budget	\$29,858	Inflation	30,490	31,130	31,780	32,450	33,130	2.1%	

TABLE A-4
 City of San Bernardino Municipal Water Department - Water Rate Model
 Historical and Projected Operation and Maintenance Expenses

Line	Section	Section Number	Proj. Actual	Budgeted	FY 15/16	Projected	Escalation (2)	Projected					FY 15/16 - FY 20/21	Notes
			FY 14/15 (1)	FY 15/16 (1)	Basis	FY 15/16	Basis	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	Annual Growth	
53	All Other Expenses	2045	492,422	789,200	Budget	\$789,200	Inflation	805,770	822,690	839,970	857,610	875,620	2.1%	
54	Customer Relations	2050												
55	Salary - Full Time	2050	99,864	110,449	Budget	\$110,449	Infl, Cust Growth	113,900	117,450	121,120	124,900	128,800	3.1%	7
56	Salary - Other	2050	0	0	Budget	\$0	Infl, Cust Growth	0	0	0	0	0	n/a	7
57	PERS	2050	21,970	22,384	Budget	\$22,384	PERS	30,180	33,360	36,580	39,970	41,220	13.0%	3
58	Fringe - Other	2050	16,320	17,174	Budget	\$17,174	Infl, Cust Growth	17,710	18,260	18,830	19,420	20,030	3.1%	7
59	All Other Expenses	2050	11,234	37,100	Budget	\$37,100	Infl, Cust Growth	38,260	39,450	40,680	41,950	43,260	3.1%	7
60	Water Conservation	2055												
61	Salary - Full Time	2055	0	53,596	Budget	\$53,596	Inflation	54,720	55,870	57,040	58,240	59,460	2.1%	
62	Salary - Other	2055	0	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
63	PERS	2055	0	12,975	Budget	\$12,975	PERS	14,500	15,870	17,230	18,640	19,030	8.0%	3
64	Fringe - Other	2055	0	16,227	Budget	\$16,227	Inflation	16,570	16,920	17,280	17,640	18,010	2.1%	
65	All Other Expenses	2055	0	208,100	Budget	\$208,100	Inflation	212,470	216,930	221,490	226,140	230,890	2.1%	
66	Customer Service	2060												
67	Salary - Full Time	2060	464,764	485,985	Budget	\$485,985	Inflation	496,190	506,610	517,250	528,110	539,200	2.1%	5
68	Salary - Other	2060	20,158	20,373	Budget	\$20,373	Inflation	20,800	21,240	21,690	22,150	22,620	2.1%	
69	PERS	2060	99,720	117,652	Budget	\$117,652	PERS	131,490	143,880	156,210	169,000	172,540	8.0%	
70	Fringe - Other	2060	126,688	157,853	Budget	\$157,853	Inflation	161,170	164,550	168,010	171,540	175,140	2.1%	
71	All Other Expenses	2060	27,960	56,100	Budget	\$56,100	Inflation	57,280	58,480	59,710	60,960	62,240	2.1%	
72	Billing	2070												
73	Salary - Full Time	2070	111,426	130,183	Budget	\$130,183	Infl, Cust Growth	134,250	138,440	142,760	147,220	151,810	3.1%	7
74	Salary - Other	2070	22	5,815	Budget	\$5,815	Infl, Cust Growth	6,000	6,190	6,380	6,580	6,790	3.1%	7
75	PERS	2070	24,306	30,108	Budget	\$30,108	PERS	35,580	39,320	43,110	47,110	48,580	10.0%	3
76	Fringe - Other	2070	22,370	27,205	Budget	\$27,205	Infl, Cust Growth	28,050	28,930	29,830	30,760	31,720	3.1%	7
77	All Other Expenses	2070	518,666	599,400	Budget	\$599,400	Infl, Cust Growth	618,110	637,400	657,290	677,800	698,950	3.1%	7
78	Cashiering	2080												
79	Salary - Full Time	2080	177,132	193,922	Budget	\$193,922	Inflation	197,990	202,150	206,400	210,730	215,160	2.1%	
80	Salary - Other	2080	82	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
81	PERS	2080	37,052	46,946	Budget	\$46,946	PERS	52,470	57,410	62,330	67,430	68,850	8.0%	
82	Fringe - Other	2080	37,346	43,494	Budget	\$43,494	Inflation	44,410	45,340	46,290	47,260	48,250	2.1%	
83	All Other Expenses	2080	16,890	21,300	Budget	\$21,300	Inflation	21,750	22,210	22,680	23,160	23,650	2.1%	
84	Field and Meter Services	2090												
85	Salary - Full Time	2090	605,836	654,157	Budget	\$654,157	Inflation	667,890	681,920	696,240	710,860	725,790	2.1%	
86	Salary - Other	2090	5,834	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
87	PERS	2090	128,724	158,365	Budget	\$158,365	PERS	176,990	193,670	210,260	227,480	232,250	8.0%	
88	Fringe - Other	2090	170,276	210,119	Budget	\$210,119	Inflation	214,530	219,040	223,640	228,340	233,140	2.1%	
89	All Other Expenses	2090	25,924	30,700	Budget	\$30,700	Inflation	31,340	32,000	32,670	33,360	34,060	2.1%	
90	General Administration Expense	2510												
91	Salary - Full Time	2510	0	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
92	Fringe - Other	2510	1,686,135	1,840,000	Budget	\$1,840,000	Inflation	1,878,640	1,918,090	1,958,370	1,999,500	2,041,490	2.1%	
93	Office Rent/Expenses	2510	240,700	246,500	Budget	\$246,500	Inflation	251,680	256,970	262,370	267,880	273,510	2.1%	
94	Professional Services	2510	357,194	378,400	Budget	\$378,400	Inflation	386,350	394,460	402,740	411,200	419,840	2.1%	
95	Franchise Fees	2510		2,188,000	Budget	\$2,188,000	None	2,188,000	2,188,000	2,188,000	2,188,000	2,188,000	0.0%	
96	All Other Expenses	2510	2,636,949	1,352,600	Budget	\$1,352,600	Inflation	1,381,000	1,410,000	1,439,610	1,469,840	1,500,710	2.1%	8
97	Uncollectible Charge Offs	2510	0	150,000	Budget	\$150,000	Inflation	153,150	156,370	159,650	163,000	166,420	2.1%	
98	OH Property Plant, Equipment	2510		(270,000)	Budget	(\$270,000)	Inflation	(275,670)	(281,460)	(287,370)	(293,400)	(299,560)	n/a	
99	Capital Labor	2510		(512,000)	Budget	(\$512,000)	Inflation	(522,750)	(533,730)	(544,940)	(556,380)	(568,060)	n/a	
100	Subtotal Administrative Division		\$10,934,947	\$13,137,924	Budget	\$13,137,924	Inflation	\$13,457,880	\$13,767,720	\$14,082,410	\$14,405,450	\$14,673,620	2.2%	
101														
102	Water Utility Division													
103	Water Utility Administration	3010												
104	Salary - Full Time	3010	\$235,390	\$247,340	Budget	\$247,340	Inflation	\$252,530	\$257,830	\$263,240	\$268,770	\$274,410	2.1%	

TABLE A-4
 City of San Bernardino Municipal Water Department - Water Rate Model
 Historical and Projected Operation and Maintenance Expenses

Line	Section	Section Number	Proj. Actual	Budgeted	FY 15/16	Projected	Escalation (2)	Projected				FY 15/16 - FY 20/21	Notes	
			FY 14/15 (1)	FY 15/16 (1)	Basis	FY 15/16	Basis	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21		Annual Growth
105	Salary - Other	3010	0	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
106	PERS	3010	49,128	59,878	Budget	\$59,878	PERS	66,920	73,220	79,500	86,010	87,810	8.0%	
107	Fringe - Other	3010	23,494	27,686	Budget	\$27,686	Inflation	28,270	28,860	29,470	30,090	30,720	2.1%	
108	All Other Expenses	3010	260,748	274,000	Budget	\$274,000	Inflation	279,750	285,620	291,620	297,740	303,990	2.1%	9
109	Distribution Administration	3020												
110	Salary - Full Time	3020	237,372	280,186	Budget	\$280,186	Inflation	286,070	292,080	298,210	304,470	310,860	2.1%	
111	Salary - Other	3020	0	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
112	PERS	3020	49,832	67,830	Budget	\$67,830	PERS	75,810	82,950	90,060	97,430	99,480	8.0%	
113	Fringe - Other	3020	64,594	80,073	Budget	\$80,073	Inflation	81,750	83,470	85,220	87,010	88,840	2.1%	
114	All Other Expenses	3020	23,532	19,700	Budget	\$19,700	Inflation	20,110	20,530	20,960	21,400	21,850	2.1%	
115	Distribution Service and Repair	3021												
116	Salary - Full Time	3021	883,794	1,000,522	Budget	\$1,000,522	Inflation	1,021,530	1,042,980	1,064,880	1,087,240	1,110,070	2.1%	
117	Salary - Other	3021	131,800	100,000	Budget	\$100,000	Inflation	102,100	104,240	106,430	108,670	110,950	2.1%	
118	PERS	3021	187,242	242,216	Budget	\$242,216	PERS	270,710	296,210	321,590	347,920	355,220	8.0%	3
119	Fringe - Other	3021	212,966	280,276	Budget	\$280,276	Inflation	286,160	292,170	298,310	304,570	310,970	2.1%	
120	All Other Expenses	3021	846,091	803,600	Budget	\$803,600	Inflation	820,480	837,710	855,300	873,260	891,600	2.1%	
121	Distribution Maintenance	3023												
122	Salary - Full Time	3023	851,172	969,235	Budget	\$969,235	Inflation	989,590	1,010,370	1,031,590	1,053,250	1,075,370	2.1%	
123	Salary - Other	3023	41,800	30,000	Budget	\$30,000	Inflation	30,630	31,270	31,930	32,600	33,280	2.1%	
124	PERS	3023	183,168	234,642	Budget	\$234,642	PERS	262,240	286,950	311,540	337,040	344,120	8.0%	3
125	Fringe - Other	3023	176,434	237,172	Budget	\$237,172	Inflation	242,150	247,240	252,430	257,730	263,140	2.1%	
126	All Other Expenses	3023	682,234	673,300	Budget	\$673,300	Inflation	687,440	701,880	716,620	731,670	747,040	2.1%	
127	Water Loss Management	3024												
128	Salary - Full Time	3024	0	80,885	Budget	\$80,885	Inflation	82,580	84,310	86,080	87,890	89,740	2.1%	
129	Salary - Other	3024	0	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
130	PERS	3024	0	19,581	Budget	\$19,581	PERS	21,880	23,940	26,000	28,120	28,720	8.0%	3
131	Fringe - Other	3024	0	30,773	Budget	\$30,773	Inflation	31,420	32,080	32,750	33,440	34,140	2.1%	
132	All Other Expenses	3024	0	256,000	Budget	\$256,000	Inflation	10,000	10,000	10,000	10,000	10,000	-47.7%	6
133	Water Administration	3040												
134	Salary - Full Time	3040	216,140	215,606	Budget	\$215,606	Inflation	220,130	224,750	229,470	234,290	239,210	2.1%	
135	Salary - Other	3040	0	0	Budget	\$0	Inflation	0	0	0	0	0	n/a	
136	PERS	3040	44,718	52,196	Budget	\$52,196	PERS	58,330	63,830	69,300	74,970	76,550	8.0%	3
137	Fringe - Other	3040	38,474	56,876	Budget	\$56,876	Inflation	58,070	59,290	60,540	61,810	63,110	2.1%	
138	All Other Expenses	3040	12,940	22,500	Budget	\$22,500	Inflation	22,970	23,450	23,940	24,440	24,950	2.1%	
139	Production and Treatment	3041												
140	Utilities - Electric (Account)	3041	4,487,026	4,250,000	Budget	\$4,250,000	Infl. Consumption	4,382,640	4,519,420	4,660,470	4,805,920	4,955,910	3.1%	10
141	Granular Activated Carbon (Account)	3041	1,037,910	420,000	Budget	\$420,000	Cnsmtpt,CarbonInfl	436,930	454,540	472,860	491,920	511,740	4.0%	10, 11
142	Ion Exchange Resin	3041	40,000	0	Budget	\$0								
143	Supplemental Water	3041	250,000	1,100,000	Budget	\$1,100,000	Table A8	1,426,361	1,833,522	2,248,683	2,538,367	2,563,750	18.4%	12
144	Other Accounts	3041	496,786	484,200	Budget	\$484,200	Inflation	494,370	504,750	515,350	526,170	537,220	2.1%	
145	Salary - Full Time	3041	847,152	854,719	Budget	\$854,719	Inflation	872,670	891,000	909,710	928,810	948,320	2.1%	
146	Salary - Other	3041	24,106	20,000	Budget	\$20,000	Inflation	20,420	20,850	21,290	21,740	22,200	2.1%	
147	PERS	3041	182,642	206,919	Budget	\$206,919	PERS	231,260	253,040	274,730	297,220	303,460	8.0%	3
148	Fringe - Other	3041	209,230	249,943	Budget	\$249,943	Inflation	255,190	260,550	266,020	271,610	277,310	2.1%	
149	Plant and Facility Maintenance	3042												
150	Salary - Full Time	3042	343,662	425,921	Budget	\$425,921	Inflation	434,870	444,000	453,320	462,840	472,560	2.1%	
151	Salary - Other	3042	840	1,500	Budget	\$1,500	Inflation	1,530	1,560	1,590	1,620	1,650	1.9%	
152	PERS	3042	73,940	103,111	Budget	\$103,111	PERS	115,240	126,100	136,900	148,110	151,220	8.0%	3
153	Fringe - Other	3042	91,988	107,310	Budget	\$107,310	Inflation	109,560	111,860	114,210	116,610	119,060	2.1%	
154	Electrical Services	3042	205,030	250,000	Budget	\$250,000	Inflation	255,250	260,610	266,080	271,670	277,380	2.1%	
155	All Other Expenses	3042	142,264	274,500	Budget	\$274,500	Inflation	280,260	286,150	292,160	298,300	304,560	2.1%	
156	Specialty Construction	3043												

