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Exhibit Number	: ORA - _____
Commissioner	: Michael Picker
Administrative Law Judges	: Rafael Lirag : Douglas Long
ORA Witnesses	: Susana Nasserie : Brian Yu



**OFFICE OF RATEPAYER ADVOCATES  
CALIFORNIA PUBLIC UTILITIES COMMISSION**

**REPORT ON PLANT – REGION 3  
Golden State Water Company  
Test Year 2016 General Rate Case  
A.14-07-006**

**San Francisco, California  
March 6, 2015**

## MEMORANDUM

This Report on Plant – Region 3 for GSWC GRC A.14-07-006 is prepared by Susana Nasserie and Brian Yu of the *Office of Ratepayer Advocates (ORA) - Water Branch*, and under the general supervision of Program & Project Manager Danilo Sanchez, and Program & Project Supervisor Lisa Bilir. The witnesses' Statement of Qualifications are in ORA's Company-Wide Report on the Results of Operations. Shanna Foley and Kerriann Sheppard serve as ORA legal counsels.

# Report on Plant – Region 3

## Table of Contents

1		
2		
3	Chapter 1. PLANT, REGION 3 – ORANGE COUNTY AND FOOTHILL DISTRICTS .....	1
4	A. INTRODUCTION .....	1
5	B. SUMMARY OF RECOMMENDATIONS .....	1
6	C. OC DISTRICT – OC DISTRICT OFFICE .....	2
7	1. OC District Office - Replace Vehicle #1305 (\$49,000) .....	2
8	D. OC DISTRICT – LOS ALAMITOS CSA .....	2
9	1. West OC - SCADA Phase III (\$1.2 million) .....	3
10	2. West OC - Drill and Equip Simone Well #2 (\$4.1 million) .....	5
11	3. West OC - Florista West Tank, Recoat and Drain Improvements (\$742,300) .....	12
12	4. West OC - Howard Plant, Install Pump-to-Waste Drain Line (\$86,600, design) .....	13
13	5. West OC - South Cypress Plant, Install Pump-to-Waste Drain Line (\$129,600) .....	14
14	6. West OC - Valley View Well #2, Install Variable Frequency Drive (\$289,100) .....	15
15	7. West OC – Replace Pipelines on Cerritos, Los Alamitos Avenue, & Catalina Street	
16	(\$1,548,100) .....	17
17	8. West OC – Replace Pipelines on Enterprise Drive, Green Avenue, & Midway Drive	
18	(\$32,500, design only) .....	18
19	9. West OC - Urban Water Management Plan (UWMP) (\$65,000) .....	19
20	E. OC DISTRICT - PLACENTIA CSA .....	19
21	1. Cowan Heights - Fairhaven Well #3, drill and develop (\$447,200, design only) .....	21
22	2. Cowan Heights - Install PRVs on Rangeview, Deerhaven, & Overhill Pipelines	
23	(\$413,100) .....	21
24	3. Cowan Heights – Install Secondary Mainline, PRVs and Valves and on Newport	
25	Blvd., Greenbrier Lane, and Brier Lane (\$799,200) .....	22
26	4. Placentia - SCADA Phase III (\$775,300) .....	23

1           5. Yorba Linda - SCADA Phase III (\$443,900)..... 23

2           6. Cowan Heights – Replace Pipelines on La Verada Drive & E. Lemon Heights

3                 (\$478,500)..... 24

4           7. Cowan Heights – Replace Pipelines on Skyline Drive, from Cowan Heights to

5                 Hunting Horn (\$91,500, design only)..... 25

6           8. Placentia – Replace Pipeline on Madison Avenue, west of Diane to Diamond

7                 (\$41,300, design only) ..... 26

8           9. Placentia – Yorba Linda & Cowan Heights - Urban Water Management Plans

9                 (\$130,000)..... 27

10          10. Placentia – Replace Vehicle #783, #1100 and #1225 (\$140,600)..... 27

11          11. Additional Adjustments to Requested Capital Expenditures – Placentia CSA ..... 27

12          F. FOOTHILL DISTRICT – FOOTHILL DISTRICT OFFICE ..... 28

13                 10. Foothill District Office – Replace Vehicle #1227, #1311 and #1341 (\$144,300)..... 29

14                 11. Foothill District Office - Portable Booster Pump in Miscellaneous Tools and Safety

15                     Equipment Budget (\$140,900)..... 29

16          G. FOOTHILL DISTRICT – CLAREMONT CSA ..... 31

17                 1. Claremont - Pomello Well #5, Drill and Equip Well (\$2 million)..... 31

18                 2. Claremont - Pomello Plant, Replace Booster Station (\$1.6 million)..... 38

19                 12. Claremont – Replace Pipelines on Mountain, Tulane, Santa Barbara, Wellesley, Hood,

20                     and Circle (\$1.6 million)..... 44

21                 13. Claremont – Replace Pipelines on Geneva Avenue, Vassar Street, Prince Avenue &

22                     Doane Avenue (\$1.2 million) ..... 46

23                 14. Claremont - Add Arsenic Treatment to Del Monte Well #4 (\$1.9 million)..... 48

24                 15. Claremont - Urban Water Management Plan (\$65,000)..... 49

25          H. FOOTHILL DISTRICT – SAN DIMAS CSA ..... 50

26                 1. San Dimas – Replace Pipeline on Arrow Highway, Rennell to Lone Hill (\$30,200,

27                     design only)..... 50

1           2. San Dimas – Replace Pipeline in Kirkwall Road Area (\$1.0 million)..... 52

2           3. San Dimas – Replace Pipeline on Palomares Avenue, San Dimas Canyon-Walker

3           (\$294,800)..... 54

4           4. San Dimas - Urban Water Management Plan (\$65,000)..... 54

5           5. San Dimas – Replace Vehicle #1196 and #1222 (\$97,900)..... 55

6           I. FOOTHILL DISTRICT – SAN GABRIEL VALLEY CSA..... 55

7           1. South Arcadia - Disinfection Buildings at Encinita, Farna, and Persimmon (\$600,500

8           total) ..... 56

9           2. South San Gabriel - Disinfection Building at San Gabriel Plant (\$146,400)..... 57

10          3. South Arcadia – Replace Pipelines on Bisby Street Area (\$846,900)..... 57

11          4. San Gabriel – Replace Vehicle #1182 and #2128 (\$97,900) ..... 59

12          5. Additional Adjustments to Requested Capital Expenditures – San Gabriel Valley CSA

13          ..... 59

14          J. CONCLUSION..... 60

15          Chapter 2. PLANT, REGION 3 – MOUNTAIN-DESERT DISTRICT..... 61

16          A. INTRODUCTION ..... 61

17          B. SUMMARY OF RECOMMENDATIONS ..... 61

18          C. MOUNTAIN-DESERT DISTRICT OFFICE..... 62

19          5. Mountain-Desert District Office - Replace Vehicle #70109 & #501377 (\$80,900) ... 62

20          D. APPLE VALLEY CSA..... 63

21          1. Apple Valley South - Kiowa Plant, Drill and Equip Replacement Well (\$2.8 million)

22          ..... 65

23          2. Apple Valley South - Kiowa Plant, Construct Reservoir and Booster Station

24          (\$335,400, design only) ..... 70

25          3. Apple Valley South - Mohawk Plant, Install Emergency Transfer Switch (\$181,800)

26          ..... 71

27          4. Apple Valley North - Yucca Booster Zone, Construct Reservoir (\$425,900) ..... 72

1           5. Apple Valley North – Replace Pipelines on Dexter Lane, Sycamore Lane and Central  
2           Lane (\$317,300)..... 72

3           6. Apple Valley North – Replace Pipeline on Mesquite Road (\$234,000) ..... 75

4           7. Apple Valley North – Replace Pipelines in Taos & Waalew Road Area (\$93,100,  
5           design only)..... 76

6           8. Apple Valley South – Replace Pipelines in the Nandina Street Area (\$236,500, design  
7           only) ..... 79

8           9. Desert View – Replace Pipelines in the Milpas Drive Area (\$949,900)..... 80

9           10. Apple Valley – Replace Vehicle #70095 (\$47,700)..... 84

10          E. BARSTOW CSA..... 84

11           1. Barstow – Replace Electrical Panels for Bradshaw Wells #11 and #12 (\$260,800)... 85

12           2. Barstow – Eaton Plant – Construct Storage Tank (\$1,980,500)..... 91

13           3. Barstow – 1<sup>st</sup> Avenue Bridge Replacement – Relocate 1,400 LF of pipeline  
14           (\$1,144,500)..... 96

15           4. Barstow – Replace Pipelines on Arrowhead Ave. (\$412,900)..... 98

16           5. Barstow – Replace Pipelines on Buena Vista Street (\$217,700)..... 99

17           6. Barstow – Replace Pipelines on Carson Street (\$363,200)..... 99

18           7. Barstow – Replace Pipelines on Frances Drive (\$427,400) ..... 100

19           8. Barstow – Urban Water Management Plan (\$65,000) ..... 101

20           9. Barstow – Replace Vehicle #67685, #67490 and #67491 (\$170,300)..... 101

21           10. Additional Adjustments to Requested Capital Expenditures – Barstow CSA ..... 101

22          F. CALIPATRIA CSA..... 105

23           1. Calipatria – Replace Vehicle #67462, #67464 and #67463 (\$141,900)..... 106

24          G. MORONGO VALLEY CSA..... 106

25           1. Morongo Del Norte - Install Uranium Removal System at Elm Well (\$617,000).... 107

26           2. Morongo Del Sur - Construct Reservoir in Mojave Tank Zone (\$1.3 million)..... 113

27           3. Morongo Valley – Replace Vehicle #1263 (\$49,000)..... 115

1 H. WRIGHTWOOD CSA..... 116

2 1. Wrightwood - Install Earthquake Valve at Linnet Reservoir (\$148,500) ..... 117

3 2. Wrightwood – Consultant for USFS Easement Permit for New Sheep Creek Reservoir

4 and Piping (\$314,900)..... 117

5 3. Wrightwood – Replace Pipelines on Helen Street (\$587,600)..... 120

6 4. Wrightwood – Replace Pipelines on Desert View Drive and Heathcreek Drive

7 (\$411,100)..... 122

8 5. Wrightwood – Replace Pipelines on Twin Lakes Drive and Sycamore Street

9 (\$444,900)..... 123

10 6. Wrightwood – Replace Pipelines on Virginia Street area main replacement

11 (\$1,250,600)..... 124

12 7. Wrightwood – Replace Pipelines on State Hwy 2 area main replacements (\$879,300)

13 ..... 127

14 8. Wrightwood – Replace Pipelines on Walnut Street (\$601,600)..... 128

15 9. Wrightwood – Replace Vehicle #2104 (\$49,900)..... 129

16 10. Additional Adjustments to Requested Capital Expenditures – Wrightwood CSA ... 129

17 I. CONCLUSION..... 130

**Chapter 1. PLANT, REGION 3 – ORANGE COUNTY AND FOOTHILL DISTRICTS**

**A. INTRODUCTION**

This chapter presents ORA’s analyses and recommendations for Plant in Service for the Orange County and Foothill Districts in GSWC’s Region 3. ORA presents its review and adjustments of GSWC’s plant requests by District Office and Customer Service Areas (CSAs).

**B. SUMMARY OF RECOMMENDATIONS**

**Table 1-A** below presents a summary of capital budgets for the Orange County (OC) and Foothill Districts. Additional adjustments to on-going or previously authorized projects (“CWIP” projects) are presented near the end of each CSA section. In the following sections, ORA presents its recommended adjustments to GSWC’s budget and specific project requests. Cost estimates also reflect recommendations in ORA’s Common Plant Issues testimony regarding contingency, design cost, vehicle replacement and various other adjustments.

For purposes of comparison, ORA presents its recommended plant estimates using GSWC’s proposed construction overhead factor (17.42%). ORA’s recommendations on capital overhead loading presented in its Report on General Office should be used to develop final authorized project costs.

**Table 1-A: Capital Budget Summary – Region 3 Orange County & Foothill Districts**

Region 3, OC & Foothill Districts	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
OC District Office	\$ 63,400	\$ 57,600	\$ 25,000	\$ 22,700	\$ 79,500	\$ 23,300
Los Alamitos CSA	\$ 2,905,200	\$1,783,400	\$ 5,779,800	\$ 1,985,100	\$ 5,364,400	\$ 3,112,900
Placentia CSA	\$ 2,831,100	\$1,289,400	\$ 3,209,100	\$ 2,991,400	\$ 4,418,800	\$ 2,873,300
Foothill District Office	\$ 91,300	\$ 36,600	\$ 205,600	\$ 46,000	\$ 150,200	\$ 38,600
Claremont CSA	\$ 4,759,400	\$2,389,600	\$ 2,805,200	\$ 887,800	\$ 4,823,300	\$ 1,758,900
San Dimas CSA	\$ 1,517,000	\$1,065,500	\$ 1,308,000	\$ 1,201,000	\$ 2,323,900	\$ 1,552,700
San Gabriel Valley CSA	\$ 1,768,000	\$1,372,300	\$ 4,168,400	\$ 3,835,600	\$ 2,502,000	\$ 1,583,200
<b>TOTAL CAPITAL BUDGET</b>	<b>\$13,935,400</b>	<b>\$7,994,400</b>	<b>\$17,501,100</b>	<b>\$10,969,600</b>	<b>\$19,662,100</b>	<b>\$10,942,900</b>
<b>3-YEAR TOTAL:</b>					<b>\$51,098,600</b>	<b>\$29,906,900</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$21,191,700</b>
<b>3-YEAR DIFFERENCE, (GSWC-ORA)/(GSWC):</b>						<b>41%</b>

1 **C. OC DISTRICT – OC DISTRICT OFFICE**

2 The OC District consists of the OC District Office and two CSAs - Los Alamitos and Placentia.

3 **Table 1-B** below presents a summary of capital budgets for the OC District Office. Differences  
 4 in ORA’s and GSWC’s estimates are due to ORA’s disallowance of the contingency budget and  
 5 a vehicle replacement as explained in ORA’s Common Plant Issues testimony.

6 **Table 1-B: Capital Budget Summary – Region 3 Orange County District Office**

Orange County District Office	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Contingency Budget	\$ 5,800	\$ -	\$ 2,300	\$ -	\$ 7,200	\$ -
<b>Total Contingency Budget</b>	<b>\$ 5,800</b>	<b>\$ -</b>	<b>\$ 2,300</b>	<b>\$ -</b>	<b>\$ 7,200</b>	<b>\$ -</b>
Office Furniture and Equipment	\$ 8,100	\$ 8,100	\$ 8,300	\$ 8,300	\$ 8,500	\$ 8,500
Transportation Equipment						
Replace Vehicle # 1291	\$ 35,500	\$ 35,500	\$ -	\$ -	\$ -	\$ -
Replace Vehicle # 1305	\$ -	\$ -	\$ -	\$ -	\$ 49,000	\$ -
Misc. Tools and Safety Equipment	\$ 14,000	\$ 14,000	\$ 14,400	\$ 14,400	\$ 14,800	\$ 14,800
<b>Total Blanket Budget</b>	<b>\$ 57,600</b>	<b>\$ 57,600</b>	<b>\$ 22,700</b>	<b>\$ 22,700</b>	<b>\$ 72,300</b>	<b>\$ 23,300</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 63,400</b>	<b>\$ 57,600</b>	<b>\$ 25,000</b>	<b>\$ 22,700</b>	<b>\$ 79,500</b>	<b>\$ 23,300</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 167,900</b>	<b>\$ 103,600</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$ 64,300</b>
<b>3-YEAR TOTAL DIFFERENCE (GSWC-ORA)/(GSWC):</b>						<b>38%</b>

7

8 **1. OC District Office - Replace Vehicle #1305 (\$49,000)**

9 GSWC requests \$49,000 for the replacement of Vehicle #1305 (heavy-duty truck) in 2017. For  
 10 reasons identified in ORA’s testimony on vehicle replacements, ORA removes this vehicle  
 11 replacement from this GRC’s capital budgets.

12 **D. OC DISTRICT – LOS ALAMITOS CSA**

13 **Table 1-C** below presents a summary of capital budgets for the Los Alamitos CSA.