TABLE A-4
 City of San Bernardino Municipal Water Department - Water Rate Model
 Historical and Projected Operation and Maintenance Expenses

Line	Section	Section Number	Proj. Actual FY 14/15 (1)	Budgeted FY 15/16 (1)	FY 15/16 Basis	Projected FY 15/16	Escalation (2) Basis	Projected				FY 15/16 - FY 20/21 Annual Growth	Notes	
								FY 16/17	FY 17/18	FY 18/19	FY 19/20			FY 20/21
157	Salary - Full Time	3043	328,020	394,657	Budget	\$394,657	Inflation	402,940	411,400	420,040	428,860	437,870	2.1%	
158	Salary - Other	3043	226	1,500	Budget	\$1,500	Inflation	1,530	1,560	1,590	1,620	1,650	1.9%	
159	PERS	3043	68,702	95,543	Budget	\$95,543	PERS	106,780	116,840	126,850	137,240	140,120	8.0%	
160	Fringe - Other	3043	81,274	111,365	Budget	\$111,365	Inflation	113,700	116,090	118,530	121,020	123,560	2.1%	
161	All Other Expenses	3043	58,476	80,000	Budget	\$80,000	Inflation	81,680	83,400	85,150	86,940	88,770	2.1%	
162	Engineering	3060												
163	Salary - Full Time	3060	721,534	790,631	Budget	\$790,631	Inflation	807,230	824,180	841,490	859,160	877,200	2.1%	5
164	Salary - Other	3060	6,736	6,218	Budget	\$6,218	Inflation	6,350	6,480	6,620	6,760	6,900	2.1%	
165	PERS	3060	155,746	191,404	Budget	\$191,404	Inflation	195,420	199,520	203,710	207,990	212,360	2.1%	
166	Fringe - Other	3060	111,410	137,304	Budget	\$137,304	Inflation	140,190	143,130	146,140	149,210	152,340	2.1%	
167	All Other Expenses	3060	176,350	268,500	Budget	\$268,500	Inflation	274,140	279,900	285,780	291,780	297,910	2.1%	
168	Quality and Backflow	3063												
169	Salary - Full Time	3063	400,246	558,914	Budget	\$558,914	Inflation	570,650	582,630	594,870	607,360	620,110	2.1%	
170	Salary - Other	3063	3,334	4,600	Budget	\$4,600	Inflation	4,700	4,800	4,900	5,000	5,110	2.1%	
171	PERS	3063	81,260	135,307	Budget	\$135,307	PERS	151,220	165,470	179,650	194,360	198,440	8.0%	3
172	Fringe - Other	3063	83,456	142,346	Budget	\$142,346	Inflation	145,340	148,390	151,510	154,690	157,940	2.1%	
173	All Other Expenses	3063	423,794	416,300	Budget	\$416,300	Inflation	425,040	433,970	443,080	452,380	461,880	2.1%	
174	Subtotal, Water Utility Division		\$16,586,203	\$18,444,785		\$18,444,785		\$19,053,081	\$19,982,942	\$20,930,263	\$21,767,107	\$22,254,640	3.8%	
175														
176	Water Reclamation Division													
177	Electrical, Instrumentation, and SCADA	4042												
178	Salary - Full Time	4042	\$292,946	\$373,880	Budget	\$373,880	Inflation	\$381,730	\$389,750	\$397,930	\$406,290	\$414,820	2.1%	
179	Salary - Other	4042	7,952	12,383	Budget	\$12,383	Inflation	12,640	12,910	13,180	13,460	13,740	2.1%	
180	PERS	4042	61,998	90,513	Budget	\$90,513	PERS	101,160	110,690	120,170	130,010	132,740	8.0%	
181	Fringe - Other	4042	60,936	87,384	Budget	\$87,384	Inflation	89,220	91,090	93,000	94,950	96,940	2.1%	
182	All Other Expenses	4042	12,658	18,000	Budget	\$18,000	Inflation	18,380	18,770	19,160	19,560	19,970	2.1%	
183	Subtotal, Water Reclamation Division		\$436,490	\$582,160		\$582,160		\$603,130	\$623,210	\$643,440	\$664,270	\$678,210	3.1%	
184														
185	Adjustment for Vacancies					(\$1,480,000)		(\$1,110,000)	(\$600,000)	(\$600,000)	(\$600,000)	(\$600,000)	n/a	13
186														
187	Total, O&M Expenses		\$27,957,640	\$32,164,869		\$30,684,869		\$32,004,091	\$33,773,872	\$35,056,113	\$36,236,827	\$37,006,470	3.8%	
188														
189	Total O&M Expenses Less Supplemental Water Purchases							\$30,577,730	\$31,940,350	\$32,807,430	\$33,698,460	\$34,442,720	n/a	

Line	Section	Section Number	Proj. Actual FY 14/15 (1)	Budgeted FY 15/16 (1)	Projected FY 15/16	Projected				FY 15/16 - FY 20/21 Annual Growth			
						FY 16/17	FY 17/18	FY 18/19	FY 19/20		FY 20/21		
190	Administration Division												
191	Board of Water Commissioners	1010	\$46,421	\$59,300	\$59,300	\$60,540	\$61,800	\$63,100	\$64,420	\$65,780	2.1%		
192	Administration	1050	236,562	516,297	\$516,297	530,280	544,080	558,080	572,420	584,440	2.5%		
193	Administration Services	1055	152,402	188,708	\$188,708	195,800	202,570	209,380	216,400	220,940	3.2%		
194	Environmental and Regulatory Compliance	1060	393,736	573,245	\$573,245	592,210	610,500	628,980	647,970	661,570	2.9%		
195	Human Resources	1070	120,542	196,551	\$196,551	203,270	209,730	216,260	222,970	227,650	3.0%		
196	Finance	2010	549,868	607,799	\$607,799	627,550	646,640	665,930	685,760	700,150	2.9%		
197	Information Technology	2030	833,402	852,278	\$852,278	876,220	899,740	923,590	948,040	967,950	2.6%		
198	Purchasing, Warehouse & Fleet	2040	226,088	340,022	\$340,022	351,540	362,620	373,820	385,310	393,400	3.0%		
199	Fleet	2045	684,384	962,542	\$962,542	985,470	1,008,450	1,031,840	1,055,770	1,077,950	2.3%		
200	Customer Relations	2050	149,388	187,107	\$187,107	200,050	208,520	217,210	226,240	233,310	4.5%		
201	Water Conservation	2055	0	290,898	\$290,898	298,260	305,590	313,040	320,660	327,390	2.4%		
202	Customer Service	2060	739,290	837,963	\$837,963	866,930	894,760	922,870	951,760	971,740	3.0%		
203	Billing	2070	676,790	792,711	\$792,711	821,990	850,280	879,370	909,470	937,850	3.4%		

TABLE A-4
City of San Bernardino Municipal Water Department - Water Rate Model
Historical and Projected Operation and Maintenance Expenses

Line	Section	Section Number	Proj. Actual FY 14/15 (1)	Budgeted FY 15/16 (1)	FY 15/16 Basis	Projected FY 15/16	Escalation (2) Basis	Projected				FY 15/16 - FY 20/21 Annual Growth	Notes	
								FY 16/17	FY 17/18	FY 18/19	FY 19/20			FY 20/21
204	Cashiering	2080	268,502	305,662		\$305,662		316,620	327,110	337,700	348,580	355,910	3.1%	
205	Field and Meter Services	2090	936,594	1,053,341		\$1,053,341		1,090,750	1,126,630	1,162,810	1,200,040	1,225,240	3.1%	
206	General Administration Expense	2510	4,920,978	5,373,500		\$5,373,500		5,440,400	5,508,700	5,578,430	5,649,640	5,722,350	1.3%	
207	Subtotal Administration Division		\$10,934,947	\$13,137,924		\$13,137,924		\$13,457,880	\$13,767,720	\$14,082,410	\$14,405,450	\$14,673,620	2.2%	
208														
209	Water Utility Division													
210	Water Utility Administration	3010	\$568,760	\$608,904		\$608,904		\$627,470	\$645,530	\$663,830	\$682,610	\$696,930	2.7%	
211	Distribution Administration	3020	375,330	447,789		\$447,789		463,740	479,030	494,450	510,310	521,030	3.1%	
212	Distribution Service and Repair	3021	2,261,893	2,426,614		\$2,426,614		2,500,980	2,573,310	2,646,510	2,721,660	2,778,810	2.7%	
213	Distribution Maintenance	3023	1,934,808	2,144,349		\$2,144,349		2,212,050	2,277,710	2,344,110	2,412,290	2,462,950	2.8%	
214	Water Loss Management	3024	0	387,239		\$387,239		145,880	150,330	154,830	159,450	162,600	-15.9%	
215	Water Administration	3040	312,272	347,178		\$347,178		359,500	371,320	383,250	395,510	403,820	3.1%	
216	Production and Treatment	3041	7,574,852	7,585,781		\$7,585,781		8,119,841	8,737,672	9,369,113	9,881,757	10,119,910	5.9%	
217	Plant and Facility Maintenance	3042	857,724	1,162,342		\$1,162,342		1,196,710	1,230,280	1,264,260	1,299,150	1,326,430	2.7%	
218	Specialty Construction	3043	536,698	683,065		\$683,065		706,630	729,290	752,160	775,680	791,970	3.0%	
219	Engineering	3060	1,171,776	1,394,057		\$1,394,057		1,423,330	1,453,210	1,483,740	1,514,900	1,546,710	2.1%	
220	Quality and Backflow	3063	992,090	1,257,467		\$1,257,467		1,296,950	1,335,260	1,374,010	1,413,790	1,443,480	2.8%	
221	Subtotal, Water Utility Division		\$16,586,203	\$18,444,785		\$18,444,785		\$19,053,081	\$19,982,942	\$20,930,263	\$21,767,107	\$22,254,640	3.8%	
222														
223	Water Reclamation Division													
224	Electrical, Instrumentation, and SCADA	4042	\$436,490	\$582,160		\$582,160		\$603,130	\$623,210	\$643,440	\$664,270	\$678,210	3.1%	
225	Subtotal Water Reclamation Division		\$436,490	\$582,160		\$582,160		\$603,130	\$623,210	\$643,440	\$664,270	\$678,210	3.1%	
226														
227	Adjustment for Vacancies					(\$1,480,000)		(\$1,110,000)	(\$600,000)	(\$600,000)	(\$600,000)	(\$600,000)	n/a	
228														
229	Total, O&M Expenses					\$30,684,869		\$32,004,091	\$33,773,872	\$35,056,113	\$36,236,827	\$37,006,470	3.8%	