1

**Table 1-C: Capital Budget Summary – Los Alamitos CSA**

Los Alamitos CSA	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
<b>West Orange</b>						
West Orange Syst, SCADA Phs III	\$ -	\$ -	\$ 177,800	\$ 146,000	\$ 1,027,400	\$843,500
Simone Well #2, Drill and Equip	\$ 596,800	\$ -	\$ 3,480,000	\$ -	\$ -	\$ -
Florista W, Tank Recoat&Drain Imp.	\$ -	\$ -	\$ 109,500	\$ 50,400	\$ 632,800	\$ 348,900
Howard, Install Pump Drain	\$ -	\$ -	\$ -	\$ -	\$ 86,600	\$0
South Cypress, Install Pump Drain	\$ -	\$ -	\$ -	\$ -	\$ 129,600	\$0
Valley View Well #2, Install VFD	\$ 289,100	\$0	\$ -	\$ -	\$ -	\$ -
Yellowtail, Upgrade Electrical Panel	\$ 182,600	\$ 134,200	\$ -	\$ -	\$ -	\$ -
<b>Total Water Supply</b>	<b>\$ 1,068,500</b>	<b>\$ 134,200</b>	<b>\$ 3,767,300</b>	<b>\$ 196,400</b>	<b>\$ 1,876,400</b>	<b>\$ 1,192,400</b>
Misc Street Improvements	\$ 424,000	\$ 424,000	\$ 437,000	\$ 437,000	\$ 451,000	\$ 451,000
<b>Total Street Improvements</b>	<b>\$ 424,000</b>	<b>\$ 424,000</b>	<b>\$ 437,000</b>	<b>\$ 437,000</b>	<b>\$ 451,000</b>	<b>\$ 451,000</b>
Cerritos, Los Alamitos, Catalina	\$ -	\$ -	\$ 160,100	\$ -	\$ 1,388,000	\$ -
Enterprise, Green & Midway	\$ -	\$ -	\$ -	\$ -	\$ 32,500	\$ -
<b>Total Distribution Improvements</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 160,100</b>	<b>\$ -</b>	<b>\$ 1,420,500</b>	<b>\$ -</b>
UWMP - West Orange system	\$ 65,000	\$ -	\$ -	\$ 65,000	\$ -	\$ -
<b>Total Miscellaneous</b>	<b>\$ 65,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 65,000</b>	<b>\$ -</b>	<b>\$ -</b>
Contingency Budget	\$ 122,500	\$ -	\$ 128,700	\$ -	\$ 147,000	\$ -
<b>Total Contingency Budget</b>	<b>\$ 122,500</b>	<b>\$ -</b>	<b>\$ 128,700</b>	<b>\$ -</b>	<b>\$ 147,000</b>	<b>\$ -</b>
New Business Funded by GSWC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total New Business</b>	<b>\$ -</b>	<b>\$ -</b>				
Meters	\$ 386,200	\$ 386,200	\$ 424,900	\$ 424,900	\$ 584,400	\$ 584,400
Services	\$ 367,500	\$ 367,500	\$ 377,400	\$ 377,400	\$ 387,600	\$ 387,600
Minor Main Repl.	\$ 270,200	\$ 270,200	\$ 277,500	\$ 277,500	\$ 285,000	\$ 285,000
Minor Pumping Plant Equip.	\$ 64,000	\$ 64,000	\$ 65,800	\$ 65,800	\$ 67,600	\$ 67,600
Minor Purification Equip.	\$ 4,700	\$ 4,700	\$ 4,800	\$ 4,800	\$ 5,000	\$ 5,000
Office Furniture and Equip.	\$ 24,900	\$ 24,900	\$ 25,600	\$ 25,600	\$ 26,300	\$ 26,300
Transportation Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Misc. Tools and Safety Equip.	\$ 21,100	\$ 21,100	\$ 21,700	\$ 21,700	\$ 22,200	\$ 22,200
Additions to General Structure	\$ 86,600	\$ 86,600	\$ 89,000	\$ 89,000	\$ 91,400	\$ 91,400
<b>Total Blanket Budget</b>	<b>\$ 1,225,200</b>	<b>\$ 1,225,200</b>	<b>\$ 1,286,700</b>	<b>\$ 1,286,700</b>	<b>\$ 1,469,500</b>	<b>\$ 1,469,500</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 2,905,200</b>	<b>\$ 1,783,400</b>	<b>\$ 5,779,800</b>	<b>\$ 1,985,100</b>	<b>\$ 5,364,400</b>	<b>\$ 3,112,900</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 14,049,400</b>	<b>\$ 6,881,400</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$ 7,168,000</b>
<b>3-YEAR TOTAL DIFFERENCE (GSWC-ORA)/(GSWC):</b>						<b>51%</b>

2

3 **1. West OC - SCADA Phase III (\$1.2 million)**

4 GSWC requests \$177,800 in 2016 and \$1,027,400 in 2017 for the SCADA Phase III  
5 implementation in the West OC system. GSWC plans to install SCADA in 14 locations as  
6 shown below:

#	Location (Plant/Interconnection)	Cost (before loading factors)
1	Install SCADA - Cherry	\$40,000
2	Install SCADA - Florista	\$100,000
3	Install SCADA - Bloomfield	\$40,000
4	Install SCADA - Valley View	\$75,000
5	Install SCADA - Ball Road/ OC-55	\$100,000
6	Install SCADA - Beach	\$40,000
7	Install SCADA - Yellowtail	\$40,000
8	Install SCADA - South Cypress	\$40,000
9	Install SCADA - Oranewood	\$40,000
10	Install SCADA - Howard	\$40,000
11	Install SCADA - Sherrill	\$40,000
12	Install SCADA - Dale	\$40,000
13	Install SCADA - Fern (Sycamore)	\$40,000
14	Install SCADA - Lowden	\$40,000
	<b>TOTAL:</b>	<b>\$715,000</b>

1 The SCADA installation at the Ball Road/OC-55 interconnection with the Metropolitan Water  
2 District (MWD) is unnecessary (item #5 for \$100,000). In the Region 2 – Southwest system,  
3 GSWC asserts that installing SCADA will allow its operators to monitor and run the five MWD  
4 interconnections efficiently and help GSWC avoid the high costs experienced due to MWD flow  
5 violation penalties (e.g., \$281,963 in 2013). ORA recommends authorization for those five  
6 SCADA projects in Region 2.<sup>1</sup> For Region 3, the flow violations have not been at the level that  
7 justify SCADA investment. In fact, based on recorded amounts, ORA recommends a \$0 expense  
8 budget for MWD flow violation penalty fees.<sup>2</sup> Therefore, ORA removes item #5 above  
9 (\$100,000) from GSWC’s requested SCADA budget. ORA’s recommended capital budget for  
10 Los Alamitos CSA in **Table 1-C** reflects this adjustment, as well as overhead and contingency  
11 adjustments as discussed in ORA’s Common Plant Issues testimony.

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1 ORA’s Region 2 plant testimony.

2 ORA’s district operating expense testimony.

1 **2. West OC - Drill and Equip Simone Well #2 (\$4.1 million)**

2 GSWC requests \$596,800 in 2015 and \$3,480,000 in 2016 to drill and equip a replacement well  
3 at the Simone Plant in the West OC system. GSWC expects the well to produce 2,000 gallons  
4 per minute (gpm).<sup>3</sup> According to GSWC, its reasons to request the well are:

- 5 1) To recover the loss of capacity from three destroyed wells - Simone Well #1,  
6 Santa Paul Well #1 and Lowell Well #1 (total capacity of 1,425 gpm).
- 7 2) To improve storage deficiency in the system.
- 8 3) To meet the Basin Production Percent's (BPP) goal of 75 % set forth by the  
9 Orange County Water District (OCWD).
- 10 4) To provide cost savings.<sup>4</sup>

11 To determine if this project is needed, ORA addresses each of the above reasons in detail below.

12 To recover the loss of capacity from the loss of three wells - Simone Well #1, Santa Paul Well  
13 #1, and Lowell Well #1 (total capacity of 1,425 gpm).

14 GSWC in its testimony states that the system needs a 2,000 gpm capacity replacement well to  
15 recover the loss of 1,425 gpm from the recent destruction of three wells. However, GSWC's lost  
16 capacity does not need to be recovered at this time because the system currently has excess  
17 supply capacity. The West OC system provides water to 27,264 customers<sup>5</sup> with 17 active wells  
18 and purchased water from three Metropolitan Water District (MWD) connections.<sup>6</sup>

19 Even by GSWC's own supply criteria and with the loss of the three wells, the West OC system  
20 has sufficient supply capacity. The 2013 West OC Water Master Plan shows that the system's  
21 supply meets demand in all of GSWC's six planning scenarios – see **Table 1-D** below.<sup>7</sup> In fact,  
22 under each scenario, there is excess capacity. ORA does not necessarily agree with all

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<sup>3</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, pp. 245-246.

<sup>4</sup> Ibid, p. 245 lines 21-23.

<sup>5</sup> GSWC Response to ORA Data Request SN2-001, Q.1.

<sup>6</sup> GSWC's 2013 West OC Water Master Plan, pp. 5-5 to 5-6.

<sup>7</sup> Ibid, p. 5-8.

1 assumptions and criteria used by GSWC to develop the above analysis.<sup>8</sup> However, it is  
 2 important to show that even under GSWC’s own overly restrictive supply requirements, its own  
 3 Water Master Plan shows that the supply with the recent loss of three wells can still meet  
 4 demand.

5 **Table 1-D: Supply and Capacity Analysis for West OC System**  
 6 **(Table 5-7 from the 2013 West OC Water Master Plan)**

		Planning Scenario							
		ADD		MDD		PHD		MDD+FF	
Duration (Hours)		24		24		4		3	
Demand		GPM	MG	GPM	MG	GPM	MG	GPM	MG
<b>Total Demand</b>		<b>10,795</b>	<b>15,545</b>	<b>15,659</b>	<b>22,549</b>	<b>23,488</b>	<b>5,637</b>	<b>19,159</b>	<b>3,449</b>
Supply		Capacity							
Wells	16,715	16,715	24.070	14,215	20.470	14,215	3.412	16,715	3.009
MWD	20,020	20,020	28.829	20,020	28.829	20,020	4.805	20,020	3.604
Reservoirs	4.5	-	-	-	-	7.917	1.900	3.500	0.630
<b>Total Supply</b>		<b>36,735</b>	<b>52.898</b>	<b>34,235</b>	<b>49.298</b>	<b>42,152</b>	<b>10.116</b>	<b>40,235</b>	<b>7.242</b>
<b>Supply Minus Demand</b>		<b>25,940</b>	<b>37.354</b>	<b>18,576</b>	<b>26.749</b>	<b>18,664</b>	<b>4.479</b>	<b>21,076</b>	<b>3.794</b>
<b>Supply Meets Demand</b>		YES		YES		YES		YES	

		Planning Scenario					
		Planned MWD outage		Unplanned Outage - Day 1 (MDD)		Unplanned Outage - Days 2-7 (ADD)	
Duration (Hours)		168		24		144	
Demand		GPM	MG	GPM	MG	GPM	MG
<b>Total Demand</b>		<b>10,795</b>	<b>108.814</b>	<b>15,659</b>	<b>22.549</b>	<b>10,759</b>	<b>92.958</b>
Supply		Capacity					
Wells	16,715	16,715	168.487	16,715	24.070	16,715	144.418
MWD	0	0	0.000	0	0.000	0	0.000
Reservoirs	0.5	0	0.000	0	0.000	0	0.000
<b>Total Supply</b>		<b>16,715</b>	<b>168.487</b>	<b>16,715</b>	<b>24.070</b>	<b>16,715</b>	<b>144.418</b>
<b>Supply Minus Demand</b>		<b>5,920</b>	<b>59.674</b>	<b>1,056</b>	<b>1.521</b>	<b>5,956</b>	<b>51.460</b>
<b>Supply Meets Demand</b>		YES		YES		YES	

7 The systemwide supply and storage analysis results for the existing system indicate that the existing supply meets the demands for all planning scenarios.

<sup>8</sup> For example, GSWC’s exclusion of the Clair Well #5 due to its own “firm capacity” requirement is not necessary, as explained in ORA’s testimony on the Pomello Well # 5 project in the Claremont CSA (presented later in this chapter).

1 [To improve storage deficiency in the system.](#)

2 GSWC states that according to its Water Mater Plan (Plan) the system has a storage deficiency of  
3 5.781 million gallons (MG). The Plan shows a total storage requirement of 10.281 MG, based  
4 on 2006 demands (Average Day Demand, Maximum Day Demand, and Peak Hour Demands –  
5 ADD, MDD, & PHD).<sup>9</sup> That requirement includes three components: operational, fire, and  
6 *emergency*. For available storage capacity, the Plan considers only the capacity of the three  
7 tanks in the system, totaling 4.5 MG (the Florista Tanks).<sup>10</sup>

8 Storage capacity requirement – GSWC’s storage requirement calculations are based on 2006  
9 ADD, MDD and PHD. However, the system’s demands have dropped significantly since 2006.  
10 The MDD in the period 2009-2013 ranges from 12,810 gpm (2010) to 13,648 gpm (2012) and  
11 averages at 13,243 gpm. The 2006 MDD of 15,659 gpm is almost 20% higher than the average  
12 MDD experienced in recent years (2009-2013). Therefore, using the 2006 demands overstates  
13 the storage requirement. Nevertheless, for the purpose of this analysis only, ORA will use the  
14 storage requirement calculated in the Water Master Plan.

15 Available storage capacity – GSWC asserts that the system has an “emergency storage  
16 deficiency of 5.781 MG.”<sup>11</sup> The Plan only considered storage capacity from the three tanks. It  
17 excluded the available connections with neighboring cities and the MWD.

18 Neither General Order 103-A (GO 103-A) nor Title 22 of the California Code of Regulations  
19 (“Waterworks Standards”) provides specific requirements for storage capacity. The Waterworks  
20 Standards specifies the following in Section 64554.a(1):

21 For systems with 1,000 or more service connections, the system shall be able to meet four  
22 hours of peak hourly demand (PHD) with source capacity, storage capacity, and/or  
23 emergency source connections. [Emphasis added.]

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<sup>9</sup> GSWC’s 2013 West OC Water Master Plan, p. 5-9.

<sup>10</sup> Ibid, p. 5-10.

<sup>11</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 245, line 25.

1 As noted earlier, the Plan calculates the total storage capacity requirement by adding three  
2 separate storage components: operation, fire and emergency. It describes “Emergency Storage”  
3 as follows:

4 Emergency storage is a dedicated source of water that can be used as a backup supply in  
5 the event a major supply source is interrupted. This can be provided by water from a  
6 second independent source, by water stored in reservoirs, or a combination of both.  
7 [Emphasis added.]

8 Accordingly, the West OC Water Master Plan should have included “independent source[s]”  
9 such as purchased water and emergency connections in its available storage capacity  
10 calculations. Such inclusion would have been consistent with GSWC’s Water Master Plan for  
11 the Southwest system.<sup>12</sup>

12 ORA recalculates the available storage capacity to reflect the above specifications by the  
13 Waterworks Standards and GSWC’s Water Master Plan for the Southwest System. As shown in  
14 **Table 1-E** below, the West OC system has an excess storage capacity of 35.619 MG.

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<sup>12</sup> GSWC’s 2011 Southwest Water Master Plan, Section 5.3.6, p. 5-15.

**Table 1-E: West OC System Storage Analysis**

Description	GSWC Capacity (MG)	ORA Capacity (MG)
3 Florista Tanks	4.500	4.500
Connections with MWDSC <sup>13</sup>	--	35.600
Connections with Other Systems <sup>14</sup>	--	5.800
Available	4.500	45.900
Requirement	10.281	10.281 <sup>15</sup>
<b>Excess (Deficiency)</b>	<b>(5.781)</b>	<b>35.619</b>

<sup>13</sup> The Division of Drinking Water's 10/17/2014 Engineering Report for Consideration of the Permit for Golden State Water Company – West Orange County System, Orange County, p. 3 of 21.

Summary of MWDSC Connections					
PS Code	MWDSC Connection	Status	Capacity (gpm)	Originate from	Deliver water to
3010022-030	OC-26	Active	4,500	West Orange County Feeder	Main Zone via 2 PRVs
3010022-031	OC-55	Active	11,200	2 <sup>nd</sup> Lower Feeder	Main Zone via 2 PRVs
3010022-032	OC-61	Active	9,000	2 <sup>nd</sup> Lower Feeder	Main Zone via 2 PRVs
Total Capacity			24,700 gpm or 35.6 MGD		

<sup>14</sup>Ibid, p. 4 of 21:

#### 2.1.3.2 Emergency Connections

The Company has one emergency connection with the city of Garden Grove, one emergency connection with the city of Seal Beach, one emergency connection with the city of Buena Park, and one emergency connection with the Company's Artesia System. These connections provide a back-up water supply in the event of emergency situations.

Summary of Interconnections to Other Systems			
Agency	Capacity (gpm)	Location	Size
City of Garden Grove	900	Garden Grove Blvd. and Beach Blvd.	8-inch one-way connection from the City
City of Seal Beach	900	Seal Beach Blvd. at Rossmoor Shopping Center	8-inch two-way connection
City of Buena Park	1,350	Lincoln Blvd., west of Valley View	8-inch one-way connection from the City
GSWC-Artesia	900	Bloomfield Ave. and Orange Ave.	8-inch two-way connection
<b>Total Capacity:</b>	<b>4,050 gpm or 5.8 MGD</b>		

<sup>15</sup> As mentioned earlier, ORA uses this amount only for the purpose of this analysis, and believes that the amount overstates that actual storage capacity needs of the system.

1 [To meet the Basin Production Percent goal of 75 % set forth by the Orange County Water](#)  
2 [District \(OCWD\).](#)

3 GSWC asserts that adding Simone Well #2 will provide additional well capacity to its Orange  
4 County District to meet the Basin Production Percent (BPP) as identified in Section 26 of the  
5 Orange County Water District (OCWD) Act. GSWC also states that the “systems in the Orange  
6 County District are currently equipped with sufficient well capacity to meet the current fiscal  
7 year [2014-2015] BPP of 70 percent,” but “the systems do not have enough well capacity to meet  
8 the proposed BPP of 75 percent” for 2015-2016 fiscal year.<sup>16</sup>

9 However, when ORA asked about the need to meet the BPP, GSWC responded that the company  
10 “has no prior contract or obligation to meet the OCWD’s goal to reach the 75% of the BPP by  
11 2015-16 fiscal year” and it is requesting this new well to “maximize the low cost groundwater.”<sup>17</sup>

12 Thus, the need to meet the BPP goal is not relevant to GSWC’s project justification.  
13 Furthermore, as of February 2015, the OCWD has not adopted the aforementioned “proposed  
14 BPP goal of 75 percent” and in fact is considering keeping the BPP goal at 70% due to the  
15 groundwater basin’s growing overdraft conditions.<sup>18</sup> Lastly, in this GRC, ORA is not contesting  
16 GSWC’s request to add the Fairhaven Well #3 in the Cowan Heights system, which is part of the  
17 Orange County District. This addition will provide the added capacity that GSWC claims it  
18 needs to meet the BPP goal.

19 [To provide cost savings.](#)

20 GSWC claims that Simone Well #2 will result in cost savings of \$540/AF. To determine the cost  
21 savings to ratepayers, ORA asked GSWC to provide the following:

22 A cost benefit analysis which shows life cycle revenue requirement under the two options  
23 – replace well and purchased water. The analysis should include but not limited to  
24 capital investment required (well & treatment, including period equipment replacements),

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<sup>16</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 246.  
<sup>17</sup> GSWC Response to ORA Data Request SN2-007, Q. 1.C.ii.  
<sup>18</sup> 2/18/2015 email from John Kennedy, Executive Director of Engineering and Local Resources of OCWD to Susana Nasserie of ORA.

1 return on investment, and operating costs (O&M, purchased power, pump tax, chemical  
2 costs, filter replacement costs, etc.)<sup>19</sup>

3 In response to the above request, GSWC provided a 30-year life cycle net present value analysis.  
4 ORA reviewed the analysis and found that it is based on overly optimistic assumptions, is not  
5 sufficiently comprehensive, and does not quantify the cost impact to ratepayers (i.e., does not  
6 include the requested revenue requirement analysis.) Some of the deficiencies in the analysis  
7 are:

- 8 • GSWC's assumption of production from the new well is overly optimistic and is  
9 based on running the well at maximum (assumed) capacity 100% of the time for 30  
10 years. This is an unreasonable assumption as wells experience downtimes for a  
11 multitude of reasons such as maintenance, repairs, rehabilitations, pump/motor  
12 replacements, etc. Also, GSWC's assumed 2,000 gpm capacity is likely overly  
13 optimistic. The newest well in the same water system, Clair Well #5, began operation  
14 in 2012, has a design capacity of 2,500 gpm, and only produced an average of 1,388  
15 gpm in 2013 or 56 % of its design capacity. Lastly, due to the groundwater basin's  
16 overdraft conditions referenced by OCWD above, it is not reasonable to assume full  
17 production capacity for any new well in this area.
- 18 • GSWC's estimated costs associated with the well (1) exclude a number of significant  
19 and relevant cost components required to operate and maintain the well and well site  
20 such as O&M labor (and associated benefits and capital invested such as vehicles,  
21 etc.), sewer fees for well discharge, etc. and (2) understate the costs for well  
22 rehabilitation and equipment (e.g., pump/motor) replacement.
- 23 • Most importantly, GSWC did not perform the requested revenue requirement analysis  
24 on the project alternatives, which is necessary for the Commission to determine the  
25 estimated cost impact to ratepayers (versus costs to the company). In doing so,

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<sup>19</sup> ORA Data Request SN2-007, Q.1.b.ii.

1 GSWC neglected to consider cost differences in depreciation, property tax and  
2 income taxes<sup>20</sup> in its comparative analysis.

3 ORA's Recommendation.

4 ORA addressed each of the reasons GSWC presented in its testimony in support of this new well  
5 request. As presented above, GSWC has not adequately demonstrated the project's need and  
6 cost effectiveness, and it is the burden of a requesting utility to do so. Therefore, ORA  
7 recommends the Commission deny GSWC's request to construct the Simone Well #2.

8 **3. West OC - Florista West Tank, Recoat and Drain Improvements (\$742,300)**

9 GSWC requests \$109,500 in 2016 and \$632,800 in 2017 for a two-part project: (1) recoat the  
10 Florista tank, and (2) improve site drainage and asphalt concrete pavement (resurfacing). In its  
11 testimony, GSWC provides the July 2012 underwater inspection report by DIVE/CORR, Inc.<sup>21</sup>  
12 Based on ORA's review of the DIVE/CORR report and site inspection on October 23, 2014,  
13 ORA finds the request for tank recoating reasonable. However, ORA recommends rejection of  
14 the second part of the GSWC's request (resurfacing) for reasons discussed below.

15 GSWC's testimony does not provide any documentation to support the requested 25,000 square  
16 feet (sf) of asphalt concrete pavement or the 200 feet of drainage pipe. In its response to ORA's  
17 inquiry, GSWC provided a site survey map that shows 25,000 sf as the entire site's pavement  
18 area. The Florista site houses three 1.5 MG tanks.<sup>22</sup> During the October 23, 2014 site visit,  
19 ORA observed, and GSWC staff explained, that the area surrounding the East and Center tanks  
20 has already received improvements including new pavement and drainage. Clearly, the entire  
21 site does not require complete resurfacing, yet GSWC's estimates are based on resurfacing the  
22 site's entire 25,000 sf area. Per ORA's assessment of the site map provided,<sup>23</sup> only

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<sup>20</sup> For example, pump tax is a tax-deductible expense, while return on rate base is not.

<sup>21</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 247 and Attachment LA-01 (Capital Testimony Final - APP Attachment CBE01 - LA06).

<sup>22</sup> GSWC Response to ORA Data Request SN2-011 Q.2.

<sup>23</sup> GSWC Response to ORA Data Request SN2-011 Response 2: Site survey (Att 2 - Aerial Image.pdf) and aerial image (Att 2 - Aerial Image.pdf).

1 approximately 50% of the site requires resurfacing. Regarding the drainage channels, GSWC  
2 has not determined the exact location of the drainage connection and, therefore, cannot verify the  
3 need for the 200 feet of the drainage piping requested.<sup>24</sup>

4 Based on its findings discussed above and because this project is not considered urgent, ORA  
5 recommends approval of the tank coating portion of the project only for 2017, as shown in **Table**  
6 **1-C** above, and deferral of any needed repavement and drainage to a future GRC. At that time,  
7 GSWC should provide a more accurate description and cost estimate of the work required –  
8 including the area requiring resurfacing, a specific plan on drainage/discharge improvements,  
9 and associated piping requirements.

#### 10 **4. West OC - Howard Plant, Install Pump-to-Waste Drain Line (\$86,600, design)**

11 GSWC requests \$86,600 in 2017 for the design of a project to install a pump-to-waste drain pipe  
12 facility from the existing 900 gpm pump. GSWC is not requesting the associated construction  
13 cost estimated at \$402,890 in this GRC.<sup>25</sup> GSWC claims that during the pump-to-waste  
14 operation mode, the water flows to the gutter and floods the street creating traffic issues. GSWC  
15 explains that to solve these issues, the company will install 1,650 feet of 12-inch diameter PVC  
16 pipe from the facility to a storm drain.<sup>26</sup>

17 During ORA's site visit, ORA learned that the company has not had any confirmation or  
18 knowledge of who owns the storm drain, and whether GSWC can get a permit to connect to the  
19 storm drain. The water discharge records show that the discharge duration varied between three  
20 to 240 minutes.<sup>27</sup> In 2012-2013, GSWC discharged an average of two times per year, for a total

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<sup>24</sup> GSWC Response to ORA Data Request SN2-011, Q.2.

<sup>25</sup> GSWC's Workpapers for Region 3 vol. 4 of 6, sheet no. 75 shows construction cost (2013 dollars) of \$402,890.

<sup>26</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 249, line 13-14. GSWC is still uncertain to which channel the pipe will connect, to the local flood control channel or the county storm drain.

<sup>27</sup> GSWC Response to ORA Data Request SN2-011 Question 3.e. attachment (Att 3e - 2011-14 Howard Well Discharge Records.pdf).

1 of 6,800 gallons.<sup>28</sup> Clearly, discharging is not a frequent event. GSWC also stated that the well  
2 can be operated manually to reduce flow impacts to the street.<sup>29</sup> The pictures provided in  
3 GSWC’s testimony showed some standing water as well as water flows to the gutter and on the  
4 street.<sup>30</sup> However, it is unclear what “traffic issues” were created in these apparently infrequent  
5 events. Upon ORA’s inquiry, GSWC could not provide evidence of notice of violations from the  
6 local authority as the result of the discharges.<sup>31</sup>

7 The proposed project should be denied for many reasons: (1) the discharges in question are  
8 infrequent; (2) there is no evidence to indicate that the discharges caused problems for GSWC  
9 customers or led to any legal violations; (3) GSWC’s lack of knowledge of ownership of the  
10 storm drain, and (4) zero preliminary details on the requirements and feasibility of obtaining the  
11 permit to discharge water to the storm drain shows lack of readiness to proceed with this project.  
12 Therefore, ORA recommends that the Commissions reject GSWC’s request for this project.

### 13 **5. West OC - South Cypress Plant, Install Pump-to-Waste Drain Line (\$129,600)**

14 GSWC requests \$129,600 in 2017 to design and construct a pump-to-waste drain pipe facility  
15 from the existing 650 gpm well pump. GSWC states that when the well pump is in pump-to-  
16 waste operation mode, the water flows to the gutter and floods the street creating traffic issues.<sup>32</sup>  
17 GSWC plans to install 250 feet of 12-inch diameter PVC pipe to an unspecified storm drain,<sup>33</sup> an  
18 automatic pump control valve, and an air gap stand pipe.

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<sup>28</sup> GSWC Response to ORA Data Request SN2-011 Question 3.e. attachment (Att 3e - 2011-14 Howard Well Discharge Records.pdf). Total discharge 2012 was 0 gallons, 2013 was 13,600 gallons. Average per year was  $13,600/2 = 6,800$  gallons.

<sup>29</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 249, lines 1-3.

<sup>30</sup> Ibid, p. 249, line 26; p. 250 lines 1-3.

<sup>31</sup> GSWC Response to ORA Data Request SN2-011, Q 3d.

<sup>32</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 249, line 26, p 250 lines 1-3.

<sup>33</sup> Ibid, p. 250, lines 9-10. GSWC is still uncertain to which channel the pipe will connect, to the local flood control channel or the county storm drain.

1 The pictures provided in the testimony showed some standing water as well as water flows to the  
2 gutter and on the street.<sup>34</sup> In response to ORA’s inquiry, GSWC confirmed that the company did  
3 not receive any citations from local authorities as a result of the discharges.<sup>35</sup> For reasons similar  
4 to that for the Howard Plant’s pump-to-waste project, ORA recommends that the Commission  
5 deny GSWC’s request for this project.

6 **6. West OC - Valley View Well #2, Install Variable Frequency Drive (\$289,100)**

7 GSWC requests \$289,100 in 2015 to install a Variable Frequency Drive (VFD) to improve the  
8 Valley View Well #2 operation. The project also includes replacing a pump with a 300 horse-  
9 power motor suitable for the VFD and modifying the electrical controls for the Valley View  
10 Well #2.

11 The Valley View Well #2 was installed in 2005, equipped with a pump with a design flow  
12 capacity of 3,000 gpm. GSWC states that the VFD could reduce the frequency of starts and  
13 stops and flow reversals in an area with high frequencies of “color water complaints.”<sup>36</sup> GSWC  
14 also stated that due to the large capacity of this well, the start-up and shut-down of the well  
15 impacts the operations of four to five other wells in the system. The installation of the VFD,  
16 according to GSWC, will allow the GSWC Operations to control the pump’s speed electrically  
17 and vary the pump speed in response to system demands.<sup>37</sup>

18 There are many reasons why the Commission should reject this project request. First, the VFD  
19 installation necessitates replacement of the existing pump motor that, based on ORA’s analysis,  
20 is still in good operating condition and not yet due for replacement. The 2013 pump test shows  
21 that the pump still operates effectively, earning the “Good” rating.<sup>38</sup> Therefore, it is not cost  
22 effective to replace the motor at this time in order to be able to install the VFD.

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<sup>34</sup> Ibid, p. 250, line 1, Attachment LA04.

<sup>35</sup> GSWC Response to ORA Data Request SN2-011, Q.4d.

<sup>36</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 251 lines 6-8.

<sup>37</sup> Ibid, p. 250, lines 25-26.

<sup>38</sup> GSWC Response to Minimum Data Request (MDR) F.8- for Region 3, p. 6 - Valley View Well #2.

1 Second, GSWC has not demonstrated that the color water problem can be resolved by this  
2 project. GSWC's testimony includes a map showing areas that were impacted by the color water  
3 issues. It also includes a report of water sample results during the 2011-2013 monitoring  
4 period.<sup>39</sup> Neither the map nor the sample results indicate that the problems are due to the  
5 operations of the existing Valley View #2 pump. When ORA asked about the customer  
6 complaints referenced in GSWC's project justification, GSWC referred ORA to GSWC's 2014  
7 Measure to Improve Customer Service Report.<sup>40</sup> ORA's review of the information contained in  
8 the report and did not find evidence that installing the VFD at Valley View #2 will resolve the  
9 color water problems. That report indicates that the color water problems were associated with  
10 the operation of the Beach well, and the OC-55 MWD connection specifically.<sup>41</sup>  
11 ORA contacted the Division of Drinking Water (DDW) to request the latest inspection report for  
12 the system. The DDW provided its October 17, 2014 Engineering Report<sup>42</sup> to ORA on this  
13 system (excerpt below), which indicates that for 2013, all customer complaints, including "58

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<sup>39</sup> GSWC Prepared Testimony of Robert McVicker and Mark Inscom, p. 251, line 8. Attachment LA05.

<sup>40</sup> GSWC Response to ORA Data Request SN2-011 Q.5a.

<sup>41</sup> GSWC's 10/1/2014 Measure to Improve Customer Service Report, p. 40. "Water Quality - Colored water was the cause of 16 complaints. All 16 colored water complaints were associated with colored water from precipitation of naturally occurring iron and manganese in the groundwater. Two colored water events, March 18 and June 13, caused 12 of the colored water complaints. The first event resulted in five complaints while the second event resulted in seven complaints.

The March 18 event occurred when the Beach well was turned off for routine measurement of well groundwater levels. The complaints were across from the Orangewood well and on the two adjacent streets north of the well. The June 13 event is associated with the West Orange County system's OC-55 MWD connection after it was turned on in preparation for the summer customer high demands. The connection's supply and increased flow likely caused iron and manganese sediment from groundwater sources to be stirred up in the adjacent pipelines. One colored water complaint was caused by a customer not receiving notification prior to distribution operators flushing fire hydrants in their area.

One colored water complaint was caused by the Orange County Fire Authority (OCFA) opening a fire hydrant behind a business. Two colored water complaints appear to be caused by iron and manganese sediments in the distribution pipelines. The house plumbing was flushed for about five minutes until the water was clear."

<sup>42</sup> DDW's 2012 Survey Report Section I. 4 Complaints, p. 18 of 23 and 10/17/2014 Engineering Report for Consideration of the Permit for Golden State Water Company – West Orange County System, Orange County, Section 2.5.6 Customer Complaints, p. 16 of 21.

1 color complaints” were “investigated and appropriate corrective actions were taken to mitigate  
2 the problems.”

### 2.5.6 Customer Complaints

In 2013, there were 77 service leaks, 66 main breaks/leaks, and 72 customer complaints. All leaks were responded to immediately after they were reported. The Company crew repaired leaks with minimal interruption of meter service. Of the 72 customer complaints, one was a taste and odor complaint, 58 were color complaints, 7 were pressure complaints, and 6 were other complaints. All complaints were investigated and appropriate corrective actions were taken to mitigate the problems.

3  
4 This DDW finding is inconsistent with claims made by GSWC in this GRC – that color problems  
5 still require mitigation by modifications to the Valley View #2 well. Either GSWC misinformed  
6 the DDW regarding the 2013 customer complaints and corrective actions and resolution to  
7 appear to be in compliance, or is misinforming the Commission regarding color water problems  
8 existing and attributable directly to the Valley View #2 well to inflate its capital budget in this  
9 GRC.

10 In sum, this project is not needed because: (1) there is not sufficient evidence to indicate that the  
11 proposed project will address the color water problems, if any, and (2) the project would require  
12 replacing the existing pump prematurely and unnecessarily. ORA recommends that the  
13 Commission reject this project request. Moreover, GSWC’s contradictory information on  
14 customer complaints regarding color water and related resolutions/solutions to the DDW and to  
15 the Commission warrants further investigation by both agencies.

### 16 7. West OC – Yellowtail Upgrade Electrical Panel (\$182,600)

17 GSWC requests \$182,600 in 2015 to upgrade electric panel. ORA supports the project but not  
18 the requested design budget. GSWC requests a design budget that is equal to 50% of the  
19 construction cost, which is substantially higher than the design percent adder applied in other  
20 projects. For the electrical projects of Mills Well and Bradshaw Wells in Region 3, GSWC  
21 estimates the projects’ design budgets as equal to 15% of the estimated construction budget.  
22 Therefore, ORA recommends adjusting a design adder of 15% instead of 50%. Table 1-C –  
23 Capital Budget Summary reflects this adjustment.

1 **8. West OC – Replace Pipelines on Cerritos, Los Alamitos Avenue, & Catalina Street**  
2 **(\$1,548,100)**

3 GSWC requests \$160,100 in 2016 and \$1,388,000 in 2017 to replace 4,300 feet of 4-inch and 6-  
4 inch cast iron (CI) pipe with 8-inch ductile iron (DI) on Cerritos, Los Alamitos Avenue, and  
5 Catalina Street. GSWC states that these pipelines are 65 years old, had one leak in 2009-2013,  
6 and need to be replaced to address leaks, age, and to improve the system hydraulics.<sup>43</sup>

7 Leaks and Age – According to GSWC’s Pipeline Management Program (PMP) Report, CI pipes  
8 can last as long as 85 years in the West OC system.<sup>44</sup> Since the pipelines only had one leak in  
9 2009-2013, they do not appear to be deteriorating prematurely.

10 Hydraulic Deficiency – GSWC’s Pipeline Prioritization Results in the Pipeline Management  
11 Program Report indicates that these pipelines do not have hydraulic deficiency.<sup>45</sup>

12 The above findings on age, leaks, and no hydraulic deficiency do not support GSWC’s  
13 replacement request. GSWC should continue to monitor the condition of these pipelines and  
14 only consider replacing them when it is cost effective to do so. Therefore, ORA recommends  
15 that the Commission deny this project.

16 **9. West OC – Replace Pipelines on Enterprise Drive, Green Avenue, & Midway Drive**  
17 **(\$32,500, design only)**

18 GSWC requests a design cost of \$32,500 in 2017 for a project that will replace 900 feet of 6-inch  
19 and 8-inch CI pipelines; these pipelines are 64 years old. The project is to replace 8-inch DI  
20 pipeline in Enterprise Drive, Green Avenue, and Midway Drive. GSWC is not requesting the  
21 construction cost of approximately \$227,100 in this GRC.<sup>46</sup> GSWC states that the pipelines had  
22 one leak in 2009-2013 and need to be replaced to address leaks, age, and to improve the system

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<sup>43</sup> GSWC’s Workpapers for Region 3 vol. 4 of 6, sheet no. 83.

<sup>44</sup> GSWC’s PMP Report, p. 8-118.

<sup>45</sup> Ibid, Attachment E 256 of 257.

<sup>46</sup> GSWC’s Workpapers for Region 3 vol. 4 of 6, Sheet no. 86. The amount of \$227,100 is from the PCE and not including Overhead, Contingency and Escalation rates.

1 hydraulics.<sup>47</sup> For reasons similar to those in the preceding section, at 64 years with only one leak  
2 and no hydraulic deficiency, it would be premature to replace these pipelines at this time.  
3 GSWC should continue to monitor the condition of these pipelines and only consider replacing  
4 them when it is cost effective to do so. ORA recommends that the Commission deny this  
5 project.

6 **10. West OC - Urban Water Management Plan (UWMP) (\$65,000)**

7 GSWC requests \$65,000 in 2015 to update its UWMP for the West OC system. ORA does not  
8 oppose this request but recommends that the estimated cost be shifted from the 2015 to the 2016  
9 capital budget. ORA's Common Plant Issues testimony on UWMP provides the basis for the  
10 adjusted timeline.

11 **E. OC DISTRICT - PLACENTIA CSA**

12 The Placentia CSA consists of three water systems: Cowan Heights, Placentia, and Yorba Linda.  
13 **Table 1-F** below presents a summary of capital budgets for the Placentia CSA in Region 3.

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<sup>47</sup> Ibid, sheet no. 85.