Notes:

- (1) Source: City of San Bernardino Municipal Water Department FY 14/15 Budget and FY 15/16 Budget
- (2) Based on discussions with Department staff. In general, the FY 15/16 budget is the basis for projections and most expenses are adjusted only for inflation unless otherwise noted.
- (3) PERS expenses are provided as a percentage of salaries, per CalPERS Actuarial Valuations. See Table A-1 for specific percentages.
- (4) The recent increase in expenses is for consulting and other professional services which Department staff believe will be ongoing.
- (5) Recent change and/or variability in expenses is primarily due to how expenses are allocated between water, sewer, and RIX funds.
- (6) FY 16/17 and beyond costs per Department staff, 03/09/16
- (7) Also escalated for changes in residential customer growth
- (13) FY 14/15 includes non-recurring capital project.
- (14) The majority of this is related to a consent decree and funded by others.
- (15) Expenses also proportional to water consumption
- (16) Activated carbon is expected to escalate at a different rate from the rate of general inflation. See Table A-1.
- (17) Refer to Table A8 for documentation of projected costs. These costs are fully recovered from the Replenishment Fee.
- (18) Vacancies are budgeted positions that are unfilled. As of Dec 2014, there were 41 vacancies out of 282 budgeted Department positions. For the purposes of this analysis, the same amount of vacancies exist as of March 2016. Salary + benefits + PERS costs of vacancies are excluded from the 15/16 projections. For FY 16/17, 25% of the vacancies are filled. In other years, there are assumed to always be eight vacant positions at \$75K/position/year.

TABLE A-5
City of San Bernardino Municipal Water Department - Water Rate Model
Capital Improvement Plan Funding

Line	Capital Expenditure Category	FY 15/16-20/21						Notes
		FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	
1	Total Capital Expenditures, FY 15/16 Dollars							1
2	Replacement/Rehabilitation Assets	\$4,142,000	\$7,352,000	\$11,312,000	\$9,047,000	\$5,537,000	\$2,047,000	\$39,437,000
3	New System Assets	3,457,000	5,045,000	395,000	4,045,000	395,000	5,895,000	19,232,000
4	Generators	0	300,000	300,000	300,000	300,000	0	1,200,000
5	Rolling Stock	145,000	145,000	330,000	0	0	0	620,000
6	Pipeline Construction Crew		500,000	500,000	500,000	500,000	500,000	2,500,000
7	Operating Budget Capital Expenditures							
8	Section 2030: Information Technology	400,000	400,000	400,000	400,000	400,000	400,000	2,400,000
9	Section 2045: Fleet	190,000	190,000	190,000	190,000	190,000	190,000	1,140,000
	Section 3024: Water Loss Management	26,500	26,500	26,500	26,500	26,500	26,500	159,000
10	Section 2510: OH Property, Plant, Equipment	270,000	270,000	270,000	270,000	270,000	270,000	1,620,000
11	Section 2510: Capital Labor	512,000	512,000	512,000	512,000	512,000	512,000	3,072,000
12	Subtotal, Capital Expenditures, FY 15/16 Dollars	\$9,142,500	\$14,740,500	\$14,235,500	\$15,290,500	\$8,130,500	\$9,840,500	\$71,380,000
13								
14	Total Capital Expenditures, Inflation Adjusted Dollars							
15	Replacement/Rehabilitation Assets	\$4,142,000	\$7,506,000	\$11,792,000	\$9,629,000	\$6,017,000	\$2,271,000	\$41,357,000
16	New System Assets	3,457,000	5,151,000	412,000	4,305,000	429,000	6,541,000	20,295,000
17	Generators	0	306,000	313,000	319,000	326,000	0	1,264,000
18	Rolling Stock	145,000	148,000	344,000	0	0	0	637,000
19	Pipeline Construction Crew	0	511,000	521,000	532,000	543,000	555,000	2,662,000
20	Operating Budget Capital Expenditures							
21	Section 2030: Information Technology	400,000	408,000	417,000	426,000	435,000	444,000	2,530,000
22	Section 2045: Fleet	190,000	194,000	198,000	202,000	206,000	211,000	1,201,000
	Section 3024: Water Loss Management	26,500	27,000	28,000	28,000	29,000	29,000	167,500
23	Section 2510: OH Property, Plant, Equipment	270,000	276,000	281,000	287,000	293,000	300,000	1,707,000
24	Section 2510: Capital Labor	512,000	523,000	534,000	545,000	556,000	568,000	3,238,000
25	Subtotal, Capital Expenditures, Inflation Adjusted Dollars	\$9,142,500	\$15,050,000	\$14,840,000	\$16,273,000	\$8,834,000	\$10,919,000	\$75,058,500
26								
27	Debt Funded Capital							
28	CIEDB		\$10,000,000		\$10,000,000			\$20,000,000
29	Future Revenue Bond or Private Placement Debt	0	0	13,000,000	4,000,000	7,000,000	8,000,000	32,000,000
30	Subtotal: Debt Funded Capital	\$0	\$10,000,000	\$13,000,000	\$14,000,000	\$7,000,000	\$8,000,000	\$52,000,000
31								
32	Rate/Reserve Funded Capital							
33	Capital Improvement Plan	\$7,744,000	\$3,622,000	\$382,000	\$785,000	\$315,000	\$1,367,000	\$14,215,000
34	Operating Budget Capital Expenditures	\$1,398,500	\$1,428,000	\$1,458,000	\$1,488,000	\$1,519,000	\$1,552,000	\$8,843,500
35								
36	Total Capital Improvement Funding	\$9,142,500	\$15,050,000	\$14,840,000	\$16,273,000	\$8,834,000	\$10,919,000	\$75,058,500

Notes:

- (1) Source: Department staff, provided 02/08/16. Excludes projects funded by other agencies and projects funded by developers.
Per direction from Department, also excludes certain Pipeline Replacement and Reservoir Seismic Upgrades which will be deferred from the schedule shown in the 2/8/16 CIP. No funding for the Administration Facility is included.
- (2) This is to hire an in-house construction crew of 7 FTEs to reduce construction costs for certain pipeline construction projects. Staff to be hired during FY 15/16.
- (3) There are capital outlays in the Department's Operating Budget that are separate, and in addition to, capital outlays in the Department's Capital Improvement Plan.
- (4) The Department anticipates being able to receive \$10,000,000 in CIEDB loans in FY 16/17 and FY 18/19.
- (5) Debt issuances are sized to balance rate increases, coverage requirements, and reserve requirements. 69% of CIP = debt funded

TABLE A-6
City of San Bernardino Municipal Water Department - Water Rate Model
Existing and Future Debt Service

Line	Existing Debt Service	Type of Payment	Projected					Notes	
			FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20		FY 20/21
1	2002 CIEDB	Principal	\$594,440	\$614,290	\$634,810	\$656,010	\$677,930	incl. in total	1
2	2007 CIEDB	Principal	492,780	506,130	519,850	533,940	548,400	incl. in total	1
3	2012 CIEDB	Principal	435,110	446,470	458,120	470,080	482,350	incl. in total	1
4	2002 CIEDB	Interest/Annual Fee	\$153,710	\$133,850	\$113,340	\$92,138	\$70,218	incl. in total	1
5	2007 CIEDB	Interest/Annual Fee	179,754	166,219	152,317	138,060	123,600	incl. in total	1
6	2012 CIEDB	Interest/Annual Fee	233,468	221,963	210,158	197,920	185,650	incl. in total	1
7	SBVMWD Note Payable	Principal and Interest	229,227	229,227	0	0	0	incl. in total	1
8	Total, Existing Debt Service		\$2,318,489	\$2,318,149	\$2,088,595	\$2,088,148	\$2,088,148		
9									
10	Debt Service For Use in DSCR Calculations		\$2,089,262	\$2,088,922	\$2,088,595	\$2,088,148	\$2,088,148		2

Line	Proposed Debt Service	Issue Date	Amount	Interest Rate	Total Principal and Interest Payment							
					FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	
11	CIEDB	16/17	\$10,000,000	3.5%			773,200	773,200	773,200	773,200	773,200	3
12	CIEDB	18/19	\$10,000,000	3.5%					781,790	781,790	781,790	3
13	Revenue Bond/Private Placement	16/17	\$0	6.0%			0	0	0	0	0	3
14	Revenue Bond/Private Placement	17/18	\$13,000,000	6.0%			1,035,000	1,035,000	1,035,000	1,035,000	1,035,000	3
15	Revenue Bond/Private Placement	18/19	\$4,000,000	6.0%				318,460	318,460	318,460	318,460	3
16	Revenue Bond/Private Placement	19/20	\$7,000,000	6.0%					557,310	557,310	557,310	3
17	Revenue Bond/Private Placement	20/21	\$8,000,000	6.0%							636,920	3
18	Total				\$0	\$773,200	\$1,808,200	\$2,908,450	\$3,465,760	\$4,102,680		

TABLE A-7
City of San Bernardino Municipal Water Department - Water Rate Model
Projected Operating Statement - Cash Basis