Table 1-F: Capital Budgets - Placentia CSA

Placentia CSA	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
<b>Cowan Heights</b>						
Newport, Recoat reservoir	\$ -	\$ -	\$ -	\$ -	\$ 352,100	\$ 336,100
Timberline, Recoat reservoir	\$ -	\$ -	\$ 474,400	\$ 452,900	\$ -	\$ -
Cowan Heights, SCADA, Phs III	\$ 62,000	\$ 59,200	\$ 433,700	\$ 414,000	\$ -	\$ -
Clearview, Impr. access to reservoir	\$ -	\$ -	\$ -	\$ -	\$ 223,100	\$ 213,000
Fairhaven Well #3, Drill and Equip	\$ -	\$ -	\$ -	\$ -	\$ 447,200	\$ -
Rangeview,Deerhaven-Overhil PRVs	\$ 413,100	\$ -	\$ -	\$ -	\$ -	\$ -
Newport and Brier, Install PRVs	\$ 799,200	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Placentia</b>						
Golden, Res. Struc & seism. jnt eval.	\$ 78,100	\$ 74,500	\$ -	\$ -	\$ -	\$ -
Placentia, SCADA Phs III	\$ -	\$ -	\$ 114,300	\$ 59,300	\$ 661,000	\$ 411,500
<b>Yorba Linda</b>						
Yorba Linda, SCADA Phs III	\$ -	\$ -	\$ 55,900	\$ 37,600	\$ 388,000	\$ 260,600
College, Res. Struc&seismic eval.	\$ 78,100	\$ 74,500	\$ -	\$ -	\$ -	\$ -
College, Modify Reservoir Overflow	\$ -	\$ -	\$ -	\$ -	\$ 137,200	\$ 130,900
Larkridge, Recoat N & S tanks	\$ 74,400	\$ 71,000	\$ 520,500	\$ 496,900	\$ -	\$ -
Linda Vista, Recoat tank	\$ -	\$ -	\$ -	\$ -	\$ 281,200	\$ 268,400
<b>Total Water Supply</b>	<b>\$ 1,504,900</b>	<b>\$ 279,200</b>	<b>\$ 1,598,800</b>	<b>\$ 1,460,700</b>	<b>\$ 2,489,800</b>	<b>\$ 1,620,500</b>
Misc Street Improvements	\$ 172,000	\$ 172,000	\$ 178,000	\$ 178,000	\$ 184,000	\$ 184,000
<b>Total Street Improvements</b>	<b>\$ 172,000</b>	<b>\$ 172,000</b>	<b>\$ 178,000</b>	<b>\$ 178,000</b>	<b>\$ 184,000</b>	<b>\$ 184,000</b>
<b>Cowan Heights</b>						
La Vereda and E Lemon Heights	\$ -	\$ -	\$ 42,000	\$ -	\$ 436,500	\$ -
Skyline,Cowan Heights-Hntng Horn	\$ -	\$ -	\$ -	\$ -	\$ 91,500	\$ -
<b>Placentia</b>						
Madison, west of Diane to Diamond	\$ -	\$ -	\$ -	\$ -	\$ 41,300	\$ -
Main St Area Main Replacements	\$ -	\$ -	\$ 329,900	\$ 306,400	\$ -	\$ -
<b>Total Distribution Improvements</b>			<b>\$ 371,900</b>	<b>\$ 306,400</b>	<b>\$ 569,300</b>	<b>\$ -</b>
UWMP - Placentia-YorbaLnd system	\$ 65,000	\$ -	\$ -	\$ 65,000	\$ -	\$ -
UWMP - Yorba Linda system	\$ 65,000	\$ -	\$ -	\$ 65,000	\$ -	\$ -
<b>Total Miscellaneous</b>	<b>\$ 130,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 130,000</b>	<b>\$ -</b>	<b>\$ -</b>
Contingency Budget	\$ 93,100	\$ -	\$ 96,400	\$ -	\$ 106,900	\$ -
<b>Total Contingency Budget</b>	<b>\$ 93,100</b>	<b>\$ -</b>	<b>\$ 96,400</b>	<b>\$ -</b>	<b>\$ 106,900</b>	<b>\$ -</b>
New Business Funded by GSWC		\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total New Business</b>	<b>\$ -</b>	<b>\$ -</b>				
Meters	\$ 146,800	\$ 146,800	\$ 206,300	\$ 206,300	\$ 339,700	\$ 339,700
Services	\$ 254,900	\$ 254,900	\$ 261,800	\$ 261,800	\$ 268,800	\$ 268,800
Minor Main Repl.	\$ 265,100	\$ 265,100	\$ 272,200	\$ 272,200	\$ 279,600	\$ 279,600
Minor Pumping Plant Equip.	\$ 111,900	\$ 111,900	\$ 114,900	\$ 114,900	\$ 118,000	\$ 118,000
Minor Purification Equip.	\$ 2,800	\$ 2,800	\$ 2,900	\$ 2,900	\$ 2,900	\$ 2,900
Office Furniture and Equip.	\$ 15,000	\$ 15,000	\$ 15,400	\$ 15,400	\$ 15,800	\$ 15,800
Transportation Equipment						
Vehicle #783	\$ 46,450	\$ -	\$ -	\$ -	\$ -	\$ -
Vehicle #1110	\$ 46,450	\$ -	\$ -	\$ -	\$ -	\$ -
Vehicle #1225	\$ -	\$ -	\$ 47,700	\$ -	\$ -	\$ -
Misc. Tools and Safety Equip.	\$ 3,400	\$ 3,400	\$ 3,500	\$ 3,500	\$ 3,600	\$ 3,600
Additions to General Structure	\$ 38,300	\$ 38,300	\$ 39,300	\$ 39,300	\$ 40,400	\$ 40,400
<b>Total Blanket Budget</b>	<b>\$ 931,100</b>	<b>\$ 838,200</b>	<b>\$ 964,000</b>	<b>\$ 916,300</b>	<b>\$ 1,068,800</b>	<b>\$ 1,068,800</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 2,831,100</b>	<b>\$ 1,289,400</b>	<b>\$ 3,209,100</b>	<b>\$ 2,991,400</b>	<b>\$ 4,418,800</b>	<b>\$ 2,873,300</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 10,459,000</b>	<b>\$ 7,154,100</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$ 3,304,900</b>
<b>3-YEAR TOTAL DIFFERENCE (GSWC-ORA)/(GSWC):</b>						<b>32%</b>

1 **1. Cowan Heights - Fairhaven Well #3, drill and develop (\$447,200,**  
2 **design only)**

3 GSWC request \$447,200 in 2017 for the design of a 1,000 gpm well (Fairhaven Well #3) that  
4 would replace an existing well (Fairhaven Well #2). GSWC’s estimate for the construction  
5 phase of the new well is approximately \$2 million; however, GSWC plans to make that request  
6 in the next GRC. ORA agrees with the need for this well based on its review of the rehabilitation  
7 history of the Fairhaven Well #2, and the well condition report by Layne Christensen Co.<sup>48</sup>  
8 However, ORA’s support is contingent upon the following conditions. This is to ensure that  
9 GSWC proceeds in accordance with its capital budget plan and to ensure adequate information is  
10 available to determine the construction cost of this well in the next GRC.

- 11 1. GSWC’s agreement and commitment to complete the design in 2017 as proposed.
- 12 2. GSWC’s agreement and commitment to include in its eventual request to drill and equip  
13 the designed well in the next GRC application a complete design and a minimum of three  
14 construction bids to support its construction budget request.
- 15 3. GSWC’s agreement and commitment to resubmit its justification for this replacement  
16 well including support for design and construction cost estimates in the event that GSWC  
17 does not complete the design of this new well and obtain the bids as specified above by  
18 the time it submits in application (assuming the well is still needed at that time).
- 19 4. GSWC’s acceptance that ORA’s support for a budget to perform the design of this well is  
20 not an automatic support for the resulting design and proposed construction budget.

21 **2. Cowan Heights - Install PRVs on Rangeview, Deerhaven, & Overhill**  
22 **Pipelines (\$413,100)**

23 GSWC requests \$413,100 in 2015 to install three Pressure Regulating Valves (PRVs), flow  
24 control stations, and vaults to reduce system pressure in the northeast area of the Clearview  
25 Reservoir Zone. GSWC asserts that the PRV installations on the Rangeview Drive, Deerhaven

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<sup>48</sup> GSWC Response to ORA Data Request SN2-007 Q.4c. GSWC included a 1930 to present chart of the Fairhaven well rehab and maintenance history; GSWC Prepared Testimony of Robert McVicker and Mark Insko p. 267; Attachment of 2003 video inspection by Layne Christensen Co.

1 Drive, and Overhill Drive pipelines will resolve the high pressure problems in the existing  
2 pipelines.

3 ORA reviewed GSWC’s latest Water Master Plan for the Cowan Heights system, particularly the  
4 lists of recommended improvements to mitigate identified deficiencies. This PRV project is not  
5 listed as one of those recommended improvements for the Clearview Reservoir Zone. The  
6 improvements that were recommended for the zone are intended to “[i]ncrease pressures in  
7 zone.”<sup>49</sup> Furthermore, there have been no customer complaints regarding high pressures in the  
8 last five years.<sup>50</sup> Therefore, ORA recommends that the Commission deny this project.

9 **3. Cowan Heights – Install Secondary Mainline, PRVs and Valves and on**  
10 **Newport Blvd., Greenbrier Lane, and Brier Lane (\$799,200)**

11 GSWC requests \$799,200 in 2015 for the installation of two PRVs, several valves, and a  
12 secondary main line on Brier Lane, Newport Blvd., and Greenbrier Lane. GSWC describes this  
13 project as follows:

14 The scope of work for this project is to install a secondary main that will supply high  
15 pressure to the customer connections north of Greenbrier Road and two pressure  
16 Regulating and Flow Control Stations and vaults (PRVs) on Brier Lane and Greenbrier  
17 Road to reduce pressure in the north area of Clearview Reservoir Zone.<sup>51</sup>

18 Similar to the project described in the preceding section, ORA reviewed GSWC’s latest Water  
19 Master Plan for the Cowan Heights system, particularly the lists of recommended improvements  
20 to mitigate identified deficiencies. This PRV and new main project is not listed as one of those  
21 recommended improvements for the Clearview Reservoir Zone. The improvements that were  
22 recommended for the zone are intended to “[i]ncrease pressures in zone.”<sup>52</sup> Furthermore, there

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<sup>49</sup> GSWC’s Cowan Heights Water Master Plan, p. 6-8.

<sup>50</sup> GSWC Response to ORA Data Request SN2-012, Question 4.c.

<sup>51</sup> GSWC Prepared Testimony of Robert Mc Vicker and Mark Insko, p. 270, lines 17-20.

<sup>52</sup> GSWC’s Cowan Heights Water Master Plan, p. 6-8.

1 have been no customer complaints regarding high pressures in the last five years.<sup>53</sup> Therefore,  
2 ORA recommends that the Commission deny this project.

3 **4. Placentia - SCADA Phase III (\$775,300)**

4 GSWC requests \$114,300 in 2016 and \$661,000 in 2017 for the SCADA Phase III  
5 implementation in the Placentia system. GSWC plans to install SCADA/SCC in nine locations  
6 as shown below.

#	Location (Plant/Interconnection)	Cost (before loading factor)
1	Install SCADA - OC-37	\$80,000
2	Install SCADA - Golden	\$40,000
3	Install SCADA - Chapman	\$40,000
4	Install SCADA - OC-56	\$80,000
5	Install SCADA - Ruby	\$40,000
6	Install SCADA - La Jolla	\$40,000
7	Install SCADA - Bradford	\$70,000
8	Install SCADA - Orangethorpe	\$40,000
9	SCC Installation for Placentia - Yorba Linda	\$30,000
	<b>TOTAL</b>	<b>\$460,000</b>

7 For the same reason as that for the West OC system's SCADA Phase III project, the SCADA  
8 installations at the OC-37 and OC-56 interconnections with MWD are unnecessary and should  
9 not be funded (items #1 and 4 for \$80,000 each). ORA's recommended Placentia CSA capital  
10 budget amounts in **Table 1-F** reflect this adjustment, as well as overhead and contingency  
11 adjustments as discussed in ORA's Common Plant Issues testimony.

12 **5. Yorba Linda - SCADA Phase III (\$443,900)**

13 GSWC requests \$55,900 in 2016 and \$388,000 in 2017 for the SCADA Phase III  
14 implementation in the Placentia system. GSWC plans to install SCADA/SCC in six locations as  
15 shown below.

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<sup>53</sup> GSWC Response to ORA Data Request DG-002 (Pressure Problems), Attachment DG-002 (Placentia-Cowen Height - Newport Blvd and Brier Ln).pdf Question.c.

#	Location (Plant/Interconnection)	Cost (before loading factor)
1	Install SCADA - College/OC-90	\$80,000
2	Install SCADA - Fairmont	\$40,000
3	Install SCADA - Larkridge	\$40,000
4	Install SCADA - Concerto	\$40,000
5	Install SCADA - Linda Vista	\$40,000
6	SCC Installation for Yorba Linda system	\$30,000
	<b>TOTAL</b>	<b>\$270,000</b>

1 For the same reason as that for the West OC system’s SCADA Phase III project, the SCADA  
2 installation at the OC-90 interconnection with MWD is unnecessary and should not be funded  
3 (item #1 for \$80,000). ORA’s recommended Placentia CSA capital budget amounts in **Table 1-**  
4 **F** reflect this adjustment, as well as overhead and contingency adjustments as discussed in  
5 ORA’s Common Plant Issues testimony.

6 **6. Cowan Heights – Replace Pipelines on La Verada Drive & E.**  
7 **Lemon Heights (\$478,500)**

8 GSWC requests \$42,000 in 2016 and \$436,500 in 2017 to replace 1,550 feet of 4-inch asbestos  
9 cement (AC) pipelines with 8-inch DI material on La Verada Drive and E. Lemon Heights.  
10 GSWC states that these pipelines are 54 years old and have had one leak in 2009-2013.<sup>54</sup>  
11 According to GSWC, this pipeline replacement is necessary to address leaks, age, the condition  
12 of the pipe, and hydraulic deficiency.<sup>55</sup>  
13 According to GSWC’s Pipeline Management Program Report, AC pipes can last as long as 105  
14 years in the Cowan Heights system.<sup>56</sup> Since the pipelines only had one leak (in 2009) in the  
15 2009-2013 period, they do not appear to be deteriorating prematurely. Furthermore, GSWC’s

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<sup>54</sup> GSWC’s Workpapers for Region 3 vol. 4 of 6, Sheet no. 125.

<sup>55</sup> Ibid, Sheet no. 125.

<sup>56</sup> GSWC’s 2014 PMP Report, p. 8-123.

1 Cowan Heights Water Master Plan does not list this project as a recommended pipeline  
2 replacement project.<sup>57</sup>

3 The above findings do not support GSWC’s replacement request. GSWC should continue to  
4 monitor the condition of these pipelines and only consider replacing them when it is cost  
5 effective to do so. Therefore, ORA recommends that the Commissions deny this project.

6 **7. Cowan Heights – Replace Pipelines on Skyline Drive, from Cowan Heights to**  
7 **Hunting Horn (\$91,500, design only)**

8 GSWC requests \$91,500 in 2017 for the design project of pipeline replacement of 2,550 feet of  
9 6-inch and 8-inch AC pipeline on Skyline Drive from Cowan Heights to Hunting Horn with 12-  
10 inch DI pipeline. GSWC does not request the estimated construction cost of \$532,330<sup>58</sup> in this  
11 GRC. The pipeline is 51 years old and had no leaks in 2009-2013.<sup>59</sup> GSWC asserts that the new  
12 pipeline is necessary to address hydraulic deficiency, age, and the condition of the pipe.<sup>60</sup>  
13 GSWC also states the 6-inch pipe limits the capacity of flow to convey water from the northern  
14 Clearview Reservoir Zone to the Hunting Horn Plant.<sup>61</sup>

15 Again, according to GSWC’s Pipeline Management Program Report, AC pipes can last as long  
16 as 105 years in the Cowan Heights system.<sup>62</sup> Since the pipelines had no leaks in the 2009-2013  
17 period, it does not appear that they are deteriorating prematurely. GSWC’s Cowan Heights  
18 Water Master Plan identifies this project as requiring upgrade from 6-inch/8-inch to 12-inch.  
19 However, the criteria used to develop the recommendation are based on the pressure  
20 requirements<sup>63</sup> that ORA is recommending the Commission to reevaluate (see ORA’s Common

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<sup>57</sup> GSWC’s Cowan Heights Water Master Plan, Sections 6 and 8.

<sup>58</sup> GSWC’s Workpapers for Region 3 vol. 4 of 6, Sheet no.128.

<sup>59</sup> GSWC Response to ORA Data Request DK4-001, Attachment DK4-001 Q.1.b (Pipelines) Attachment 1b.xls, tab Region III, line 6.

<sup>60</sup> GSWC’s Workpapers for Region 3 vol. 4 of 6, Sheet no.127.

<sup>61</sup> Ibid, Sheet no. 127.

<sup>62</sup> GSWC’s 2014 PMP Report, p. 8-123.

<sup>63</sup> GSWC’s Cowan Heights Water Master Plan, Sections 6 and 8.

1 Plant Issues testimony on pressure requirement.) Until then, GSWC should not take any action  
2 on this project.

3 For all of the above reasons, ORA recommends that the Commission reject this project request.

4 **8. Placentia – Replace Pipeline on Madison Avenue, west of Diane to Diamond**  
5 **(\$41,300, design only)**

6 GSWC requests a design budget of \$41,300 in 2017 for a project to replace 1,500 feet of 6-inch  
7 CI pipelines on Madison Avenue, west of Diane Avenue to Diamond Road, with 8-inch DI  
8 pipelines. GSWC does not request the estimated construction of \$288,330<sup>64</sup> in this GRC. The  
9 pipeline is 58 years old and had one leak in 2009-2013.<sup>65</sup> GSWC asserts that the pipeline needs  
10 to be replaced to address “leaks, age, and condition...”<sup>66</sup>

11 According to GSWC’s Pipeline Management Program Report, CI pipes can last as long as 83  
12 years in the Placentia system.<sup>67</sup> Since the pipeline only had two leaks in 2009-2013, it does not  
13 appear to be deteriorating prematurely. GSWC’s Pipeline Prioritization Results in the Pipeline  
14 Management Program Report indicates that this pipeline has no hydraulic deficiency.<sup>68</sup>

15 The above findings on age, leaks, and hydraulic deficiency do not support GSWC’s replacement  
16 request. GSWC should continue to monitor the condition of these pipelines and only consider  
17 replacing them when it is cost effective to do so. Therefore, ORA recommends that the  
18 Commission deny this project.

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<sup>64</sup> GSWC’s Workpapers for Region 3 vol. 4 of 6, Sheet no.130.

<sup>65</sup> GSWC Response to ORA Data Request DK4-001, Attachment DK4-001 Q.1.b (Pipelines) Attachment 1b.xls tab - Region III, line no. 5. The leak number is different from the number in its Workpapers for Region 3 vol. 4 of 6. Sheet no. 129, which stated two leaks.

<sup>66</sup> GSWC’s Workpapers for Region 3 vol. 4 of 6, Sheet no. 129.

<sup>67</sup> GSWC’s PMP Report, p. 8-128.

<sup>68</sup> Ibid, Attachment E 256 of 257.

1 **9. Placentia – Yorba Linda & Cowan Heights - Urban Water Management Plans**  
 2 **(\$130,000)**

3 GSWC requests \$65,000 each in 2015 to update its UWMPs for the Placentia-Yorba Linda and  
 4 Cowan Heights systems for a total of \$130,000. ORA does not oppose this request but  
 5 recommends that the estimated cost be shifted from the 2015 to the 2016 capital budget. ORA’s  
 6 Common Plant Issues testimony on UWMP provides the basis for the adjusted timeline.