Line	Projected						Notes	
	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21		
1	SOURCES OF FUNDS							
2	Beginning Fund Balance (Restricted and Unrestricted)						1	
3		\$3,783,070	\$3,945,710	\$4,163,900	\$4,321,990	\$4,467,550		
4		360,759	0	0	0	0	2	
5	17,789,720	2,257,772	672,715	845,338	1,697,383	3,695,496	3	
6		1,519,600	0	0	0	0	4	
7		30,146	2,289	12,037	35,990	42,411	5	
8		\$17,789,720	\$7,951,348	\$4,620,713	\$5,021,275	\$6,055,363	\$8,205,457	
9								
10	Water Sales Revenues Rate Increases to be Applied to:	\$22,873,518	\$23,096,773	\$23,322,263	\$23,550,003	\$23,780,026	\$24,012,347	
11								
12	Revenues from Water Rate Increases						6	
13		% of Regular	Months					
14	Year	Water Sales Rev.	Effective					
15	FY 15/16	0.0%	12.0	\$0	\$0	\$0	\$0	
16	FY 16/17	9.5%	12.0	\$2,194,190	\$2,215,610	\$2,237,250	\$2,259,100	
17	FY 17/18	9.5%	12.0		\$2,426,100	\$2,449,790	\$2,473,720	
18	FY 18/19	9.5%	12.0			\$2,682,520	\$2,708,720	
19	FY 19/20	5.5%	12.0				\$1,717,190	
20	FY 20/21	5.5%	12.0				\$1,829,330	
21	Subtotal, Revenues from Water Rate Increases	\$0	\$2,194,190	\$4,641,710	\$7,369,560	\$9,158,730	\$11,077,520	
22								
23	Other Water Sales Revenues							
24	Conservation Charge	1,140,000	1,613,053	1,629,180	1,645,470	1,661,920	1,678,540	7
25	Elevation Charge	2,036,160	2,056,522	2,077,085	2,097,857	2,118,838	2,140,027	8
26	Replenishment Fee	1,155,468	1,426,361	1,833,522	2,248,683	2,538,367	2,563,750	9
27	Other	674,600	729,250	733,940	738,680	743,470	748,300	10
28	Other Operating Revenue	1,591,950	1,991,080	2,000,410	2,009,930	2,019,650	2,029,580	10
29	Other Non-Operating Revenue, Excluding Interest	2,480,000	3,571,500	3,603,660	3,636,500	3,670,030	3,704,260	10
30	Interest Income	355,790	159,030	92,410	100,430	121,110	164,110	11
31								
32	Total Revenue	\$32,307,486	\$36,837,758	\$39,934,179	\$43,397,113	\$45,812,140	\$48,118,434	
33								
34	Debt Proceeds	0	10,000,000	13,000,000	14,000,000	7,000,000	8,000,000	12
35								
36	Total Sources of Funds	\$50,097,206	\$54,789,105	\$57,554,893	\$62,418,388	\$58,867,503	\$64,323,891	

TABLE A-7
City of San Bernardino Municipal Water Department - Water Rate Model
Projected Operating Statement - Cash Basis

Notes:

- (1) FY 15/16 beginning of year Fund Balance from FY 14/15 CAFR, page 14.
- (2) This reserve is funded as funds allow. In this rate study, it is given the lowest priority among the various reserve accounts.
- (3) Accumulation of this reserve phased in over a ten-year period. FY 15/16 is year 4 of 10. In this rate study, reserves are funded as funds allow and given the highest priority for funding other than the operating reserve
- (4) This reserve is funded as funds allow but is not funded in the course of this rate study.
- (5) Unencumbered Reserves are used in this rate study to show reserves that remain after all four reserve accounts are funded
- (6) Includes Regular Water Sales (Minimum Monthly Charge and Commodity Charge) and Municipal Water Sales
- (7) Projected Conservation Charge revenues include the proposed increased charge shown in Table A-ξ
- (8) No change in the Elevation Charges are proposed.
- (9) Refer to Table A-8 for recalculated Replenishment Fee.
- (10) Refer to Table A-3 for more detail on these revenues.
- (11) For rate setting purposes, assumed to be 2% per year on the beginning year fund balance.
- (12) Refer to Table A-5 and Table A-6. Debt financed amounts calculated by FG Solutions to minimize rate increases while meeting reserve and coverage requirements
All new debt assumed to be issued on par with existing debt.

TABLE A-7
City of San Bernardino Municipal Water Department - Water Rate Model
Projected Operating Statement - Cash Basis

Line	Projected						Notes
	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	
37	USES OF FUNDS						
38	\$30,684,869	\$32,004,091	\$33,773,872	\$35,056,113	\$36,236,827	\$37,006,470	
39	Debt Service						
40	\$2,318,489	\$2,318,149	\$2,088,595	\$2,088,148	\$2,088,148	\$2,088,148	
41	\$0	\$796,152	\$1,831,151	\$2,945,764	\$3,503,071	\$4,139,993	
42							
43	\$9,142,500	\$15,050,000	\$14,840,000	\$16,273,000	\$8,834,000	\$10,919,000	
44							
45	\$42,145,858	\$50,168,392	\$52,533,617	\$56,363,026	\$50,662,046	\$54,153,611	
46							
47							
48	FINANCIAL PERFORMANCE INDICATORS						
49	EOY Reserve Balance (Target in Parentheses)						
50	\$3,783,070	\$3,945,710	\$4,163,900	\$4,321,990	\$4,467,550	\$4,562,440	1
51	360,759	0	0	0	0	0	2
52	2,257,772	672,715	845,338	1,697,383	3,695,496	5,566,475	3
53	1,519,600	0	0	0	0	0	4
54	30,146	2,289	12,037	35,990	42,411	41,366	5
55	\$7,951,348	\$4,620,713	\$5,021,275	\$6,055,363	\$8,205,457	\$10,170,280	
56							
57	Debt Service Coverage Ratio						
58	\$32,307,486	\$36,837,758	\$39,934,179	\$43,397,113	\$45,812,140	\$48,118,434	
59	(30,684,869)	(32,004,091)	(33,773,872)	(35,056,113)	(36,236,827)	(37,006,470)	
60	\$1,622,617	\$4,833,667	\$6,160,307	\$8,341,000	\$9,575,313	\$11,111,964	
61							
62	\$2,089,262	\$2,885,074	\$3,919,746	\$5,033,912	\$5,591,219	\$6,228,141	
63							
64	0.78	1.68	1.57	1.66	1.71	1.78	
65	1.75	1.75	1.75	1.75	1.75	1.75	

TABLE A-8
 City of San Bernardino Municipal Water Department - Water Rate Model
 Rate Design Calculations

Proposed Rate Design Change: Adjust Conservation Charge

1
 2 Methodology: compile costs associated with providing seasonal peaking water as listed below. Divide by 2nd tier water use to generate the
 3 Conservation Charge. The calculation is based on FY 13/14 water use patterns. This is
 4 conservative - meaning that the \$/hcf Conservation Charge is lower than it would be if it were based on FY 15/16
 5 water use patterns. Therefore, the Conservation Charge would be defensible even if water use returned to the patterns
 6 observed during FY 13/14. Note that in this analysis, the terms Conservation Charge and 2nd Tier Charge are used interchangeably.
 7
 8

9 Step 1. Compile Water Use Data

10 FY 13/14 Detail, 2nd Tier hcf (Compiled by FG Solutions based analysis of Department's FY 13/14 water consumption data)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
13 ASSESSMENT DIST	0	0	0	0	0	0	0	0	0	0	0	0
14 CAP REBATE	0	0	0	0	0	0	0	0	0	0	0	0
15 COLTON-INTERTIE	0	0	0	0	0	0	0	0	0	0	0	0
16 COMMERCIAL/LAND/LT. INDST	67,440	63,309	66,197	46,705	23,839	11,842	18,791	16,431	8,147	16,345	28,541	42,656
17 EDUCATION-PUBLIC	43,168	53,568	48,872	42,562	21,387	9,318	7,610	10,580	7,637	10,223	27,033	41,619
18 GOLF COURSE	28,472	26,726	22,246	18,976	11,158	3,851	12,044	7,308	8,288	10,532	19,240	24,491
19 HYDRANT	0	0	0	0	0	0	0	0	0	0	0	0
20 INTERTIE-NO CONSUMPTION	0	0	0	0	0	0	0	0	0	0	0	0
21 INTERTIE-WITH CONSUMPTION	0	0	0	0	0	0	0	0	0	0	0	0
22 MULTI-FAMILY	31,582	33,467	35,303	23,386	14,904	7,525	11,207	8,970	6,634	7,302	13,043	23,515
23 MULTI-FAMILY 2 UNIT (WA)	5,524	6,060	7,925	4,219	3,258	2,037	3,080	2,271	1,964	1,791	2,498	4,490
24 MUNICIPAL	0	0	0	0	0	0	0	0	0	0	0	0
25 NON RESIDENTIAL	93,132	87,356	100,436	74,084	123,723	98,422	65,299	56,603	53,621	50,098	62,348	76,501
26 RESIDENTIAL-SINGLE FAMILY	214,919	198,468	205,270	117,886	70,599	36,013	74,406	43,224	28,655	43,116	96,450	162,434
27 WATER DEPARTMENT RATE	0	0	0	0	0	0	0	0	0	0	0	0
28 WATER-COUNTY HOSPITAL	0	0	0	0	0	0	0	0	0	0	0	0
29 WEST VALLEY INTERTIE	0	0	0	0	0	0	0	0	0	0	0	0
30 Total	484,237	468,954	486,249	327,818	268,868	169,008	192,437	145,387	114,946	139,407	249,153	375,706

32 Projected FY 15/16, 2nd Tier hcf (Calculated by FG Solutions based on an analysis of Department's FY 13/14 water consumption data)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
34 ASSESSMENT DIST	0	0	0	0	0	0	0	0	0	0	0	0
35 CAP REBATE	0	0	0	0	0	0	0	0	0	0	0	0
36 COLTON-INTERTIE	0	0	0	0	0	0	0	0	0	0	0	0
37 COMMERCIAL/LAND/LT. INDST	35,049	31,655	34,474	22,092	9,558	4,531	7,737	6,942	2,965	6,737	13,061	20,168
38 EDUCATION-PUBLIC	26,603	33,498	29,509	25,501	12,791	5,510	4,525	6,716	4,663	6,118	15,485	24,245
39 GOLF COURSE	20,085	18,828	15,603	13,248	7,619	2,358	8,257	4,847	5,553	7,169	13,438	17,219
40 HYDRANT	0	0	0	0	0	0	0	0	0	0	0	0
41 INTERTIE-NO CONSUMPTION	0	0	0	0	0	0	0	0	0	0	0	0
42 INTERTIE-WITH CONSUMPTION	0	0	0	0	0	0	0	0	0	0	0	0
43 MULTI-FAMILY	13,091	14,729	15,125	9,030	4,246	2,164	3,592	2,533	2,166	2,298	3,903	7,913
44 MULTI-FAMILY 2 UNIT (WA)	1,925	2,301	3,197	1,719	1,363	846	1,267	920	768	657	770	1,498
45 MUNICIPAL	0	0	0	0	0	0	0	0	0	0	0	0
46 NON RESIDENTIAL	52,809	48,808	56,566	40,751	77,201	61,342	36,025	31,133	29,429	28,049	34,013	42,567
47 RESIDENTIAL-SINGLE FAMILY	80,066	73,188	75,194	41,971	25,371	12,126	26,767	14,778	9,436	13,932	32,404	58,349
48 WATER DEPARTMENT RATE	0	0	0	0	0	0	0	0	0	0	0	0
49 WATER-COUNTY HOSPITAL	0	0	0	0	0	0	0	0	0	0	0	0
50 WEST VALLEY INTERTIE	0	0	0	0	0	0	0	0	0	0	0	0
51 Total	229,629	223,006	229,668	154,313	138,149	88,878	88,170	67,870	54,980	64,959	113,074	171,959

52

TABLE A-8
City of San Bernardino Municipal Water Department - Water Rate Model
Rate Design Calculations