7 **10. Placentia – Replace Vehicle #783, #1100 and #1225 (\$140,600)**

8 GSWC requests a total of \$140,600 for the replacement of Vehicle #783 (heavy-duty truck) in  
 9 2015, Vehicle #1100 (heavy-duty truck) in 2015, and Vehicle #1225 (heavy-duty truck) in 2017.  
 10 For reasons identified in ORA’s testimony on vehicle replacements, ORA removes these vehicle  
 11 replacements from this GRC’s capital budgets.

12 **11. Additional Adjustments to Requested Capital Expenditures –**  
 13 **Placentia CSA**

14 This section addresses projects included as CWIP in GSWC’s Table 4-M, Utility Plant. These  
 15 “CWIP to be closed” amounts in Table 4-M are made up of capital expenditures from projects  
 16 listed in GSWC’s “CWIP” workpapers. In its application, GSWC did not provide detailed  
 17 project description or cost details for these projects. While GSWC labelled these projects as  
 18 CWIP or Construction Work In Progress, it is not an accurate description for many. As ORA  
 19 discovered, some projects have not started (and therefore cannot be considered “CWIP”), are no  
 20 longer needed, have been cancelled by GSWC, or have changed in scope and schedule  
 21 significantly. ORA makes the following adjustments to reflect its findings.

22 **Table 1-G: ORA adjustments to CWIP - Placentia CSA**

Placentia CSA Project	2013	
	GSWC	ORA
Placentia, Site for Reservoir	\$172,900	\$0
North Zone – Two 1.5 MG Reservoirs	\$996	\$0
<b>TOTAL</b>	<b>\$173,896</b>	<b>\$0</b>

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Placentia Site and two 1.5-MG Reservoirs

GSWC requested \$5.2 million for the Placentia Site for Reservoir project in A.08-07-010 and \$4.9 million for the North Zone - two 1.5-MG Reservoir project in A.11-07-017. GSWC includes the projects in the 2013 CWIP list with amounts shown in the table above. ORA discovered that GSWC has cancelled these projects, because the company was unable to purchase a site for the construction of the two reservoirs.<sup>69</sup> Since GSWC cancelled the projects, the costs associated with the land purchase and constructing the reservoirs totaling \$173,896 should be removed from the 2013 CWIP budget and expensed (not capitalized).

**F. FOOTHILL DISTRICT – FOOTHILL DISTRICT OFFICE**

The Foothill District consists of the Foothill District Office, and three CSAs - Claremont, San Dimas, and San Gabriel Valley.

**Table 1-H** below presents a summary of capital budgets for the Foothill District Office. Differences in ORA’s and GSWC’s estimates are due to ORA’s disallowance of the contingency budget and vehicle replacement as explained in ORA’s Common Plant Issues testimony, as well as in the Miscellaneous Tools and Safety Equipment budget.

**Table 1-H: Capital Budget Summary – Region 3 Foothill District Office**

Foothill District Office	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Contingency Budget	\$ 8,300	\$ -	\$ 18,700	\$ -	\$ 13,700	\$ -
<b>Total Contingency Budget</b>	<b>\$ 8,300</b>	<b>\$ -</b>	<b>\$ 18,700</b>	<b>\$ -</b>	<b>\$ 13,700</b>	<b>\$ -</b>
Office Furniture and Equipment	\$ 15,100	\$ 15,100	\$ 15,500	\$ 15,500	\$ 15,900	\$ 15,900
Transportation Equipment						
Replace Vehicle # 1227	\$ 46,400	\$ -	\$ -	\$ -	\$ -	\$ -
Replace Vehicle # 70539	\$ -	\$ -	\$ 29,700	\$ 29,700	\$ -	\$ -
Replace Vehicle # 1311	\$ -	\$ -	\$ -	\$ -	\$ 48,950	\$ -
Replace Vehicle # 1314	\$ -	\$ -	\$ -	\$ -	\$ 48,950	\$ -
Misc. Tools and Safety Equipment	\$ 20,800	\$ 20,800	\$ 140,900	\$ -	\$ 21,900	\$ 21,900
Additions to General Structure	\$ 700	\$ 700	\$ 800	\$ 800	\$ 800	\$ 800
<b>Total Blanket Budget</b>	<b>\$ 83,000</b>	<b>\$ 36,600</b>	<b>\$ 186,900</b>	<b>\$ 46,000</b>	<b>\$ 136,500</b>	<b>\$ 38,600</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 91,300</b>	<b>\$ 36,600</b>	<b>\$ 205,600</b>	<b>\$ 46,000</b>	<b>\$ 150,200</b>	<b>\$ 38,600</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 447,100</b>	<b>\$ 121,200</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$ 325,900</b>
<b>3-YEAR TOTAL DIFFERENCE (GSWC-ORA)/(GSWC):</b>						<b>73%</b>

<sup>69</sup> GSWC Response to ORA Data Request SN2-004, File name: Combined List ORA SN2 004.xlsx.

1           **1. Foothill District Office – Replace Vehicle #1227, #1311 and #1341 (\$144,300)**

2 GSWC requests a total of \$144,300 to replace Vehicle #1227 (heavy-duty truck) in 2015, and  
3 Vehicle #1311 (heavy-duty truck) and Vehicle #1314 (heavy-duty truck) in 2017. For reasons  
4 identified in ORA’s testimony on vehicle replacements, ORA removes these vehicle  
5 replacements from this GRC’s capital budgets.

6           **2. Foothill District Office - Portable Booster Pump in Miscellaneous Tools and Safety**  
7           **Equipment Budget (\$140,900)**

8 GSWC requests \$140,900 in 2016 to purchase two portable variable speed/flow booster pumps.  
9 One pump will be located at the San Dimas Field Office to serve Claremont and San Dimas  
10 systems. The second pump will be kept at the Saxon Field Office to serve San Gabriel and  
11 Arcadia. Currently, GSWC is relying on contractors to provide portable booster pumps for  
12 scheduled work or in an emergency. GSWC claims that without the portable pump, the company  
13 is limited in its ability to provide uninterrupted water supply during an emergency. GSWC  
14 explains that during times of emergency, it is likely that the pump would not be available for  
15 rental. In addition, GSWC states that it would take considerable time to place the pump where it  
16 is needed.

17 In GSWC’s response to ORA’s inquiry, GSWC indicates there were 2 emergencies in the last 6  
18 years (2009 to 2014).<sup>70</sup> Specifically, there was a booster outage in San Dimas on November  
19 2011 and a 16-inch main break in San Dimas on May 2014.<sup>71</sup> The cost to rent the booster pump  
20 in November 2011 was \$4,844.50 and in May 2014 was \$3,902.32 – a total cost of less than  
21 \$9,000 in the 6 years reviewed by ORA (2009-2014), or an average of \$1,500 per year. The  
22 estimated cost to ratepayers to own the two requested pumps is \$28,000 per year,<sup>72</sup> plus the costs  
23 to maintain them. Because the need for the portable booster pumps in recent years has been met

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<sup>70</sup> GSWC Response to ORA Data Request SN2-008.

<sup>71</sup> There was also one planned outage, but this situation is not relevant here, because it is planned and does not involve an emergency.

<sup>72</sup> Based on an approximate calculation of annual revenue requirement using a factor of 20% of total investment.

- 1 100% through rental, and because the cost of owning far exceeds the recent rental cost
- 2 experience, ORA recommends that the Commission reject this project request.

**G. FOOTHILL DISTRICT – CLAREMONT CSA**

**Table 1-I** below presents a summary of capital budgets for the Claremont CSA in Region 3.

**Table 1-I: Capital Budgets - Claremont CSA**

Claremont CSA	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Pomello Well #5, Drill and Equip	\$ 288,200	\$ -	\$ 1,680,400	\$ -	\$ -	\$ -
Pomello repl BP & new emerg gen	\$ -	\$ -	\$ 236,300	\$ 7,000	\$ 1,365,900	\$ 48,800
Mills Well, Upgrade electrical	\$ -	\$ -	\$ -	\$ -	\$ 229,700	\$ 219,200
Margarita, Recoat Reservoir	\$ -	\$ -	\$ -	\$ -	\$ 351,000	\$ 335,100
<b>Total Water Supply</b>	<b>\$ 288,200</b>	<b>\$0</b>	<b>\$ 1,916,700</b>	<b>\$ 7,000</b>	<b>\$ 1,946,600</b>	<b>\$ 603,100</b>
Misc Street Improvements	\$ 81,000	\$ 81,000	\$ 84,000	\$ 84,000	\$ 87,000	\$ 87,000
<b>Total Street Improvements</b>	<b>\$ 81,000</b>	<b>\$ 81,000</b>	<b>\$ 84,000</b>	<b>\$ 84,000</b>	<b>\$ 87,000</b>	<b>\$ 87,000</b>
7th., Harvard - College Way	\$ -	\$ -	\$ -	\$ -	\$ 293,000	\$ 279,700
Miramar,Mills-Miramar Well #5	\$ 493,400	\$ 471,000	\$ -	\$ -	\$ -	\$ -
Mntn&Tulane,Hood-Sta. Barbara	\$ 1,597,600	\$ 503,200	\$ -	\$ -	\$ -	\$ -
Geneva, Arrow to Doane	\$ 1,170,800	\$ 614,700	\$ -	\$ -	\$ -	\$ -
<b>Total Distribution Improvement</b>	<b>\$ 3,261,800</b>	<b>\$ 1,588,900</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 293,000</b>	<b>\$ 279,700</b>
Del Monte-Arsenic Removal Syst	\$ 272,100	\$ -	\$ -	\$ -	\$ 1,629,300	\$ -
<b>Total Water Quality</b>	<b>\$ 272,100</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,629,300</b>	<b>\$ -</b>
UWMP - Claremont	\$ 65,000	\$ -	\$ -	\$ 65,000	\$ -	\$ -
<b>Total Miscellaneous</b>	<b>\$ 65,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 65,000</b>	<b>\$ -</b>	<b>\$ -</b>
Contingency Budget	\$ 71,600	\$ -	\$ 72,700	\$ -	\$ 78,300	\$ -
<b>Total Contingency Budget</b>	<b>\$ 71,600</b>	<b>\$ -</b>	<b>\$ 72,700</b>	<b>\$ -</b>	<b>\$ 78,300</b>	<b>\$ -</b>
New Business Funded by GSWC	\$ 4,000	\$ 4,000	\$ 5,000	\$ 5,000	\$ 6,000	\$ 6,000
<b>Total New Business</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>	<b>\$ 5,000</b>	<b>\$ 5,000</b>	<b>\$ 6,000</b>	<b>\$ 6,000</b>
Meters	\$ 252,600	\$ 252,600	\$ 251,300	\$ 251,300	\$ 294,700	\$ 294,700
Services	\$ 188,100	\$ 188,100	\$ 193,100	\$ 193,100	\$ 198,400	\$ 198,400
Minor Main Repl.	\$ 89,100	\$ 89,100	\$ 91,500	\$ 91,500	\$ 94,000	\$ 94,000
Minor Pumping Plant Equip.	\$ 137,300	\$ 137,300	\$ 141,000	\$ 141,000	\$ 144,800	\$ 144,800
Minor Purification Equip.	\$ 13,800	\$ 13,800	\$ 14,100	\$ 14,100	\$ 14,500	\$ 14,500
Office Furniture and Equip.	\$ 8,500	\$ 8,500	\$ 8,800	\$ 8,800	\$ 9,000	\$ 9,000
Transportation Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Misc. Tools and Safety Equip.	\$ 12,400	\$ 12,400	\$ 12,700	\$ 12,700	\$ 13,000	\$ 13,000
Additions to General Structure	\$ 13,900	\$ 13,900	\$ 14,300	\$ 14,300	\$ 14,700	\$ 14,700
<b>Total Blanket Budget</b>	<b>\$ 715,700</b>	<b>\$ 715,700</b>	<b>\$ 726,800</b>	<b>\$ 726,800</b>	<b>\$ 783,100</b>	<b>\$ 783,100</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 4,759,400</b>	<b>\$ 2,389,600</b>	<b>\$ 2,805,200</b>	<b>\$ 887,800</b>	<b>\$ 4,823,300</b>	<b>\$ 1,758,900</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 12,387,900</b>	<b>\$5,036,300</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$ 7,351,600</b>
<b>3-YEAR TOTAL DIFFERENCE (GSWC-ORA)/(GSWC):</b>						<b>59%</b>

**1. Claremont - Pomello Well #5, Drill and Equip Well (\$2 million)**

GSWC requests \$288,200 in 2015 and \$1,680,400 in 2016 to design and construct a new well at the Pomello Plant.<sup>73</sup> GSWC indicates that because many of the wells in Claremont are nearing the end of their useful lives, a replacement well is necessary to cover lost capacity from aging

<sup>73</sup> GSWC Prepared Testimony of Robert Mc Vicker and Mark Insko, p. 298 shows 2017, but GSWC’s Workpapers for Region 3 vol. 5 of 6, Sheet no. 154 shows 2016.

1 and out of service wells. GSWC also claims that the well is needed to mitigate a 3,742 gpm  
2 supply deficiency in the Indian Hill zones during MDD scenarios. GSWC further states that the  
3 company has been underutilizing its groundwater pumping allocation of 7,118 AFY in the Six  
4 Basins area.<sup>74</sup> In addition, GSWC explains that the replacement well will provide operational  
5 flexibility to reduce the amount of purchased water with a substantial costs savings benefit.  
6 ORA disagrees with the proposed well replacement at this time for the reasons described below.

7 Claremont system's older wells are still productive

8 GSWC asserts that the system's lost capacity is attributed to wells nearing the end of their useful  
9 life and that the new replacement well is required to replace the lost capacity of GSWC's aging  
10 wells. **Figure 1-J** shows the current 15 active wells including their respective age, design  
11 capacity, and 2013 average production in the Claremont system.<sup>75</sup> **Table 1-K** presents the same  
12 information plus "well efficiency"<sup>76</sup> data.

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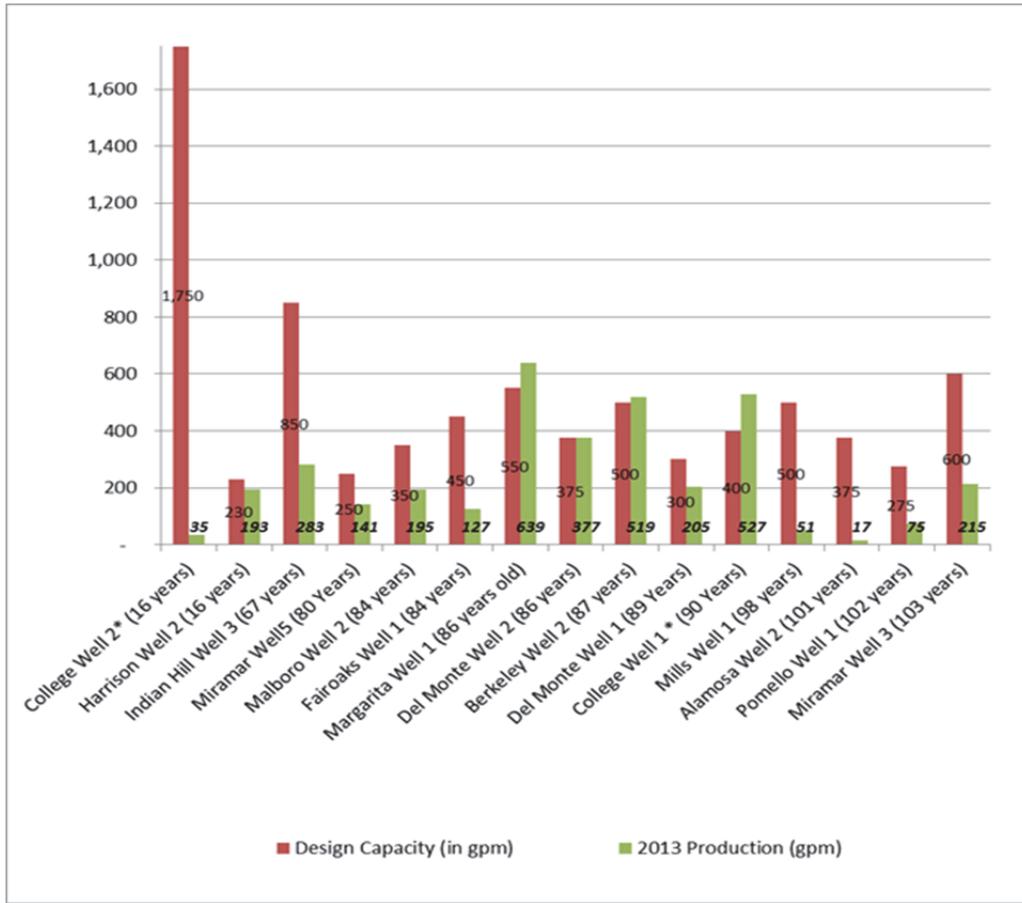
<sup>74</sup> GSWC Prepared Testimony of Robert Mc Vicker and Mark Insko, p. 299, lines 5-8.

<sup>75</sup> Data from the GSWC's 2013 Annual Report.

<sup>76</sup> This term "well efficiency" as used here refers to the ratio of average production to design capacity, in gpm.

1

Figure 1-J: Claremont CSA – Well Data



2

**Table 1-K: Claremont CSA – Well Data**

No	Source of information	2013 Annual Report					2013 Well Efficiency (Production/Design Flow)
	Wells	Year built	Current Age	Design Capacity	Production		
				gpm	AFY <sup>77</sup>	gpm	%
1	College Well #2 (leased)	1998	16	1,750	57	35	2%
2	Harrison Well #2	1998	16	230	311	193	84%
3	Indian Hill Well #3	1947	67	850	457	283	33%
4	Miramar Well #5	1934	80	250	227	141	56%
5	Fairoaks Well #1	1930	84	450	205	127	28%
6	Malboro Well #2	1930	84	350	315	195	56%
7	Del Monte Well #2	1928	86	375	608	377	101%
8	Margarita Well #1	1928	86	550	1,031	639	116%
9	Berkeley Well #2	1927	87	500	838	519	104%
10	Del Monte Well #1	1925	89	300	331	205	68%
11	College Well #1 (leased)	1924	90	400	850	527	132%
12	Mills Well #1	1916	98	500	82	51	10%
13	Alamosa Well # 2	1913	101	375	27	17	5%
14	Pomello Well #1	1912	102	275	121	75	27%
15	Miramar Well #3	1911	103	600	347	215	36%
	<b>TOTAL</b>			<b>7,755</b>	<b>5,807</b>	<b>3,598</b>	

2 The data from both **Figure 1-J** and **Table 1-K** indicates that the age of a well does not always  
3 correlate with its productivity, at least not in the Claremont CSA. To find out the factors that  
4 could cause low water production, ORA asked GSWC to explain the discrepancy between the  
5 design and production capacity. GSWC responded as follows:

6 Various factors can be attributed to differences in actual well production capacity versus  
7 design capacity. These can include but are not limited to: static and pumping water levels,

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<sup>77</sup> AFY: acre-foot per year.