FY 13/14 Detail, Total (Compiled by FG Solutions based analysis of Department's FY 13/14 water consumption data)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
53													
54													
55	ASSESSMENT DIST	35,997	36,132	37,845	33,293	27,728	16,708	19,066	20,361	12,279	15,977	21,257	26,833
56	CAP REBATE	9,934	9,475	10,009	7,712	6,349	4,663	6,140	5,579	5,260	5,522	7,354	9,238
57	COLTON-INTERTIE		0	0		0	0	15		0		0	0
58	COMMERCIAL/LAND/LT. INDST	187,009	186,515	189,753	160,758	123,341	87,101	95,433	94,885	71,546	92,255	123,080	152,705
59	EDUCATION-PUBLIC	76,260	89,041	85,544	77,870	49,774	31,199	28,145	30,116	25,767	31,665	59,522	77,837
60	GOLF COURSE	29,952	28,206	23,726	20,456	12,638	5,331	13,524	8,788	9,768	12,012	20,720	25,971
61	HYDRANT	9,165	8,916	26,958	14,315	6,597	11,059	11,237	7,050	7,067	5,272	7,186	6,011
62	INTERTIE-NO CONSUMPTION	23,761	23,573	22,618	19,690	13,996	14,193	12,096	14,223	13,070	6,228	1,781	925
63	INTERTIE-WITH CONSUMPTION	17	5	55	6	14	15	18	17	15	5	12	20
64	MULTI-FAMILY	218,200	224,780	224,012	199,810	183,326	152,367	181,101	163,764	154,972	155,317	179,897	207,930
65	MULTI-FAMILY 2 UNIT (WA)	42,262	42,081	45,563	35,545	31,454	25,713	30,144	28,276	26,463	26,467	32,516	39,212
66	MUNICIPAL	79,155	74,522	76,978	72,126	53,519	35,359	38,728	32,988	28,719	33,104	57,692	67,122
67	NON RESIDENTIAL	236,594	231,624	249,802	211,727	252,854	215,334	187,162	176,576	170,016	165,006	190,084	212,714
68	RESIDENTIAL-SINGLE FAMILY	1,011,023	978,137	997,447	800,937	659,603	497,502	642,249	560,865	502,830	576,964	758,075	914,093
69	WATER DEPARTMENT RATE	974	1,250	1,492	1,373	1,000	1,033	1,306	1,154	1,125	1,220	1,399	1,438
70	WATER-COUNTY HOSPITAL	0	0	0	0	0	0	0	0	0	0	0	0
71	WEST VALLEY INTERTIE	0	0	0	0	0	0	0	0	0	0	0	0
72	(blank)												
73	Grand Total	1,960,303	1,934,257	1,991,802	1,655,618	1,422,193	1,097,577	1,266,364	1,144,642	1,028,897	1,127,014	1,460,575	1,742,049

Projected FY 15/16, Total (Calculated by FG Solutions based on an analysis of Department's FY 13/14 water consumption data)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
74													
75													
76	ASSESSMENT DIST	25,918	26,015	27,248	23,971	19,964	12,030	13,728	14,660	8,841	11,503	15,305	19,320
77	CAP REBATE	7,152	6,822	7,206	5,553	4,571	3,357	4,421	4,017	3,787	3,976	5,295	6,651
78	COLTON-INTERTIE	0	0	0	0	0	0	11	0	0	0	0	0
79	COMMERCIAL/LAND/LT. INDST	134,646	134,291	136,622	115,746	88,806	62,713	68,712	68,317	51,513	66,424	88,618	109,948
80	EDUCATION-PUBLIC	54,907	64,110	61,592	56,066	35,837	22,463	20,264	21,684	18,552	22,799	42,856	56,043
81	GOLF COURSE	21,565	20,308	17,083	14,728	9,099	3,838	9,737	6,327	7,033	8,649	14,918	18,699
82	HYDRANT	6,599	6,420	19,410	10,307	4,750	7,962	8,091	5,076	5,088	3,796	5,174	4,328
83	INTERTIE-NO CONSUMPTION	17,108	16,973	16,285	14,177	10,077	10,219	8,709	10,241	9,410	4,484	1,282	666
84	INTERTIE-WITH CONSUMPTION	12	4	40	4	10	11	13	12	11	4	9	14
85	MULTI-FAMILY	157,104	161,842	161,289	143,863	131,995	109,704	130,393	117,910	111,580	111,828	129,526	149,710
86	MULTI-FAMILY 2 UNIT (WA)	30,429	30,298	32,805	25,592	22,647	18,513	21,704	20,359	19,053	19,056	23,412	28,233
87	MUNICIPAL	56,992	53,656	55,424	51,931	38,534	25,458	27,884	23,751	20,678	23,835	41,538	48,328
88	NON RESIDENTIAL	170,348	166,769	179,857	152,443	182,055	155,040	134,757	127,135	122,412	118,804	136,860	153,154
89	RESIDENTIAL-SINGLE FAMILY	727,937	704,259	718,162	576,675	474,914	358,201	462,419	403,823	362,038	415,414	545,814	658,147
90	WATER DEPARTMENT RATE	701	900	1,074	989	720	744	940	831	810	878	1,007	1,035
91	WATER-COUNTY HOSPITAL	0	0	0	0	0	0	0	0	0	0	0	0
92	WEST VALLEY INTERTIE	0	0	0	0	0	0	0	0	0	0	0	0
93	(blank)												
94	Grand Total	1,411,418	1,392,665	1,434,097	1,192,045	1,023,979	790,255	911,782	824,142	740,806	811,450	1,051,614	1,254,275

Step 2. Summarize Water Consumption

	Total hcf	Consumption Chg hcf	2nd Tier Hcf	
97				
98				
99	FY 13/14	17,831,291	17,316,723	3,422,170
100	Projected FY 15/16	12,838,530	12,468,041	1,624,655
101				

Note: Assessment Districts and certain golf courses have water rates established by contract and pay a reduced consumption charge (not the current \$1.15/hcf) and aren't included in Consumption Charge calculation.

102
103
104

TABLE A-8
City of San Bernardino Municipal Water Department - Water Rate Model
Rate Design Calculations

105	Step 3. Identify Costs that are Related to 2nd Tier Water Use	
106		
107	Item 3.1. Conservation Program Costs.	
108	Billing Unit 2055, Water Conservation, FY 15/16 Budget	\$290,898 Note that FY 14/15 Budget was \$191,000 and projected FY 14/15 actual (as reported in FY 15/16 budget) was \$86,506
109		
110	Item 3.2 Water Loss Management Costs	
111	Billing Unit 3024, Water Loss Management, FY 15/16 Budget	\$413,739 Note that FY 14/15 Budget was \$150,200 and projected FY 14/15 actual (as reported in FY 15/16 budget) was \$6,000
112		
113	Item 3.3 Well Rehabilitation to Lower Pumps in Response to Declining Aquifer Levels	
114	Total Cost Identified by Department	\$4,426,550 Source: Department staff, well rehab costs.xls, June 2015. Incl 7% for Dept labor and overhead, and 15% contingency
115	Number of Sites Identified by Department	56 Source: Department staff, well rehab costs.xls, June 2015.
116	Average Cost per Site	\$79,046
117	Number of Sites per Year Completed	10 Source: Department staff, 06/25/15 email
118	Estimated Annual Cost for Well Rehabilitation	\$790,460 Equals average cost per site times the number of sites per year
119		
120	Item 3.4 Include Additional Electricity Associated with Pumping Additional 50 feet of Head	
121	Methodology: calculate cost per hour; multiply cost per hour by hcf/hour to get cost/hcf; multiply cost/hcf times 2nd tier consumption to get additional electricity cost	
122	<u>3.4.a. Calculation of cost per hour</u>	
123	Cost per hour (formula: $C = 0.746 Q h c / (3960 \mu_p \mu_m)$)	
124	where	
125	$C = \text{cost per hour}$	Calculated result of formula
126	$Q = \text{volume flow (gpm)}$	Use 1,000 gpm as typical well capacity per Department well rehab cost.xls 1,133 = calculated avg/well rehab cost.xls
127	$h = \text{head (ft)}$	Use 50 feet; that's the increased well/pump depth the Department is planning for.
128	$c = \text{cost rate per kWh}$	Use \$0.0869/kWh, see below
129	$\mu_p = \text{pump efficiency}; \mu_m = \text{motor efficiency}$	(Use 60%, the ~ avg of well pump tests done in 2015, excluding EPA wells and wells producing < 200 AFY)
130		Source: Department), combining motor and pump efficiency calc ==> 60%
131		
132	<u>Supporting Calc: \$/kWh derivation</u>	
133	This calculation recognizes that some wells are baseline and operate all seasons; some wells are peak and operate summer only, and Southern California Edison (SCE) rate schedules are seasonal	
134	Baseline	\$0.079465 SCE TOU PA-3, Option B (Sheet 2). Average summer and winter, all times
135		Formula showing specific numbers pulled from SCE tariff sheets=0.0281+average(0.06109,0.04164)
136		\$0.0281/kWh is the delivery service energy charge. The other two numbers are winter season mid-peak and non-peak
137		generation energy charges.
138	Peak	\$0.094433 SCE TOU PA-3, Option B (Sheet 2). Summer only, all times
139		Formula showing specific numbers pulled from SCE tariff sheets=0.0281+average(0.10644,0.05671,0.03585)
140		\$0.0281/kWh is the delivery service energy charge. The other three numbers are summer season on-peak,
141		mid-peak, and non-peak generation energy charges.
142	Average	\$0.0869 Rounded to nearest \$0.0001
143		
144	Cost per hour	\$1.318687 $C = 0.746 Q h c / (3960 \mu_p \mu_m)$
145		
146	<u>3.4.b. Calculation of cost per hcf</u>	
147	Volume pumped per hour	
148	gallons	60,000 = 60 minutes * 1000 gpm
149	hcf	80 = 60 minutes * 1000 gpm / 748 gal/hcf
150	Cost per hcf	\$0.01644 = cost per hour divided by hcf/hour
151		
152	<u>3.4.c. Calculation additional electricity cost</u>	
153	Estimated Additional Electricity from Pumping from Deeper Wells	\$56,259 = cost/hcf times 2nd Tier consumption hcf before conservation adjustment
154		
155	Backcheck comparison. For this cost to be valid to include in the Conservation Charge, the production from the deeper wells needs to exceed the amount of 2nd Tier consumption.	
156	The amount of 2nd Tier consumption is	3,422,170 hcf, FY 13/14 consumption
157	The amount of 2nd Tier consumption is	7,856 afy, FY 13/14 consumption
158	From inspection of the Department's proposed well rehab projects, the capacity of the wells where rehabs are planned for exceeds 7,856 afy.	
159		

TABLE A-8
City of San Bernardino Municipal Water Department - Water Rate Model
Rate Design Calculations