1 condition of well casing, and condition of well pump and motor and their associated  
2 efficiencies.<sup>78</sup>

3 It is worth noting here that GSWC requested replacement of the Margarita Well #1 with  
4 Margarita Well #2 in the last GRC, A.11-07-017. In that GRC, GSWC justified its request as  
5 follows:

6 Margarita #1 is 83 years old...it is a top candidate for immediate replacement based on a  
7 number of other factors, including recent maintenance history, corroded condition of the  
8 casing, excessive sand pumping...

9 ORA notes that despite the poor condition claimed by GSWC back in 2011 regarding Margarita  
10 Well #1, that well is still a good producer - reliably producing 108% and 116% in 2012 and  
11 2013, respectively, of its design capacity.<sup>79</sup> Age alone does not justify abandonment of the  
12 Margarita Well #1 at this time.

13 [GSWC's well production can meet the 7,118 AFY groundwater pumping allocation in the Six](#)  
14 [Basins area.](#)

15 In support of GSWC's claim that it requires additional well capacity to utilize the 7,118 AFY  
16 water rights, the company states the following:

17 Golden State Water Company's appropriative water rights are currently allocated to be  
18 7,118 acre-feet[-year]. Between 2008 and 2012 GSWC has underutilized its groundwater  
19 pumping allocation in the Six Basins area. Utilizing a new groundwater source in the Six  
20 Basins area would help to fully utilize GSWC's pumping rights and would allow for  
21 operational flexibility to reduce demand on purchased water in the Claremont system.<sup>80</sup>

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<sup>78</sup> GSWC Response to ORA Data Request, SN2-006 Q.1b.

<sup>79</sup> Data from 2012 and 2013 Annual Report: Margarita Well #1 design capacity (design flow) 550 gpm. 2012 and 2013 production: 956 AFY ( 592 gpm) and 1,031 AFY (639gpm) respectively. Well efficiency:  $592/550=108\%$  in 2012 and  $639/550=116\%$  in 2013.

<sup>80</sup> GSWC Prepared Testimony of McVicker and Insko, p. 290, lines 5-10 (internal footnote omitted).

1 In Spring 2014, GSWC completed a new Indian Hill Well #4 with a production capacity of 850  
 2 gpm<sup>81</sup> (1,372 AFY), which provides a substantial increase in GSWC’s ability to take advantage  
 3 of its groundwater pumping allocation.

4 [GSWC has sufficient supply for the Indian Hill Zone.](#)

5 GSWC claims that there is a 3,742 gpm supply deficiency in the Indian Hill and its neighboring  
 6 zones during Max Demand Day (MDD) scenarios and cited to its Water Master Plan’s Table 5-  
 7 11, presented in **Table 1-L** below.

8 **Table 1-L: Indian Hill/Neighboring Zone - Supply and Demand Analysis,**  
 9 **Table 5-11 from Claremont Water Master Plan**

Duration (Hours)		Planning Scenario								
		ADD		MDD		PHD		MDD+FF		
		24	24	24	24	4	4	2	2	
Demand		GPM	MG	GPM	MG	GPM	MG	GPM	MG	
Indian Hill, Cape Cod and Claraboya Reservoir Zones		959	1.381	1,713	2.467	2,570	0.617	4,213	0.506	
Co-op East (PRV)		0	0.000	862	1.241	0	0.000	862	0.103	
Co-op West (PRV)		0	0.000	1,247	1.796	2,145	0.515	1,247	0.150	
Claraboya Booster and Intermediate Zones (BP)		113	0.163	201	0.289	301	0.072	201	0.024	
Claremont Heights/ Lime Stone Zones (BP)		586	0.844	1,047	1.508	1,028	0.247	1,047	0.126	
Camp Baldy Zone (BP)		273	0.393	487	0.701	0	0.000	487	0.058	
O’Neil, Fergus Fall Zones		355	0.511	635	0.914	798	0.192	635	0.076	
<b>Total Demand</b>		<b>2,286</b>	<b>3.292</b>	<b>6,192</b>	<b>8.916</b>	<b>6,842</b>	<b>1.642</b>	<b>8,692</b>	<b>1.043</b>	
<b>Supply</b>		<b>Capacity</b>								
Wells		3,300	3,300	4,752	2,450	3,528	2,450	0.588	3,300	0.396
Connections		4,488	0	0.000	0	0.000	0	0.000	0	0.000
Boosters		0	0	0.000	0	0.000	0	0.000	0	0.000
PRVs*		5,495	0	0.000	0	0.000	0	0.000	0	0.000
Reservoirs		1,337	-	-	-	-	4,417	1.060	5,417	0.650
<b>Total Supply</b>		<b>3,300</b>	<b>4,752</b>	<b>2,450</b>	<b>3,528</b>	<b>6,867</b>	<b>1.648</b>	<b>8,717</b>	<b>1.046</b>	
<b>Supply Minus Demand</b>		<b>1,014</b>	<b>1.460</b>	<b>-3,742</b>	<b>-5.388</b>	<b>25</b>	<b>0.006</b>	<b>25</b>	<b>0.003</b>	
<b>Supply Meets Demand</b>		<b>YES</b>		<b>NO</b>		<b>YES</b>		<b>YES</b>		

10

11 It is not appropriate to remove the following source capacities when evaluating the available  
 12 supply to meet MDD (see column ‘MDD’): 4,488 gpm from interconnections and 850 gpm from

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<sup>81</sup> GSWC Response to ORA Data Request SN2-010, Att1B (April 23, 2014 Technical Memorandum by ALDA Inc) page 15 – Well Replacement Program.

1 the Indian Hill Well #3 (see discussion below). These two sources, together with the 2,450 gpm  
2 shown by GSWC, total to 7,788 gpm, which exceeds the 6,912 gpm total demand for this zone.

3 GSWS's firm capacity criteria is overly restrictive.

4 There are 8 wells in the Indian Hills and neighboring zones with a total capacity of 3,300 gpm  
5 (including Indian Hill #3).<sup>82</sup> In addition to not counting the available capacity from  
6 interconnections described above, GSWC also excludes its largest well capacity when  
7 calculating its total available supply capacity for the system. The exclusion is based on GSWC's  
8 own "Firm Capacity" criteria, whereby the company does not consider the production capacity  
9 from the largest well.<sup>83</sup> Therefore, GSWC calculates its available capacity as 3,300 gpm less 850  
10 gpm = 2,450 gpm (total well capacity less the largest well's capacity).<sup>84</sup> As explained below,  
11 GSWC's choice to impose "firm capacity" requirements on its existing systems is overly  
12 restrictive and serves to overstate its needs for supply infrastructure investment, and thereby to  
13 support continued expansion of its ratebase. Neither the Commission's General Order 103-A  
14 (GO 103-A) nor Title 22 of the California Code of Regulations (CCR Title 22) on drinking water  
15 standards requires that capacity from the largest well in a water system be discounted when  
16 determining supply availability.

17 GO 103-A's general requirement regarding "Standards of Service" requires that "Each water  
18 utility shall ensure that it complies with the Department's permit requirements and all applicable  
19 drinking water regulations."<sup>85</sup> With regards to capacity requirements, GO 103-A refers  
20 specifically to "the Waterworks Standards, CCR Title 22, Section 64554," stating:

21 3) Potable Water System Capacity

22 (a) A system's facilities shall have the capacity to meet the source capacity requirements  
23 as defined in the Waterworks Standards, CCR Title 22, Section 64554, or its successor.

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<sup>82</sup> GSWC's 2013 Claremont Water Master Plan, Sections 5, p.5-13.

<sup>83</sup> Ibid, pp.5-7 and 5-8.

<sup>84</sup> Ibid, p.5-13.

<sup>85</sup> GO 103-A, Section II.1.B. "Department" refers to the then California Department of Public Health Services, whose public drinking water system regulatory functions are now performed by the State Water Resources Control Board's Division of Drinking Water or DDW.

1 If, at any time, the system does not have this capacity, the utility shall request a service  
2 connection moratorium until such time as it can demonstrate the source capacity has been  
3 increased to meet system requirements.

4 Based on the above directions, ORA relies on the California Waterworks Standards (CCR Title  
5 22) to determine a system's available supply capacity. For existing systems such as GSWC's  
6 Claremont system, there is simply no requirement to remove the largest source of supply's  
7 capacity when calculating available supply capacity to meet system demands. Therefore, ORA  
8 rejects GSWC's election to apply the "firm capacity" requirement on Claremont.

9 Customer demand (MDD) has been dropping.

10 As shown in the table above, the total MDD in the Indian Hill/neighborhood Zone is 6,192 gpm.  
11 This is based on 2006 demand. The Claremont system has experienced a noticeable drop in  
12 MDD in the last 10 years or so. As shown in the Water Master Plan's Table 3-2, the system's  
13 MDD has dropped from 16,146 gpm in 2003 to 11,387 gpm in 2012, a 30% drop. The 2012  
14 MDD is 2,522 gpm or 18% less than the 2006 MDD. Using the 2006 MDD is likely overstating  
15 the expected demand. However, even with the outdated, and higher than expected demand data  
16 (2006), the Claremont system still has sufficient supply capacity based on ORA's analysis as  
17 presented above.

18 ORA's recommendation

19 In sum, for the reasons presented above, the Claremont system does not need the capacity of this  
20 replacement well. Therefore, ORA recommends that the Commission deny GSWC's request to  
21 construct the Pomello Well #5.

22 **2. Claremont - Pomello Plant, Replace Booster Station (\$1.6 million)**

23 GSWC requests \$236,300 in 2016 and \$1,365,900 in 2017 to upgrade the five booster pumps and  
24 electrical equipment (MCC and permanent diesel power generator) and to install piping. GSWC  
25 asserts that the upgrades of booster pumps, electrical equipment, and the plant piping  
26 configuration would increase supply capacity, reliability, and operational flexibility at Pomello  
27 Plant.<sup>86</sup> GSWC also states that the upgrades will improve efficiencies, continue to provide

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<sup>86</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 301, lines 1- 3.

1 access to lower cost ground water, and increase emergency storage to the system.<sup>87</sup> According to  
2 GSWC, the 2013 Claremont Master Plan identifies a supply deficiency in the Camp Baldy zone.  
3 During ORA’s field visit and in its testimony, GSWC brought up issues with obsolete electrical  
4 equipment and booster station piping configuration identified in the operational study performed  
5 by ALDA Inc., a consultant to GSWC.<sup>88</sup>

6 The Pomello Plant currently consists of two wells, five booster pumps, a 1.5 MG reservoir, two  
7 tanks, electrical panels, switchgear, and disinfection facilities. Well #1 and Well #4 supply the  
8 Indian Hill Zone. Boosters A and B supply the Claremont Heights Zone. Boosters E, F, and G  
9 supply the Camp Baldy Zone. There are also two tanks but they are currently out of service.<sup>89</sup>

10 [The five booster pumps are operating efficiently.](#)

11 GSWC requests five booster pump replacements.<sup>90</sup> As mentioned above, the five booster pumps  
12 (A, B, E, F, and G) at Pomello plant have split capacity to serve the Camp Baldy zone and the  
13 Claremont Heights zone. According to GSWC, Boosters E, F, and G need to be replaced to  
14 mitigate the supply deficiency issue in the Camp Baldy zone, while the Boosters A and B are  
15 barely able to keep up with demand in the Claremont Heights zone.<sup>91</sup> In addition, GSWC also  
16 states that Booster B, in its most recent test in 2012, has shown an efficiency of only 51%, which  
17 GSWC believes makes an ideal candidate for replacement based on energy use.

18 There is no supply deficiency in the Camp Baldy zone as explained in the next section. GSWC  
19 provides no evidence to support its claims that Boosters A and B are barely able to keep up with  
20 the demand in Claremont Heights zone. In addition, based on its most recent pump tests in 2013,  
21 four of five Pomello booster pumps rated excellent. Boosters A, E, F, and G have efficiency

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<sup>87</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 303, lines 8–11.

<sup>88</sup> Ibid, pp. 302 – 303.

<sup>89</sup> Ibid, p. 30, lines 6-10.

<sup>90</sup> GSWC’s Workpapers for Region 3 vol. 5 of 6, Sheet no. 158 construction estimate (Booster A,B E, F and G).

<sup>91</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 301, lines 23-25.

1 ratings of 74.4%, 78.3%, 77.7%, and 81.3% respectively.<sup>92</sup> Even Booster B with its efficiency  
2 rating of 53.8% is rated as “Fair” or “Normal.”<sup>93</sup> It is not cost effective to replace booster pumps  
3 that still operate in excellent or fair condition. Therefore, ORA recommends no booster pump  
4 replacements.

5 Camp Baldy Zone has adequate supply.

6 GSWC states that the 2013 Claremont Water Master Plan’s supply and storage assessment  
7 identifies a 369 gpm supply deficiency in Camp Baldy zone during the MDD scenario as shown  
8 in **Table 1-M** below.

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<sup>92</sup> GSWC’s 2014 Minimum Data Requests (MDR) question F.8 for Region 3, Claremont system, p. 2.

<sup>93</sup> Ibid, Pomello Booster Pump “B” has been operated in Fair/Normal condition. See also the Summary p. 1 of Pump Efficiency Test Category. It indicates 3 categories of High (for Pumps rated Excellent and Good), Normal (Fair) and Low (Poor).

1 **Table 1-M: Camp Baldy Zone - Supply and Demand Analysis,**  
 2 **Table 5-8 from the Claremont Water Master Plan**

TABLE 5-8 Existing System Supply and Capacity Analysis—Camp Baldy Zone

		Planning Scenario							
		ADD		MDD		PHD		MDD+FF	
Duration (Hours)		24		24		4		2	
Demand		GPM	MG	GPM	MG	GPM	MG	GPM	MG
Camp Baldy Zone		273	0.393	487	0.701	731	0.175	1,987	0.238
Upper O'Neil, Lower O'Neil, and Fergus Falls Zones (BPs)		355	0.511	635	0.914	798	0.192	635	0.076
Claremont Heights (PRVs)		0	0.000	447	0.644	447	0.107	0	0.000
<b>Total Demand</b>		<b>628</b>	<b>0.904</b>	<b>1,569</b>	<b>2.259</b>	<b>1,976</b>	<b>0.474</b>	<b>2,622</b>	<b>0.315</b>
Supply	Capacity								
Wells	NA	-	-	-	-	-	-	-	-
Connections	NA	-	-	-	-	-	-	-	-
Boosters	2,200	2,200	3.168	1,200	1.728	1,200	0.288	2,200	0.264
PRVs	NA	-	-	-	-	-	-	-	-
Reservoirs	0.500	-	-	-	-	779	0.187	422	0.051
<b>Total Supply</b>		<b>2,200</b>	<b>3.168</b>	<b>1,200</b>	<b>1.728</b>	<b>1,979</b>	<b>0.475</b>	<b>2,622</b>	<b>0.315</b>
<b>Supply Minus Demand</b>		<b>1,572</b>	<b>2.264</b>	<b>-369</b>	<b>-0.531</b>	<b>3</b>	<b>0.001</b>	<b>0</b>	<b>0.000</b>
<b>Supply Meets Demand</b>		<b>YES</b>		<b>NO</b>		<b>YES</b>		<b>YES</b>	

		Planning Scenario					
		Planned Outage		Unplanned Outage - Day 1 (MDD)		Unplanned Outage - Days 2-7 (ADD)	
Duration (Hours)		168		24		144	
Demand		GPM	MG	GPM	MG	GPM	MG
Camp Baldy		273	2.752	370	0.533	207	1.788
Upper O'Neil, Lower O'Neil, and Fergus Falls Zones (BPs)		305	3.074	71	0.102	355	3.067
Claremont Heights (PRVs)		0	0.000	0	0.000	0	0.000
<b>Total Demand</b>		<b>578</b>	<b>5.826</b>	<b>441</b>	<b>0.635</b>	<b>562</b>	<b>4.856</b>
Supply	Capacity						
Wells	NA	-	-	-	-	-	-
Connections	NA	-	-	-	-	-	-
Boosters	2,200	2,200	22.176	2,200	3.168	2,200	19.008
PRVs	NA	-	-	-	-	-	-
Reservoirs	0.500	25	0.250	174	0.250	0	0.000
<b>Total Supply</b>		<b>2,225</b>	<b>22.426</b>	<b>2,374</b>	<b>3.418</b>	<b>2,200</b>	<b>19.008</b>
<b>Supply Minus Demand</b>		<b>1,647</b>	<b>16.600</b>	<b>1,933</b>	<b>2.784</b>	<b>1,638</b>	<b>14.152</b>
<b>Supply Meets Demand</b>		<b>YES</b>		<b>YES</b>		<b>YES</b>	

3  
 4 This zone receives its supply from the Pomello Booster Pumps E, F, and G with pumping  
 5 capacities of 600 gpm, 600 gpm, and 1,000 gpm, respectively, totaling 2,200 gpm. As described  
 6 in the Pomello well discussion above, GSWC’s analysis excludes the largest source (1,000 gpm)  
 7 and considers this “firm” capacity as supply available to meet the system’s MDD. ORA’s  
 8 analysis, also as explained earlier, does not. **Table 1-N** below shows that there is an excess  
 9 capacity of 631 gpm, contrary to GSWC’s claim of supply deficiency.

1

**Table 1-N: Camp Baldy Zone - Supply and Demand Analysis by ORA**

		GSWC-Water Master Plan	ORA
		MDD	
		gpm	gpm
<b>Demand of Camp Baldy Zone</b>			
	Camp Baldy Zone	487	487
	Upper O'Neil, Lower O'Neil and Fergus Falls Zones (BPs)	635	635
	Claremont Heights (PRVs)	447	447
	<b>Total Demand</b>	<b>1,569</b>	<b>1,569</b>
<b>Supply to Camp Baldy Zone</b>			
	Wells	N/A	N/A
	Connections	N/A	N/A
	Boosters	1,200	2,200
	PRVs	N/A	N/A
	Reservoirs	N/A	N/A
	<b>Total Supply</b>	<b>1,200</b>	<b>2,200</b>
	<b>Supply Minus Demand</b>	<b>-369</b>	<b>631</b>
	<b>Supply Meets Demand</b>	<b>No</b>	<b>Yes</b>

2 [GSWC has a portable generator connection available at the plant site.](#)

3 GSWC explains that the addition of the permanent generator would allow access to local  
4 groundwater as a source of storage during power outages.<sup>94</sup> GSWC also states that Pomello Well  
5 #1 and Well #4 serve the Indian Hill zone, which currently experience a supply deficiency.