160	Item 3.5. Higher Costs of Peaking Wells vs Baseline Wells	
161	Average \$/AF for peaking wells	\$48.01
162	Average \$/AF for baseline wells including EPA wells	\$48.47
163	Average \$/AF for baseline wells excluding EPA wells	\$25.15
164		
165	Delta, \$/AF peaking less \$/AF baseline excluding EPA wells	\$22.86
166		
167	2nd Tier Summer hcf (June - November)	June - November billing data approximately is May - October use
168	FY 13/14, hcf	2,411,832
169	FY 13/14, af	5,537
170	Projected FY 15/16, hcf	1,146,724
171	Projected FY 15/16, af	2,633
172		
173	Estimated Additional Costs from Using Peaking Wells	\$126,563 = \$/AF times 2nd tier summer hcf, before conservation adjustment
174		
175	Backcheck numbers to make sure collecting some peaking wells power costs through the Conservation Charge (Item 4.5) does not double-recover electricity costs, some of which	
176	are recovered through Zone Charges	
177	Zone Charge Revenue, FY 13/14	\$2,828,000
178	Compare with electricity costs (FY 14/15 actual)	\$4,487,026
179	So, the zone charge doesn't cover all electricity costs, and the total energy costs associated with the \$/AF costs is low. So applying this delta does not double count revenue	
180		
181		
182	Step 4. Summarize Total Costs to be Included in Conservation Charge	
183	Component of Conservation Charge	Amount
184	Billing Unit 2055, Water Conservation, FY 15/16 Budget	\$291,000
185	Billing Unit 3024, Water Loss Management, FY 15/16 Budget	\$414,000
186	Estimated Annual Cost for Well Rehabilitation	\$790,000
187	Estimated Additional Electricity from Pumping from Deeper Wells	\$56,000
188	Estimated Additional Costs from Using Peaking Wells	\$127,000
189	Total	\$1,678,000 Each item is rounded to the nearest \$1,000.
190		
191	Step 5. Calculate the Conservation Charge	
192	Costs Included in Conservation Charge	\$1,678,000
193	Projected 2nd Tier Consumption, hcf	3,422,170
194	Conservation Charge, \$/hcf	\$0.49
195		
196		
197	Proposed Rate Design Change: Recalculate Replenishment Fee	
198	The Department is proposing to adjust the Replenishment Fee to accommodate projected increases in the cost of regional water.	
199	In FY 14/15, the Department's budget was \$1.5 million, which at current Table A rates from Valley District,	
200	would purchase approximately 12,669 acre-feet of water.	
201		
202	The intent of the revised Replenishment Fee schedule is to, by the end of the rate study planning period,	
203	collect sufficient revenues to purchase 12,000 to 13,000 acre-feet per year, given anticipated increases in Table A	
204	rates from Valley District.	
205		
206	Step 1. Calculate FY 14/15 Anticipated AF/year	
207	Current Supplemental Water Purchase Amount	\$1,500,000 Amount to be spent on supplemental water provided water is available
208	Current Table A Unit Cost (FY 14/15)	\$118.40 Source: Department, 8/12/15
209	Current AF/year Supplemental Water Purchases	12,669 Calculated
210		
211	Step 2. Calculate Anticipated FY 15/16 Replenishment Fee Revenue Given Conservation Adjustment	
212	Current Replenishment Fee, \$/hcf	\$0.09
213	hcf/year Water Sales (FY 15/16)	12,838,530
214	Anticipated FY 15/16 Replenishment Fee Revenue	\$1,155,468
215		

TABLE A-8
City of San Bernardino Municipal Water Department - Water Rate Model
Rate Design Calculations

	Proposed Replenishment Fee, \$/hcf	Projected Water Sales hcf/year	Projected Purchased Water \$	Table A \$/AF (Dept. 8/12/15)	Projected AF/Year Purchased	
216						
217						
218						
219						
220	FY 15/16	\$0.09	12,838,530	\$1,155,468	\$118.40	9,759
221	FY 16/17	\$0.11	12,966,915	\$1,426,361	\$150.00	9,509
222	FY 17/18	\$0.14	13,096,584	\$1,833,522	\$175.00	10,477
223	FY 18/19	\$0.17	13,227,550	\$2,248,683	\$200.00	11,243
224	FY 19/20	\$0.19	13,359,825	\$2,538,367	\$200.00	12,692
225	FY 20/21	\$0.19	13,493,424	\$2,563,750	\$200.00	12,819
226						

227 The Projected Purchased Water \$ are inputs into the O&M expense table in this Rate Model and are inputs to the Replenishment Fee
 228 Revenues in this Rate Model. If water isn't available for purchase from Valley District, it is FG Solutions's understanding that Replenishment Fee
 229 Funds would accumulate in a reserve account (not shown in the Operating Statement) dedicated for future water purchases.

232 Revised Minimum Monthly Charge and Commodity Charge Calculation. No Commodity Charge Increase

235 Step 1. Backcalculate Regular Water Sales Revenues Based on Customers and Projected Consumption

236 <u>Minimum Monthly Charge Revenues</u>					
	Meter Size	FY 15/16, # of Connections	Existing Rate	Minimum Monthly	Charge Rev. Annual
237					
238					
239	1/2" & 5/8"	39,218	\$12.90	\$505,912	\$6,070,946
240	3/4"	2,795	\$16.15	\$45,139	\$541,671
241	1"	2,241	\$22.60	\$50,647	\$607,759
242	1 1/2"	1,052	\$38.80	\$40,818	\$489,811
243	2"	617	\$58.20	\$35,909	\$430,913
244	3"	234	\$103.50	\$24,219	\$290,628
245	4"	149	\$158.20	\$23,572	\$282,862
246	6"	32	\$330.00	\$10,560	\$126,720
247	8"	14	\$524.15	\$7,338	\$88,057
248	10"	2	\$750.65	\$1,501	\$18,016
249		46,354		\$745,615	\$8,947,383

250 (Number of Connections excludes fire services, Colton Intertie, West Valley Intertie, and Golf Courses paying rates established by contract)

252 Commodity Charge (at \$1.15/hcf) Revenues

253					
254	Consumption, Projected FY 15/16, hcf			12,468,041	
255	Commodity Charge, \$/hcf			\$1.15	
256	Commodity Charge Revenues, Projected FY 15/16			\$14,338,247	
257					
258	Total Projected Regular Water Sales Revenues (Includes Municipal Sales)			\$23,285,630	
259					
260	Check:			\$22,873,518	
261	% Difference:			1.80%	

TABLE A-8
City of San Bernardino Municipal Water Department - Water Rate Model
Rate Design Calculations

263 Step 2. Adjust Number of Connections to Result in Calculated Revenues that Equal Projected Revenues

264 For the purposes of this calculation, the number of connections and consumption is adjusted by -1.8%

265 Minimum Monthly Charge Revenues

266 267 268 269 270 271 272 273 274 275 276 277 278 279	Meter Size	Adjusted		Minimum Monthly Charge Rev.	
		FY 15/16 # of Connections	Existing Rate	Monthly	Annual
	1/2" & 5/8"	38,511	\$12.90	\$496,792	\$5,961,503
	3/4"	2,745	\$16.15	\$44,332	\$531,981
	1"	2,201	\$22.60	\$49,743	\$596,911
	1 1/2"	1,033	\$38.80	\$40,080	\$480,965
	2"	606	\$58.20	\$35,269	\$423,230
	3"	230	\$103.50	\$23,805	\$285,660
	4"	146	\$158.20	\$23,097	\$277,166
	6"	31	\$330.00	\$10,230	\$122,760
	8"	14	\$524.15	\$7,338	\$88,057
	10"	2	\$750.65	\$1,501	\$18,016
				\$732,187	\$8,786,249

280 (Number of Connections excludes fire services, Colton Intertie, West Valley Intertie, and Golf Courses paying rates established by contract)

281	<u>Commodity Charge (at \$1.15/hcf) Revenues</u>	
283	Consumption, Projected FY 15/16, hcf, Adjusted	12,243,404
284	Commodity Charge, \$/hcf	\$1.15
285	Commodity Charge Revenues, Projected FY 15/16	\$14,079,915
286		
287	Total Projected Regular Water Sales Revenues (Includes Municipal Sales)	\$22,866,164
288		
289	Check:	\$22,873,518
290	% Difference:	-0.03%

291 Step 3. Define Transition Years Commodity Charges and Revenues from Commodity Charges

292 293 294	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
295	Commodity Charge, \$/hcf	\$1.15	\$1.15	\$1.15	\$1.15	\$1.15
296						
297	Projected Water Sales, hcf/year, Adjusted	12,243,404	12,365,838	12,489,497	12,614,391	12,740,535
298						
299	Projected Commodity Charge Revenues	\$14,079,915	\$14,220,714	\$14,362,921	\$14,506,550	\$14,651,616
300						
301						

302 Step 4. Project the Number of Customers in Each Year Through FY 20/21

303 304 305 306	Meter Size	Projected		Projected		Projected	
		Adjusted FY 15/16, # of Connections	Adjusted FY 16/17, # of Connections	Adjusted FY 17/18, # of Connections	Adjusted FY 18/19, # of Connections	Adjusted FY 19/20, # of Connections	Adjusted FY 20/21, # of Connections
307	1/2" & 5/8"	38,511	38,896	39,285	39,678	40,075	40,476
308	3/4"	2,745	2,772	2,800	2,828	2,856	2,885
309	1"	2,201	2,223	2,245	2,267	2,290	2,313
310	1 1/2"	1,033	1,043	1,053	1,064	1,075	1,086
311	2"	606	612	618	624	630	636
312	3"	230	232	234	236	238	240
313	4"	146	147	148	149	150	152
314	6"	31	31	31	31	31	31
315	8"	14	14	14	14	14	14
316	10"	2	2	2	2	2	2

317
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TABLE A-8
City of San Bernardino Municipal Water Department - Water Rate Model
Rate Design Calculations

319 Step 5. Define the Meter Equivalent Ratio For Each Meter Size Using the Ratio of Existing Minimum Monthly Charges

320		Meter Equivalent	
321		Existing	Ratio,
322	Meter Size	Rate	5/8x3/4 = 1.0
323	1/2" & 5/8"	\$12.90	1.0
324	3/4"	\$16.15	1.3
325	1"	\$22.60	1.8
326	1 1/2"	\$38.80	3.0
327	2"	\$58.20	4.5
328	3"	\$103.50	8.0
329	4"	\$158.20	12.3
330	6"	\$330.00	25.6
331	8"	\$524.15	40.6
332	10"	\$750.65	58.2

335 Step 6. Project the Number of Meter Equivalents in Each Year Through FY 20/21

336		Projected					
337		FY 15/16, # of	FY 16/17, # of	FY 17/18, # of	FY 18/19, # of	FY 19/20, # of	FY 20/21, # of
338	Meter Size	Meter Equiv.					
339	1/2" & 5/8"	38,511	38,896	39,285	39,678	40,075	40,476
340	3/4"	3,437	3,471	3,506	3,541	3,576	3,612
341	1"	3,856	3,895	3,934	3,973	4,013	4,053
342	1 1/2"	3,107	3,138	3,169	3,201	3,233	3,265
343	2"	2,734	2,761	2,789	2,817	2,845	2,873
344	3"	1,845	1,863	1,882	1,901	1,920	1,939
345	4"	1,790	1,808	1,826	1,844	1,862	1,881
346	6"	793	801	809	817	825	833
347	8"	569	575	581	587	593	599
348	10"	116	117	118	119	120	121
349	Total	56,758	57,325	57,899	58,478	59,062	59,652

352 Step 7. Calculate the Revenue Requirement from Minimum Monthly Charges in Each Year and The Minimum Monthly Charge in \$/mo/Meter Equivalent

353		Projected					
354		FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
355	Rev Req: Monthly Service Chg + Commodity Chg	\$22,873,518	\$25,290,963	\$27,963,973	\$30,919,563	\$32,938,756	\$35,089,867
356	Less Commodity Charge Revenues	(\$14,079,915)	(\$14,220,714)	(\$14,362,921)	(\$14,506,550)	(\$14,651,616)	(\$14,798,132)
357	Revenue Requirement from Minimum Monthly Charges	\$8,793,603	\$11,070,249	\$13,601,052	\$16,413,013	\$18,287,140	\$20,291,735
358							
359	Number of Meter Equivalents	56,758	57,325	57,899	58,478	59,062	59,652
360	Minimum Monthly Charge, \$/Meter Equivalents	\$12.91	\$16.09	\$19.58	\$23.39	\$25.80	\$28.35

365 Step 8. Calculate Monthly Water Bills and % Increase in Monthly Water Bills

366		Proposed					
367	Hcf/month	Current	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
368	5	\$19.99	\$23.28	\$26.92	\$30.88	\$33.39	\$35.94
369	10	\$27.08	\$30.48	\$34.26	\$38.37	\$40.99	\$43.53
370	15	\$34.18	\$37.67	\$41.60	\$45.86	\$48.58	\$51.12
371	16	\$35.59	\$39.11	\$43.07	\$47.36	\$50.10	\$52.64
372	20	\$41.27	\$44.86	\$48.94	\$53.36	\$56.17	\$58.71
373	25	\$48.36	\$52.05	\$56.28	\$60.85	\$63.76	\$66.31
374	30	\$55.45	\$59.24	\$63.63	\$68.34	\$71.35	\$73.90
375	50	\$90.12	\$94.31	\$99.29	\$104.61	\$108.02	\$110.56
376	100	\$178.53	\$183.73	\$190.21	\$197.02	\$201.44	\$203.98

TABLE A-8
City of San Bernardino Municipal Water Department - Water Rate Model
Rate Design Calculations

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Hcf/month	FY 16/17	FY 17/18	Proposed			Cumulative	Cumulative
			FY 18/19	FY 19/20	FY 20/21	1st 3 Incr.	All 5 Incr.
5	16%	16%	15%	8%	8%	54%	80%
10	13%	12%	12%	7%	6%	42%	61%
15	10%	10%	10%	6%	5%	34%	50%
16	10%	10%	10%	6%	5%	33%	48%
20	9%	9%	9%	5%	5%	29%	42%
25	8%	8%	8%	5%	4%	26%	37%
30	7%	7%	7%	4%	4%	23%	33%
50	5%	5%	5%	3%	2%	16%	23%
100	3%	4%	4%	2%	1%	10%	14%

CHECK: PERCENTAGE OF WATER RATE REVENUES FROM FIXED CHARGES

Alternative 2: No Commodity Charge Increase

Type of Revenue	FY 15/16	FY 16/17	Projected			
			FY 17/18	FY 18/19	FY 19/20	FY 20/21
Minimum Monthly Charge	\$8,793,603	\$11,070,249	\$13,601,052	\$16,413,013	\$18,287,140	\$20,291,735
Commodity Charge	14,079,915	14,220,714	14,362,921	14,506,550	14,651,616	14,798,132
Elevation Charge	2,036,160	2,056,522	2,077,085	2,097,857	2,118,838	2,140,027
Conservation Charge	1,140,000	1,613,053	1,629,180	1,645,470	1,661,920	1,678,540
Replenishment Fee	1,155,468	1,426,361	1,833,522	2,248,683	2,538,367	2,563,750
Total	\$27,205,146	\$30,386,898	\$33,503,759	\$36,911,573	\$39,257,880	\$41,472,184
% from Minimum Monthly Charge	32%	36%	41%	44%	47%	49%

ADDITIONAL TABLES SUPPORTING TABLE A-3
 City of San Bernardino Municipal Water Department - Water Rate Model
 Additional Revenue Calculations Supporting Table A-3

1 Table A-3B: Comparison of Actual FY 13/14 Revenues with Calculated Revenues from Consumption Data

6 Type of Water Sales Revenues	5 Calculated From FY 13/14 Customer Data (See Below)	Actual	Difference		Notes
			Dollars	Percent	
7 Monthly Charge	\$8,168,182	\$28,476,858	\$201,619	0.7%	1, 4
8 Consumption Charge	\$20,107,057				1, 4
9 Conservation Charge					
10 Multi-Unit	\$75,893	\$1,192,046	(\$5,713)	-0.5%	2, 5
11 All Other Customers	\$1,121,866				3
12 Replenishment Charge	\$1,604,816	1,701,462	\$96,646	5.7%	3
13 Zone Charge	\$2,772,659	2,820,407	\$47,748	1.7%	3
14 Fire Service Charges	\$449,745	461,679	\$11,934	2.6%	1
15 Total	\$34,300,219	\$34,652,452	\$352,233	1.0%	

- 16
 17 Notes:
 18 (1) Source: Data in Table 8 of this model
 19 (2) Source: Data in revised dataset sent by Department staff in May 2015 that includes # of units in multi-unit connections
 20 (3) Source: Data in >100 mb dataset sent by Department staff in May 2015
 21 (4) Actual data is not disaggregated and includes municipal sales
 22 (5) Billing data shows consumption of 216,838 hcf/year in the 2nd tier, for multi-unit customers. With a 28% reduction in water use for
 23 this customer class, consumption in the 2nd tier would be reduced to 80,789 hcf/year
 24 (6) Billing data shows consumption of 3,205,332 hcf/year in the 2nd tier. With a 28% reduction in water use for
 25 this customer class, consumption in the 2nd tier would be reduced to 1,543,866 hcf/year
 26

27 Supporting Calculation, Table A-3C: Estimate Commodity Charge Revenues Based on FY 13/14 Water Consumption and Rates

29 Customer Type and Service Type	28 Consumption per Customer Class, hcf/month											2014 Commodity Charge \$/hcf	2014 Calculated Value FY 13/14 Total \$				
	2013 7	2013 8	2013 9	2013 10	2013 11	2013 12	2014 1	2014 2	2014 3	2014 4	2014 5		2014 6	Reg. Sales	Fire Service		
31 ASSESSMENT DIST																	
32 LS	35,997	36,132	37,845	33,293	27,728	16,708	19,066	20,361	12,279	15,977	21,257	26,833	\$0.45	\$136,564			
33 CAP REBATE																	
34 WA	9,934	9,475	10,009	7,712	6,349	4,663	6,140	5,579	5,260	5,522	7,354	9,238	\$1.15	\$100,320			
35 COLTON-INTERTIE																	
36 WA		0	0		0	0	15		0		0	0	\$1.15	\$17			
37 COMMERCIAL/LAND/LT. INDST																	
38 LS	187,009	186,515	189,753	160,758	123,341	87,101	95,433	94,885	71,541	92,255	123,080	152,705	\$1.15	\$1,799,032			
39 WA									5				\$1.15	\$6			
40 EDUCATION-PUBLIC																	
41 LS	32,666	37,770	30,812	34,348	18,339	10,946	10,122	9,075	7,279	11,962	28,435	38,345	\$1.15	\$310,614			
42 WA	43,594	51,271	54,732	43,522	31,435	20,253	18,023	21,041	18,488	19,703	31,087	39,492	\$1.15	\$451,537			
43 GOLF COURSE																	
44 LS	29,952	28,206	23,726	20,456	12,638	5,331	13,524	8,788	9,768	12,012	20,720	25,971	\$0.37	\$78,104			
45 HYDRANT																	
46 WA	9,165	8,916	26,958	14,315	6,597	11,059	11,237	7,050	7,067	5,272	7,186	6,011	\$1.15	\$138,958			
47 INTERTIE-NO CONSUMPTION																	
48 FS	22	14	67	135	129	118	6	156	136	40	96	80	\$1.15		\$1,149		
49 LS	0	0	0	0	0	0	0	0	0	0	0	0	\$1.15	\$0			
50 WA	23,739	23,559	22,551	19,555	13,867	14,075	12,090	14,067	12,934	6,188	1,685	845	\$1.15	\$189,928			
51 INTERTIE-WITH CONSUMPTION																	
52 WA	17	5	55	6	14	15	18	17	15	5	12	20	\$1.15	\$229			
53 MULTI-FAMILY																	
54 WA	218,200	224,780	224,012	199,810	183,326	152,367	181,101	163,764	154,972	155,317	179,897	207,930	\$1.15	\$2,582,297			
55 MULTI-FAMILY 2 UNIT (WA)																	
56 WA	42,262	42,081	45,563	35,545	31,454	25,713	30,144	28,276	26,463	26,467	32,516	39,212	\$1.15	\$466,550			
57 MUNICIPAL																	
58 FS	0	3	19	5	4	1	2	2	2	0	2	0	\$1.15		\$46		
59 LS	68,631	63,907	65,922	64,376	47,681	31,500	33,757	29,027	23,760	27,830	48,143	57,283	\$1.15	\$646,090			
60 WA	10,524	10,612	11,037	7,745	5,834	3,858	4,969	3,959	4,957	5,274	9,547	9,839	\$1.15	\$101,378			
61 NON RESIDENTIAL																	
62 FS	549	907	891	624	704	815	893	753	685	643	523	529	\$1.15		\$9,793		
63 LS	3,989	1,405	1,482	1,909	2,231	774	1,343	1,496	1,515	2,207	2,912	5,167	\$1.15	\$30,395			
64 WA	232,056	229,312	247,429	209,194	249,919	213,745	184,926	174,327	167,816	162,156	186,649	207,018	\$1.15	\$2,834,229			
65 RESIDENTIAL-SINGLE FAMILY																	
66 FS	48	45	39	66	27	47	21	25	14	30	53	37	\$1.15		\$520		
67 LS	4,452	4,831	4,359	3,968	3,201	1,949	3,228	2,394	1,975	2,571	4,054	4,441	\$1.15	\$47,636			
68 WA	1,006,523	973,261	993,049	796,903	656,375	495,506	639,000	558,446	500,841	574,363	753,968	909,615	\$1.15	\$10,186,528			
69 WATER DEPARTMENT RATE																	
70 LS	283	295	279	312	273	249	622	342	299	385	398	419	\$0.45	\$1,870			
71 WA	691	955	1,213	1,061	727	784	684	812	826	835	1,001	1,019	\$0.45	\$4,774			
72 WATER-COUNTY HOSPITAL																	
73 WA	0	0	0	0	0	0	0	0	0	0	0	0	\$1.15	\$0			
74 WEST VALLEY INTERTIE																	
75 WA	0	0	0	0	0	0	0	0	0	0	0	0	\$0.149219	\$0			
76 Total	1,960,303	1,934,257	1,991,802	1,655,618	1,422,193	1,097,577	1,266,364	1,144,642	1,028,897	1,127,014	1,460,575	1,742,049		\$20,107,057		\$11,508	

79 Supporting Calculation, Table A-3D: Show 13-Month Total Number of Connections (June 2013 through June 2014)

80 Customer Type and Service Type	00 1/2-inch	01 5/8-inch	02 3/4-inch	03 1-inch	04 1.5-inch	05 2-inch	06 3-inch	07 4-inch	08 6-inch	09 8-inch	10 10-inch	11 12-inch
82 ASSESSMENT DIST												
83 LS		52	52	554	454	426	26					

ADDITIONAL TABLES SUPPORTING TABLE A-3
 City of San Bernardino Municipal Water Department - Water Rate Model
 Additional Revenue Calculations Supporting Table A-3