6 GSWC further explains:

7       Ensuring reliability of these two groundwater sources is crucial to keep up with the  
8       demand. This condition makes Pomello plant an ideal candidate for adding a permanent  
9       generator.<sup>95</sup>

10 As discussed above, there is no supply deficiency in the Indian Hill and neighboring zones.

11 During the October 23, 2014 site visit, GSWC representatives informed ORA that Pomello Well  
12 #4 had been out of service since 2007, leaving only one operating well at the Pomello Plant,<sup>96</sup>  
13 and as discovered by ORA during its site visit, the site is already equipped with a portable

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<sup>94</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 302, lines 19-20.

<sup>95</sup> Ibid, p. 302, lines 17-20.

<sup>96</sup> GSWC Response to ORA Data Request SN2-006, question 1.d.

1 generator connection. Because GSWC already has a portable generator connection and only one  
2 well in operation at the plant, there is no need to install a permanent generator at this site.  
3 Therefore, ORA does not recommend adding a permanent generator at this site.

4 New electrical equipment is not needed.

5 GSWC’s request also includes new electrical equipment for the booster station. GSWC’s  
6 testimony explains that “the existing electrical equipment is mounted on wooden backboards and  
7 is exposed to the elements and may be nearing the end of its useful life of 30-40 years depending  
8 upon maintenance and environmental conditions.”<sup>97</sup> In addition, GSWC claims the following:  
9 “Replacement of the electrical panels and switchgear for the wells and booster pump station will  
10 ensure supply reliability.”<sup>98</sup> ORA notes that GSWC’s own assessment only states that the  
11 electrical equipment “may be” nearing the end of its useful life and provides no specific  
12 operational or functional deficiencies. Furthermore, while it may make sense to upgrade the  
13 panel as part of the larger project proposed by GSWC (and opposed by ORA), there is little  
14 reason to replace or upgrade the electrical equipment on a stand-alone basis. Such upgrades can  
15 be considered in conjunction with work on the site’s boosters and/or well in the future.

16 Booster piping reconfiguration is needed.

17 GSWC identifies issues with the booster station piping configuration. In its justification for this  
18 project, GSWC states:

19       The current piping configuration for the booster pump station suffers from high velocities  
20       and friction loss when multiple boosters are operating. High flow rates occur in the  
21       suction line when multiple booster pumps are operating concurrently. The friction losses  
22       due to high velocities, when combined with lowered tank levels during high demands,  
23       can cause air vortexing of the pumps. This condition results in reduced output capacity to  
24       the Camp Baldy and Clermont Heights zones. Modifying the suction piping from the  
25       reservoir to the booster will help mitigation this issue.<sup>99</sup>

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<sup>97</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 302, lines 8-10.

<sup>98</sup> Ibid, p. 302, lines 12-14.

<sup>99</sup> Ibid, p. 302, lines 22-23, and p. 303, lines 1-5.

1 To support the above statement, GSWC includes a draft Technical Memorandum for Claremont  
2 Water System by ALDA Inc. Based on its review of the consultant report, ORA finds this  
3 request reasonable and recommends approving this piping configuration project as indicated at  
4 **Table 1-I.**

5 ORA's recommendation

6 In sum, ORA performed detailed analysis to address GSWC's various claims of need for this  
7 project and its various components. ORA's analysis shows that the entire project except for the  
8 booster piping component is not needed at this time. Therefore, ORA recommends that the  
9 Commission reject this project request except for the booster piping.

10 **3. Claremont – Replace Pipelines on Mountain, Tulane, Santa Barbara, Wellesley,**  
11 **Hood, and Circle (\$1.6 million)**

12 GSWC requests \$1,597,600 in 2015 to replace 6,400 feet of 4-inch, 6-inch and 8-inch steel  
13 pipelines with 8-inch DI on Mountain Avenue, Tulane Avenue, Santa Barbara Drive, Wellesley  
14 Drive, Hood Drive, and Colby Circle (GSWC's workpapers show 6,400 feet in the Project Need  
15 description, but uses 7,430 feet in its Construction Cost Estimate calculations.)<sup>100</sup> In its Region  
16 3 workpapers, GSWC states that these pipelines had 25 leaks in 2009-2013 and the pipeline age  
17 is 60 years.<sup>101</sup> According to GSWC, the new pipeline installation is necessary to address leaks,  
18 hydraulics deficiency, and the condition of the existing pipelines.<sup>102</sup>

19 In GSWC's response to ORA's data request, GSWC provided detailed leak information that  
20 indicated there were 28 instead of 25 leaks as GSWC stated in its workpapers.<sup>103</sup> Information on  
21 the 28 leaks are shown in the following table and maps (the Google map, on the right, is  
22 provided by ORA to add details to GSWC's leak map.)

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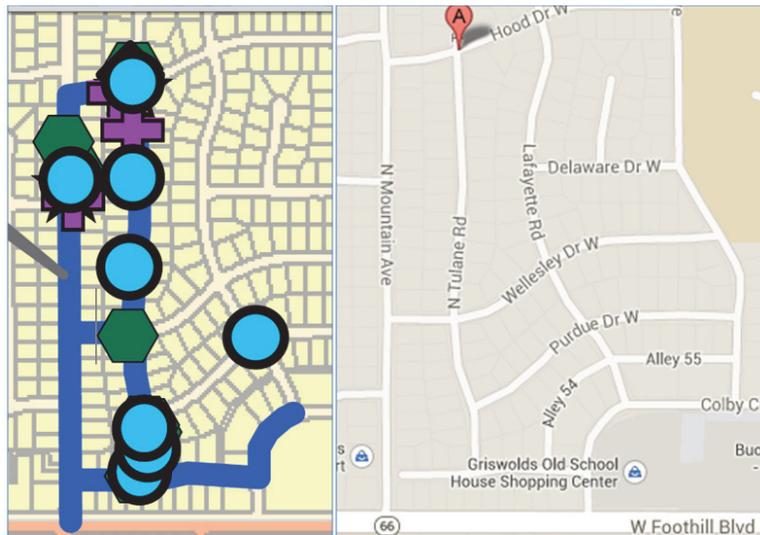
<sup>100</sup> GSWC's Workpapers for Region 3 vol. 5 of 6, Sheets no. 167 and 168. (A total length:  
80+35+7285+30=7,430 ft in sheet no. 168)

<sup>101</sup> Ibid, Sheet no. 167.

<sup>102</sup> Ibid, Sheet no. 167.

<sup>103</sup> GSWC Response to ORA Data Request DK1-004, Q.1b for Region 3.

#	Dates of leak	Year of leak	Address of leak	Type/Description of leak
1	11/10/2009	2009	760 Hood Drive	Hole - Corrosion
1	9/17/2009	2009	1506 N Mountain Avenue	Hole - Corrosion
2	10/7/2010	2010	1518 N Mountain	Pinhole - Corrosion
3	10/7/2010	2010	1518 N Mountain	Pinhole - Corrosion
4	8/9/2012	2012	1518 N Mountain	Pinhole - Corrosion
5	7/16/2013	2013	1532 N Mountain	Hole - Corrosion
6	10/2/2013	2013	1545 N Mountain	Hole - Corrosion
1	4/3/2012	2012	755 Santa Barbara	Pinhole - Corrosion
2	4/9/2012	2012	755 Santa Barbara	Pinhole - Corrosion
3	6/27/2013	2013	755 Santa Barbara Dr	Hole - Corrosion
1	3/12/2009	2009	1571 Tulane Road	Pinhole - Corrosion
2	10/22/2010	2010	Tulane & Hood	Blowout - Corrosion
3	10/22/2010	2010	Tulane & Hood	Blowout - Corrosion
4	9/23/2011	2011	1611 Tulane	Blowout - Corrosion
5	9/26/2011	2011	1611 Tulane	Pinhole - Corrosion
6	5/12/2012	2012	1317 Tulane Rd.	Pinhole - Corrosion
7	5/14/2012	2012	1457 Tulane Rd.	Pinhole - Corrosion
8	5/22/2012	2012	1331 Tulane Rd.	Pinhole - Corrosion
9	5/22/2012	2012	1331 Tulane Rd.	Pinhole - Corrosion
10	7/18/2012	2012	1331 Tulane Rd.	Pinhole - Corrosion
11	9/6/2012	2012	1529 Tulane Rd.	Pinhole - Corrosion
12	11/21/2012	2012	Hood Drive W & Tulane Rd.	Hole - Corrosion
13	1/23/2013	2013	1409 Tulane Rd.	Hole - Corrosion
14	4/18/2013	2013	1317 Tulane Road	Hole - Corrosion
15	4/18/2013	2013	1331 Tulane Road	Hole - Corrosion
16	6/27/2013	2013	1331 Tulane Road	Hole - Corrosion
17	10/2/2013	2013	1611 Tulane Rd.	Hole - Corrosion
18	12/12/2013	2013	1331 Tulane Rd.	Hole - Corrosion



1 The information above shows that the leaks are concentrated in two of the segments: upper part  
2 of Mountain (approximately 400 feet) and Tulane (approximately 2,000 feet). The remaining  
3 segments –Santa Barbara, Wellesley, Hood, and Colby do not have any reported leak incidents.  
4 Moreover, GSWC’s 2013 Water Master Plan identified the Tulane segment as needing  
5 replacement due to “[l]eaks, age and material.” Other segments were not identified for  
6 replacement. Based on the foregoing information, ORA recommends that only the segments on  
7 Mountain (from Hood to Maryhurst) and Tulane (from Santa Barbara to Hood) be replaced.  
8 Correspondingly, ORA recommends that the Commission allow only 33%<sup>104</sup> of the requested  
9 construction estimate (before loadings).<sup>105</sup>

10 **4. Claremont – Replace Pipelines on Geneva Avenue, Vassar Street, Prince Avenue &**  
11 **Doane Avenue (\$1.2 million)**

12 GSWC requests \$1,170,800 in 2015 to replace 4,800 feet of 6-inch and 8-inch Steel pipelines  
13 with 8-inch DI pipelines on Geneva Avenue, Vassar Street, Princeton Avenue, and Doane  
14 Avenue.<sup>106</sup> In its Region 3 workpapers, GSWC states that these pipelines had 18 leaks in 2009-  
15 2013 and that the pipelines are 62 years old.<sup>107</sup> According to GSWC, the new pipeline  
16 installation is necessary to address leaks and the condition of the existing pipelines.<sup>108</sup>

17 In GSWC’s response to ORA’s data request, GSWC provided the following leak information.<sup>109</sup>  
18 (The Google map, on the right, is provided by ORA to add details to GSWC’s leak map.)

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<sup>104</sup> An approximate proration because these two replacement segments make up about 33% of the total pipeline lengths that GSWC proposes to replace. Tulane (2,000 ft) and upper Mountain (400 ft)- Total of 2400 from 7,430 feet total project is  $2,400/7,430 = 0.323 \sim 33\%$ .

<sup>105</sup> ORA’s recommended total for this project reflects this adjustment as well as design and overhead loading factor adjustments.

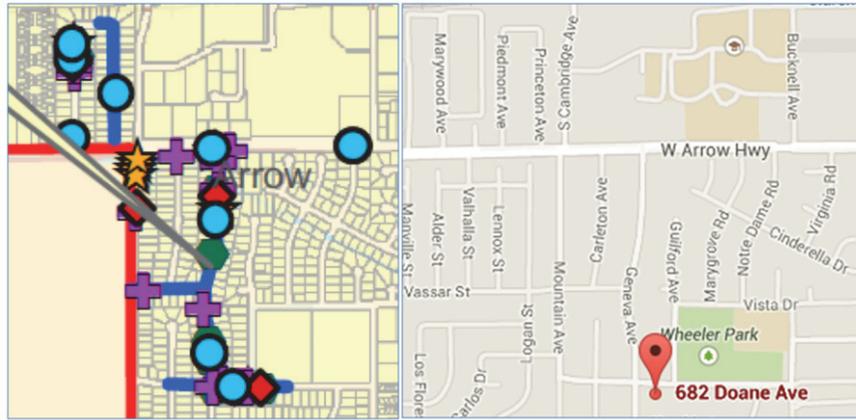
<sup>106</sup> GSWC’s Workpapers for Region 3 vol. 5 of 6, Sheet no. 169.

<sup>107</sup> Ibid, Sheet no. 169.

<sup>108</sup> Ibid, Sheet no. 169.

<sup>109</sup> GSWC Response to ORA Data Request DK1-004, Q.1b for Region 3.

#	Dates of leak	Year of leak	Address of leak	Type/Description of leak
1	8/7/2009	2009	303 Carleton Avenue	Hole - Corrosion
1	9/19/2009	2009	658 Doane Avenue	Hole - Corrosion
2	12/18/2009	2009	670 Doane Avenue	Hole - Corrosion
3	8/18/2009	2009	682 Doane Avenue	Hole - Corrosion
4	1/30/2010	2010	658 Doane	Pinhole - Corrosion
5	2/24/2011	2011	658 Doane	Pinhole - Corrosion
6	10/19/2012	2012	682 Doane	Hole - Corrosion
7	4/24/2013	2013	658 Doane ave	Hole - Corrosion
8	1/10/2013	2013	670 Doane Ave	Hole - Corrosion
1	4/20/2009	2009	315 Geneva Avenue	Pinhole - Corrosion
2	7/22/2009	2009	355 Geneva Avenue	Pinhole - Corrosion
3	6/22/2009	2009	519 Geneva Avenue	Pinhole - Corrosion
4	11/8/2009	2009	602 Geneva Avenue	Hole - Corrosion
5	9/23/2010	2010	385 Geneva	Pinhole - Corrosion
6	1/29/2010	2010	385 Geneva	Pinhole - Corrosion
7	9/23/2010	2010	385 Geneva	Pinhole - Corrosion
8	7/27/2011	2011	343 Geneva	Pinhole - Corrosion
9	11/1/2012	2012	385 Geneva	Hole - Corrosion
10	9/27/2012	2012	569 Geneva	Hole - Corrosion
11	6/27/2013	2013	331 Geneva	Hole - Corrosion
12	9/11/2013	2013	445 Geneva	Hole - Corrosion
13	10/28/2014	2013	445 Geneva	Hole - Corrosion
14	10/24/2013	2013	555 Geneva	Hole - Corrosion
15	11/26/2013	2013	575 Geneva	Blowout - Corrosion
16	12/4/2013	2013	575 Geneva	Hole - Corrosion
17	3/5/2013	2013	602 Geneva ave	Hole - Corrosion
1	4/17/2012	2012	291 Piedmont Ave	Corrosion
1	8/17/2012	2012	214 Princeton	Pinhole - Corrosion
1	7/24/2009	2009	386 S Mountain Avenue	Pinhole - Corrosion
2	9/11/2010	2010	304 S Mountain	Pinhole - Corrosion
3	7/14/2010	2010	310 S Mountain	Pinhole - Corrosion
4	7/14/2010	2010	318 S Mountain	Pinhole - Corrosion
5	8/21/2010	2010	326 S Mountain	Pinhole - Corrosion
6	2/28/2011	2011	374 S Mountain	Pinhole - Corrosion
1	4/2/2009	2009	786 Vassar Street	Pinhole - Corrosion
1	6/4/2009	2009	682 W Arrow Highway	Pinhole - Corrosion
2	3/31/2010	2010	702 W Arrow Hwy on Geneva	Pinhole - Corrosion
3	4/28/2010	2010	702 W Arrow Hwy on Geneva	Pinhole - Corrosion
4	2/9/2012	2012	702 W Arrow Hwy on Geneva	Pinhole - Corrosion



GSWC Leak Map

Google Map

1 The information above shows that the leaks are concentrated in three of the segments: Geneva  
 2 (1,900 feet), part of Mountain (400 feet), and part of Doane (400 feet). The remaining segments  
 3 – Vassar, Princeton, Piedmont, and Carleton – had reported leak incidents of 3 or under.  
 4 Moreover, GSWC’s 2013 Water Master Plan identified the Geneva segment as needing  
 5 replacement due to “[l]eaks, age and material.” Other segments were not identified for  
 6 replacement. Based on the foregoing information, ORA recommends that GSWC only replace  
 7 the Geneva, Mountain, and Doane sections as identified above. Correspondingly, ORA  
 8 recommends that the Commission allow only 55%<sup>110</sup> of the requested construction estimate  
 9 (before loadings).

10 **5. Claremont - Add Arsenic Treatment to Del Monte Well #4 (\$1.9 million)**

11 GSWC requests \$272,100 in 2015 and \$1,629,300 in 2017 to install an arsenic treatment system  
 12 at the Del Monte Well #4. The Del Monte plant consists of a 1.5 MG tank, a booster pump  
 13 station, three wells (Wells #1, #2 and #4), granular activated carbon (GAC) filter vessels, and a  
 14 pump house. Water produced from Wells #1 and #2 contain volatile organic compounds (VOCs)

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<sup>110</sup> An approximate proration because these two replacement segments make up about 50% of the total pipeline lengths that GSWC proposed to replace. Geneva (1,900 ft) and part of Mountain (400 ft) and part of Doane (400 ft)- Total of 2,700 from 4,875 feet total project is  $2,700/4,875 = 0.553 \sim 55\%$ .

1 and are treated by the GAC treatment system.<sup>111</sup> Water from Well #4 contains arsenic at levels  
2 above the maximum contaminant level (MCL)<sup>112</sup> and was taken out of service in 2006.<sup>113</sup> The  
3 well is 23 years old with a design capacity of 1,000 gpm (1,614 AFY).

4 GSWC states that arsenic treatment is required to return this well to service. GSWC explains  
5 that the well treatment would be a beneficial step toward maximizing groundwater pumping  
6 rights of 7,118 AFY in Six Basins Management area.<sup>114</sup> GSWC also states that the average  
7 groundwater pumping cost in Claremont system is approximately \$133/AF. GSWC estimates a  
8 treatment cost of \$83/AF, a treated water cost (well pumping plus treatment) of \$216/AF, and a  
9 purchased water cost of \$875/AF. GSWC states that “At a pumping rate of 800 gpm, Del Monte  
10 #4 well produces 1,290 Ac-Ft/yr. The resulting cost savings by utilizing groundwater over the  
11 purchased water is \$850,110/year.”<sup>115</sup>

12 As explained in the Pomello Well #5 project discussion earlier in this chapter, with the recent  
13 addition of the Indian Hill Well #4 (850 gpm or 1,372 AFY),<sup>116</sup> GSWC has sufficient capacity to  
14 take full advantage of its pumping allocation of 7,118 AFY. Adding more capacity beyond the  
15 pumping allocation does not make economic sense; this is because GSWC is limited by the  
16 pumping allocation and it would have more capacity than it can pump (i.e., it cannot realize the  
17 savings if its pumping is limited by the allocation). Therefore, ORA recommends that the  
18 Commission reject this project request.

## 19 **6. Claremont - Urban Water Management Plan (\$65,000)**

20 GSWC requests \$65,000 in 2015 to update its UWMP for the Claremont system. ORA does not  
21 oppose this request but recommends that the estimated cost be shifted from the 2015 to the 2016

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<sup>111</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 307 lines 5-10.