168	FS				\$2.70	\$10.75	\$10.75	\$16.15	\$21.49	\$32.24	\$42.99	\$53.74	\$64.48		\$18,216
169	LS	\$12.90	\$12.90	\$16.15	\$22.60	\$38.80	\$58.20	\$103.50	\$158.20	\$330.00	\$524.15	\$750.65	\$0.00	\$18,293	
170	WA	\$12.90	\$12.90	\$16.15	\$22.60	\$38.80	\$58.20	\$103.50	\$158.20	\$330.00	\$524.15	\$750.65	\$0.00	\$5,459,879	
171	WATER DEPARTMENT RATE														
172	LS	\$12.90	\$12.90	\$16.15	\$22.60	\$38.80	\$58.20	\$103.50	\$158.20	\$330.00	\$524.15	\$750.65	\$0.00	\$2,740	
173	WA	\$12.90	\$12.90	\$16.15	\$22.60	\$38.80	\$58.20	\$103.50	\$158.20	\$330.00	\$524.15	\$750.65	\$0.00	\$12,362	
174	WATER-COUNTY HOSPITAL														
175	WA	\$12.90	\$12.90	\$16.15	\$22.60	\$38.80	\$58.20	\$103.50	\$158.20	\$330.00	\$524.15	\$750.65	\$0.00	\$155	
176	WEST VALLEY INTERTIE														
177	WA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0	
178	Total Estimated FY 13/14 Minimum Monthly Charge \$													\$8,168,182	\$449,745

180 Analysis of Year-to-Date FY 15/16 Revenues to Check Previously Made Revenue Projections

181		Actual	Actual	Actual	FY 15/16	Dept. FY 15/16	Dept. FY 15/16	FG Estimate	Proj. FY 15/16	Variance from Rate Study			
182		Jan-16	Feb-16	FY to date	Budget	Estimate	Estimate =	FG Estimate	= Actual YTD *	Alt 1:	Variance if		
183					Entire Year	7 mo YTD	Budget*7/12?	FY 15/16	12/8	15/16 = YTD	15/16 = YTD +		Comments
184	Revenues: Feb2016 = Most Recent												
185	Operating Revenues												
186	Regular Water Sales Revenues	\$1,669,097	\$1,596,545	\$15,310,768	\$27,006,600	\$15,753,850	Yes	\$22,325,518	\$22,966,153	\$640,635	(\$338,360)	Do not adjust upward. Possibly right on target. Mar-June likely to be more > Feb	
187	Fire Service	\$34,988	44,806	\$317,303	\$464,600	\$271,012	Yes	\$464,600	\$475,954	\$11,354	(\$7,347)	No Adjustment Necessary	
188	Municipal	\$35,321	32,356	\$404,054	\$855,000	\$498,750	Yes	\$548,000	\$606,081	\$58,081	(\$2,661)	Decrease FY 15/16 and beyond by \$100K	
189	Other	\$12,804	10,468	\$75,633	\$600,000	\$350,000	Yes	\$120,000	\$113,450	(\$6,550)	\$6,849	Must adjust downward per comment from Miguel Guerrero. Use \$120,000 per yr	
190	Replenishment	\$80,432	72,775	\$816,280	\$1,615,000	\$942,081	Yes	\$1,155,468	\$1,224,421	\$68,953	(\$17,460)	No adjustment necessary	
191	Elevation	\$138,406	127,216	\$1,405,146	\$2,660,000	\$1,551,662	Yes	\$2,036,160	\$2,107,719	\$71,559	(\$77,390)	No adjustment necessary	
192	Conservation	\$92,117	77,224	\$838,729	\$1,140,000	\$665,000	Yes	\$1,140,000	\$1,258,093	\$118,093	\$67,198	Conservation \$ is much higher than projected. Adjust upward. Suggest using F	
193	Service Charges	\$72,544	79,957	\$592,674	\$950,000	\$554,162	Yes	\$890,000	\$889,010	(\$990)	(\$7,152)	Decrease FY 15/16 only by \$60K	
194	Broken Lock Charges	\$2,975	4,650	\$29,605	\$75,000	\$43,750	Yes	\$75,000	\$44,408	(\$30,593)	(\$33,495)	Decrease FY 15/16 only by \$30K	
195	Returned Check Charges	\$1,066	962	\$7,748	\$15,000	\$8,750	Yes	\$15,000	\$11,622	(\$3,378)	(\$2,988)	No adjustment necessary	
196	Fire Hydrant Flow Test Charge	\$680	1,040	\$4,280	\$5,000	\$2,912	Yes	\$5,000	\$6,420	\$1,420	\$2,000	No adjustment necessary	
197	Application Charge	\$1,080	720	\$7,510	\$20,000	\$11,662	Yes	\$20,000	\$11,265	(\$8,735)	(\$8,170)	No adjustment necessary	
198	Will Serve Letter Charge	\$540	720	\$2,700	\$2,000	\$1,162	Yes	\$2,000	\$4,050	\$2,050	\$2,860	No adjustment necessary	

202		Actual	Actual	Actual	FY 15/16	Dept. FY 15/16	Dept. FY 15/16	FG Estimate	Proj. FY 15/16	Variance from Rate Study				
203		Jan-16	Feb-16	FY to date	Budget	Estimate	Estimate =	FG Estimate	= Actual YTD *	Alt 1:	Variance if			
204	Revenues: Jan2016 = Most Recent				Entire Year	7 mo YTD	Budget*7/12?	FY 15/16	12/7	15/16 = YTD	15/16 = YTD +		Comments	
205	Operating Revenues													
206	Income from Services	(\$466)		\$40,701	\$95,000	\$55,412	Yes	\$45,000	\$69,772	\$24,772	(\$6,628)	Decrease FY 15/16 only by \$50K		
207	Backflow Admin Fees	\$7,027		\$52,332	\$85,000	\$49,581	Yes	\$85,000	\$89,713	\$4,713	\$2,465	No adjustment necessary		
208	Plan Check and Other Fees	\$0		\$1,421	\$250,000	\$145,831	Yes	\$10,000	\$2,436	(\$7,564)	(\$8,579)	Decrease FY 15/16 only by \$240K		
209	Hydrogeneration	\$31		\$4,323	\$50,000	\$29,162	Yes	\$10,000	\$7,412	(\$2,588)	(\$5,521)	Decrease FY 15/16 only by \$40K		
210	Administrative Services	\$35,812		\$250,430	\$434,950	\$253,715	Yes	\$434,950	\$429,308	(\$5,642)	(\$5,458)	No adjustment necessary		
211														
212	Geothermal Heat Sales	\$2,434		\$51,066	\$140,000	\$81,662	Yes	\$90,000	\$87,541	(\$2,459)	(\$26,766)	Decrease FY 15/16 only by \$50K		
213														
214	Contributed Capital													
215	Service Installation Fees	\$11,008		\$179,524	\$500,000	\$291,662	Yes	\$300,000	\$307,755	\$7,755	(\$65,436)	Decrease FY 15/16 only by \$200K		
216	Water Acquisition Fees	\$0		\$164,370	\$1,200,000	\$700,000	Yes	\$200,000	\$281,777	\$81,777	(\$35,630)	Decrease FY 15/16 only by \$1MK		
217	Developer, EPA, and AIG Capital	not included in this comparison - doesn't affect our financial model												
218														
219	Operating Grants													
220	AIG O&M CD Implementation	\$111,026		\$488,294	\$1,500,000	\$875,000	Yes	\$1,500,000	\$837,076	(\$662,924)	(\$456,575)	No adjustment. If revenues are lower then expenses are too. We haven't adjust		
221														
222	Other Revenue													
223	Cash Funds	(\$4,648)		\$59,700	\$42,000	\$24,500	Yes	\$0	\$102,343	\$102,343	\$36,460	No adjustment necessary. This helps offset some of the negative variances four		
224	Local Agency Invest Fund	\$490		\$916	\$2,000	\$1,162	Yes	\$0	\$1,570	\$1,570	\$3,367	No adjustment necessary		
225	Rental Income	\$0		\$42,277	\$150,000	\$87,500	Yes	\$150,000	\$72,475	(\$77,525)	(\$107,723)	Much lower than budgeted; are these expenses uniform throughout the year?		
226														
227	Non-Operating Revenue													
228	Refunds Received	\$26,332		\$55,266	\$150,000	\$87,500	Yes	\$150,000	\$94,742	(\$55,258)	\$36,928	No adjustment necessary		
229	Discounts Earned	\$386		\$3,343	\$10,000	\$5,831	Yes	\$10,000	\$5,731	(\$4,269)	(\$4,727)	No adjustment necessary		
230	Energy Rebates	\$113,132		\$137,635	\$0	\$0	Yes	\$0	\$235,946	\$235,946	\$703,296	Add FY 15/16 one-time revenues of \$140K under Miscellaneous to avoid creatin		
231	Cashier Overage/Short	\$0		(\$40)	\$0	\$0	Yes	\$0	(\$69)	(\$69)	(\$40)	No adjustment necessary		
232	Miscellaneous	\$206		\$4,769	\$5,000	\$2,912	Yes	\$5,000	\$8,175	\$3,175	\$801	No adjustment necessary		
233	Scrap Materials	\$0		\$2,582	\$25,000	\$14,581	Yes	\$25,000	\$4,426	(\$20,574)	(\$22,418)	No adjustment necessary		

236 Fixed Cost Calculations for Report Discussion

237													
238	Electricity	\$4,250,000	Table 4										
239	Granular Activated Carbon	\$420,000	Table 4										
240	Supplemental Water Purchases	\$1,100,000	Table 4										
241	Chemicals	\$150,000	Table 4, embedded with Other Accounts in Section 3041										
242	Total	\$5,920,000											
243													
244	Total O&M Expenditures	\$30,684,869											
245	% Variable	19%											

Attachment "B"

Proposed Three-Step Rate Schedule

Average Monthly Bill		Proposed		
Hcf/month	Current	FY 16/17	FY 17/18	FY 18/19
16	\$35.59	\$39.11	\$43.07	\$47.36
Annual % Increase		10%	10%	10%

	Current	Proposed		
		Effective Date		
		8/1/2016	7/1/2017	7/1/2018
Monthly Minimum Charge				
<u>Water Meter Size</u>				
1/2" & 5/8"	\$12.90	\$16.09	\$19.58	\$23.39
3/4"	\$16.15	\$20.15	\$24.51	\$29.28
1"	\$22.60	\$28.19	\$34.30	\$40.98
1 1/2"	\$38.80	\$48.40	\$58.88	\$70.35
2"	\$58.20	\$72.60	\$88.32	\$105.52
3"	\$103.50	\$129.12	\$157.06	\$187.66
4"	\$158.20	\$197.36	\$240.07	\$286.83
6"	\$330.00	\$411.68	\$500.78	\$598.33
8"	\$524.15	\$653.88	\$795.40	\$950.34
10"	\$750.65	\$936.44	\$1,139.12	\$1,361.01
Commodity Charge (\$/hcf)	\$1.15	\$1.15	\$1.15	\$1.15
Replenishment Charge (\$/hcf)	\$0.09	\$0.11	\$0.14	\$0.17
Elevation Charge (\$/hcf)				
Zone 1	\$0.11	\$0.11	\$0.11	\$0.11
Zone 2	\$0.19	\$0.19	\$0.19	\$0.19
Zone 3	\$0.17	\$0.17	\$0.17	\$0.17
Zone 4	\$0.14	\$0.14	\$0.14	\$0.14
Zone 5	\$0.23	\$0.23	\$0.23	\$0.23
Zone 6	\$0.23	\$0.23	\$0.23	\$0.23
Conservation Charge (\$/hcf exceeding cutoff)	\$0.35	\$0.49	\$0.49	\$0.49