<sup>112</sup> Ibid.

<sup>113</sup> GSWC Response to ORA Data Request SN2-008, Question 3.e.

<sup>114</sup> GSWC Prepared Testimony of Robert Mc Vicker and Mark Insko, p. 307, lines 23-24 and p. 308, lines 1-2.

<sup>115</sup> Ibid, p. 308, lines 8-10.

<sup>116</sup> GSWC Response to ORA Data Request SN2-010 Att1B (April 23, 2014 Technical Memorandum by ALDA Inc) p. 15 – Well Replacement Program.

1 capital budget. ORA's Common Plant Issues testimony on UWMP provides the basis for the  
 2 adjusted timeline.

3 **H. FOOTHILL DISTRICT – SAN DIMAS CSA**

4 **Table 1-O** below presents a summary of capital budgets for the San Dimas CSA in Region 3.

5 **Table 1-O: Capital Budgets - San Dimas CSA**

San Dimas CSA	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Misc Street Improvements	\$ 147,000	\$ 147,000	\$ 152,000	\$ 152,000	\$ 157,000	\$ 157,000
<b>Total Street Improvements</b>	<b>\$ 147,000</b>	<b>\$ 147,000</b>	<b>\$ 152,000</b>	<b>\$ 152,000</b>	<b>\$ 157,000</b>	<b>\$ 157,000</b>
Arrow Hwy., Rennell to Lone Hill	\$ -	\$ -	\$ -	\$ -	\$ 30,200	\$0
Cienega Area Main Repl.	\$ -	\$ -	\$ -	\$ -	\$ 141,600	\$ 78,800
Palomares, San Dimas Cny-Walker	\$ 294,800	\$ -	\$ -	\$ -	\$ -	\$ -
Kirkwall Rd. Area Main Repl.			\$ 106,600	\$ 29,700	\$ 924,500	\$ 441,200
<b>Total Distribution Improvement</b>	<b>\$ 294,800</b>	<b>\$0</b>	<b>\$ 106,600</b>	<b>\$ 29,700</b>	<b>\$ 1,096,300</b>	<b>\$ 520,000</b>
UWMP - San Dimas System	\$ 65,000	\$0	\$ -	\$ 65,000	\$ -	\$ -
<b>Total Miscellaneous</b>	<b>\$ 65,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 65,000</b>	<b>\$ -</b>	<b>\$ -</b>
Contingency Budget	\$ 91,700	\$0	\$ 95,100	\$0	\$ 97,000	\$0
<b>Total Contingency Budget</b>	<b>\$ 91,700</b>	<b>\$0</b>	<b>\$ 95,100</b>	<b>\$0</b>	<b>\$ 97,000</b>	<b>\$0</b>
New Business Funded by GSWC	\$ 2,000	\$ 2,000	\$ 3,000	\$ 3,000	\$ 4,000	\$ 4,000
<b>Total New Business</b>	<b>\$ 2,000</b>	<b>\$ 2,000</b>	<b>\$ 3,000</b>	<b>\$ 3,000</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>
Meters	\$ 320,700	\$ 320,700	\$ 339,400	\$ 339,400	\$ 243,200	\$ 243,200
Services	\$ 247,800	\$ 247,800	\$ 254,500	\$ 254,500	\$ 261,400	\$ 261,400
Minor Main Repl.	\$ 164,200	\$ 164,200	\$ 168,700	\$ 168,700	\$ 173,200	\$ 173,200
Minor Pumping Plant Equip.	\$ 117,900	\$ 117,900	\$ 121,100	\$ 121,100	\$ 124,300	\$ 124,300
Minor Purification Equip.	\$ 21,600	\$ 21,600	\$ 22,200	\$ 22,200	\$ 22,800	\$ 22,800
Office Furniture and Equip.	\$ 7,400	\$ 7,400	\$ 7,600	\$ 7,600	\$ 7,900	\$ 7,900
Transportation Equipment						
Replace Vehicle # 1196	\$ -	\$ -	\$ -	\$ -	\$ 48,950	\$ -
Replace Vehicle # 1222	\$ -	\$ -	\$ -	\$ -	\$ 48,950	\$ -
Misc. Tools and Safety Equip.	\$ 12,500	\$ 12,500	\$ 12,800	\$ 12,800	\$ 13,200	\$ 13,200
Additions to General Structure	\$ 24,400	\$ 24,400	\$ 25,000	\$ 25,000	\$ 25,700	\$ 25,700
<b>Total Blanket Budget</b>	<b>\$ 916,500</b>	<b>\$ 916,500</b>	<b>\$ 951,300</b>	<b>\$ 951,300</b>	<b>\$ 969,600</b>	<b>\$ 871,700</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 1,517,000</b>	<b>\$ 1,065,500</b>	<b>\$ 1,308,000</b>	<b>\$ 1,201,000</b>	<b>\$ 2,323,900</b>	<b>\$ 1,552,700</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 5,148,900</b>	<b>\$3,819,200</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$ 1,329,700</b>
<b>3-YEAR TOTAL DIFFERENCE (GSWC-ORA)/(GSWC):</b>						<b>26%</b>

6

7 **1. San Dimas - Replace Pipeline on Arrow Highway, Rennell to Lone**  
 8 **Hill (\$30,200, design only)**

9 GSWC requests \$30,200 in 2017 for the design portion of this project to replace 1,350 feet of 10-  
 10 inch steel pipe with 12-inch DI on Arrow Hwy, Rennell to Lone Hill. The construction portion

1 of \$211,000 is not requested in this GRC.<sup>117</sup> In its Region 3 workpapers, GSWC states that this  
 2 pipeline had 7 leaks in 2009-2013 and it is 56 years old.<sup>118</sup> According to GSWC, the new  
 3 pipeline is necessary to address leaks, hydraulic deficiency, condition, and age.<sup>119</sup>  
 4 In GSWC’s response to ORA’s data request, GSWC provided the following leak information  
 5 showing that there were only 5 leaks instead of 7 as originally claimed.<sup>120</sup>

#	Date of leak	Year of leak	Address of leak	Type/Description of leak
1	1/28/2010	2010	Arrow Hwy & Lone Hill	No description provided by GSWC
2	2/8/2010	2010	Arrow Hwy & Rennel	No description provided by GSWC
3	11/4/2010	2010	1311 Arrow Hwy	No description provided by GSWC
4	1/18/2012	2012	1255 W Arrow	Pinhole
5	11/16/2012	2012	130 Rennell	Pinhole - Corrosion



6  
 7 The table and the map above show that the leaks were concentrated in one end of the pipeline  
 8 and none since 2012. Based on this leak pattern, immediate replacement is unnecessary.  
 9 According to GSWC’s Pipeline Management Program Report, steel pipes can last as long as 65  
 10 years in the San Dimas system.<sup>121</sup> Moreover, GSWC’s San Dimas Water Master Plan does not  
 11 list this project as a recommended pipeline replacement project.<sup>122</sup>

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<sup>117</sup> GSWC’s Workpapers for Region 3 vol. 5 of 6, Sheet no. 193.  
<sup>118</sup> Ibid, Sheet no. 194.  
<sup>119</sup> Ibid, Sheet no. 194.  
<sup>120</sup> GSWC Response to ORA Data Request DK1-004, Q.1b for Region 3.  
<sup>121</sup> GSWC’s PMP Report, p. 8-143.  
<sup>122</sup> GSWC’s 2011 San Dimas Water Master Plan, Sections 6 and 8.

1 The above findings do not support GSWC’s replacement request. GSWC should continue to  
2 monitor the condition of these pipelines and only consider replacing them when it is cost  
3 effective to do so. Therefore, ORA recommends that the Commissions deny this project.

4 **2. San Dimas – Replace Pipeline in Kirkwall Road Area (\$1.0 million)**

5 GSWC requests \$106,600 in 2016 and \$924,500 in 2017 to replace 3,600 feet of 6-inch and 8-  
6 inch steel pipe with 8-inch DI in Kirkwall Road Area. In its Region 3 workpapers, GSWC  
7 states that these pipelines had 31 leaks in 2009-2013 and are 56 years old.<sup>123</sup> According to  
8 GSWC, the new pipeline installation is necessary to address leaks and age, and to improve the  
9 hydraulics of the system.<sup>124</sup>

10 In GSWC’s response to ORA’s data request, GSWC provided the following leak information  
11 showing there were actually only 23 instead of 31 leaks as GSWC stated in its workpapers.<sup>125</sup>  
12 (The Google map, on the right, is provided by ORA to add details to GSWC’s leak map.)

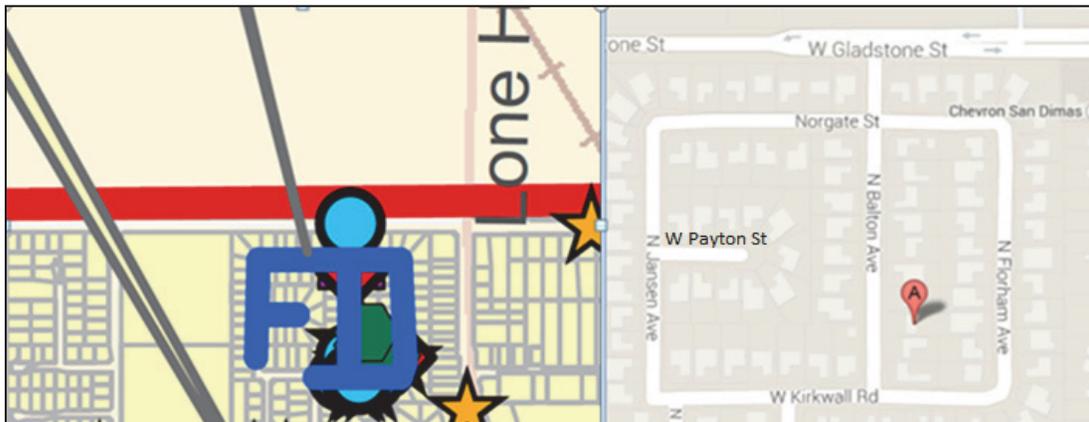
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<sup>123</sup> GSWC’s Workpapers for Region 3 vol. 5 of 6, Sheet no. 199.

<sup>124</sup> Ibid, Sheet no. 199.

<sup>125</sup> GSWC Response to ORA Data Request DK1-004, Q.1b for Region 3.

#	Date of leak	Year of leak	Address of leak	Type/Description of leak
1	7/9/2009	2009	608 Balton	No description provided by GSWC
2	6/8/2010	2010	514 Balton	Corrosion
3	6/28/2010	2010	514 Balton	Corrosion
4	6/26/2010	2010	541 Balton	No description provided by GSWC
5	7/28/2011	2011	508 Balton Ave	Pinhole - Corrosion
6	2/8/2012	2011	514 Balton Ave	Corrosion
7	10/13/2011	2011	614 Balton Ave	Pinhole - Corrosion
8	1/25/2012	2012	514 Balton Ave	Pinhole - Corrosion
9	4/22/2013	2013	514 N Balton Ave	Pinhole - Corrosion
10	12/26/2013	2013	520 Balton	Corrosion
11	2/1/2010	2010	519 Florham	No description provided by GSWC
12	1/10/2011	2011	531 Florham Ave	Pinhole - Corrosion
13	9/4/2013	2013	513 Florham	Blowout - Corrosion
14	10/26/2009	2009	1156 Kirkwall	No description provided by GSWC
15	6/15/2010	2010	1138 Kirkwall	No description provided by GSWC
16	9/2/2010	2010	1150 Kirkwall	No description provided by GSWC
17	6/15/2010	2010	1156 Kirkwall	No description provided by GSWC
18	10/7/2010	2010	1156 Kirkwall	No description provided by GSWC
19	9/7/2011	2011	1156 Kirkwall Road	Pinhole - Corrosion
20	4/11/2012	2012	1132 Kirkwall Road	Pinhole - Corrosion
21	6/21/2012	2012	1144 Kirkwall Road	Corrosion
22	4/5/2012	2012	1150 Kirkwall Road	Pinhole - Corrosion
23	1/25/2012	2012	1162 Kirkwall Road	Pinhole - Corrosion



1  
2 The information above shows that the leaks are concentrated in three of the segments: Balton,  
3 Florham, and Kirkwall. The remaining segments – Norgate, Jansen, and Payton – do not have  
4 any reported leaks. According to GSWC’s Pipeline Management Program Report, steel pipes  
5 can last as long as 65 years in the San Dimas system.<sup>126</sup> Therefore, ORA recommends that only  
6 the Balton, Florham, and Kirkwall segments be replaced. Correspondingly, ORA recommends

<sup>126</sup> GSWC’s PMP Report, p. 8-143.

1 that the Commission allow only 50%<sup>127</sup> of the requested construction estimate (before loadings).  
2 GSWC should continue to monitor the condition of the remaining segments and only consider  
3 replacing them when it is cost effective to do so.

4 **3. San Dimas – Replace Pipeline on Palomares Avenue, San Dimas Canyon-Walker**  
5 **(\$294,800)**

6 GSWC requests \$294,800 in 2015 to replace 700 feet of 8-inch steel pipe with 12-inch DI on  
7 Palomares Avenue, San Dimas Canyon-Walker. In its Region 3 workpapers, GSWC states that  
8 this pipeline had one leak in 2009-2013 and is 51 years old.<sup>128</sup> According to GSWC, the new  
9 pipeline is necessary to address leaks and condition (tuberculation) of the existing pipeline.

10 The following table is the leak history of the pipeline segment to be replaced.<sup>129</sup>

#	Dates of leak	Year of leak	Address of leak
1	5/25/2010	2010	759 Palomares

11 As shown in the table, this pipeline segment experienced only one leak in 2010. With only one  
12 leak and no evidence of operational deficiencies due to claimed tuberculation, ORA recommends  
13 that the Commission reject this project request. GSWC should continue to monitor the condition  
14 of the pipeline and consider replacement when it is cost effective to do so.

15 **4. San Dimas - Urban Water Management Plan (\$65,000)**

16 GSWC requests \$65,000 in 2015 to update its UWMP for the San Dimas system. ORA does not  
17 oppose this request but recommends that the estimated cost be shifted from the 2015 to the 2016  
18 capital budget. ORA’s Common Plant Issues testimony on UWMP provides the basis for the  
19 adjusted timeline.

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<sup>127</sup> An approximate proration because these three segments make up about 50% of the total pipeline lengths that GSWC proposed to replace.

<sup>128</sup> GSWC’s Workpapers for Region 3 vol. 5 of 6, Sheet no. 197.

<sup>129</sup> GSWC Response to ORA Data Request DK1-004, Q.1b for Region 3.

1 **5. San Dimas – Replace Vehicle #1196 and #1222 (\$97,900)**

2 GSWC requests a total of \$97,900 for the replacement of Vehicle #1196 (heavy-duty truck) and  
3 Vehicle #1222 (heavy-duty truck) in 2017. For reasons identified in ORA’s testimony on  
4 vehicle replacements, ORA removes these vehicle replacements from this GRC’s capital  
5 budgets.

6 **I. FOOTHILL DISTRICT – SAN GABRIEL VALLEY CSA**

7 The San Gabriel Valley CSA consists of two water systems - South Arcadia and South San  
8 Gabriel. **Table 1-P** below presents a summary of capital budgets for the San Gabriel Valley  
9 CSA in Region 3.

Table 1-P: Capital Budgets – San Gabriel Valley CSA

San Gabriel Valley CSA	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
<b>South Arcadia</b>						
Encinita disinfection facilities	\$ 24,800	\$ 7,600	\$ 173,800	\$ 53,400	\$ -	\$ -
Persimmon disinfection facilities	\$ 24,800	\$ 7,600		\$ -	\$ 178,500	\$ 54,900
Farna disinfection facilities	\$ 24,800	\$ 7,600	\$ 173,800	\$ 53,400	\$ -	\$ -
Jeffries Sand filter	\$ 25,800	\$ 24,700	\$ -	\$ -	\$ -	\$ -
<b>South San Gabriel</b>						
Teresa Seismic upgrades	\$ -	\$ -	\$ -	\$ -	\$ 150,400	\$ 143,500
San Gabriel disinfection facilities	\$ -	\$ -	\$ 18,500	\$ 7,900	\$ 127,900	\$ 54,900
<b>Total Water Supply</b>	<b>\$ 100,200</b>	<b>\$ 47,500</b>	<b>\$ 366,100</b>	<b>\$ 114,700</b>	<b>\$ 456,800</b>	<b>\$ 253,300</b>
Misc Street Improvements	\$ 83,000	\$ 83,000	\$ 86,000	\$ 86,000	\$ 89,000	\$ 89,000
<b>Total Street Improvements</b>	<b>\$ 83,000</b>	<b>\$ 83,000</b>	<b>\$ 86,000</b>	<b>\$ 86,000</b>	<b>\$ 89,000</b>	<b>\$ 89,000</b>
<b>South Arcadia</b>						
Fratius Area Main Repl.	\$ -	\$ -	\$ 1,913,100	\$ 1,826,200	\$ -	\$ -
Parmerton Area Main Repl.	\$ 475,200	\$ 453,600	\$ -	\$ -	\$ -	\$ -
Bisby Area Main Repl.	\$ 84,800	\$ 15,700	\$ -	\$ -	\$ 762,100	\$ 240,000
Marshburn Area Main Repl.	\$ 116,100	\$ 64,600	\$ 1,016,200	\$ 970,000	\$ -	\$ -
<b>South San Gabriel</b>						
Isabel south of Emerson	\$ -	\$ -	\$ 28,000	\$ 18,700	\$ 292,100	\$ 278,800
<b>Total Distribution Improvement</b>	<b>\$ 676,100</b>	<b>\$ 533,900</b>	<b>\$ 2,957,300</b>	<b>\$ 2,814,900</b>	<b>\$ 1,054,200</b>	<b>\$ 518,800</b>
UWMP - South Arcadia system	\$ 65,000	\$ -	\$ -	\$ 65,000	\$ -	\$ -
UWMP - South San Gabriel system	\$ 65,000	\$ -	\$ -	\$ 65,000	\$ -	\$ -
<b>Total Miscellaneous</b>	<b>\$ 130,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 130,000</b>	<b>\$ -</b>	<b>\$ -</b>
Contingency Budget	\$ 70,800	\$ -	\$ 69,000	\$ -	\$ 82,000	\$ -
<b>Total Contingency Budget</b>	<b>\$ 70,800</b>	<b>\$ -</b>	<b>\$ 69,000</b>	<b>\$ -</b>	<b>\$ 82,000</b>	<b>\$ -</b>
New Business Funded by GSWC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total New Business</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Meters	\$ 132,400	\$ 132,400	\$ 98,900	\$ 98,900	\$ 115,100	\$ 115,100
Services	\$ 315,200	\$ 315,200	\$ 323,700	\$ 323,700	\$ 332,500	\$ 332,500
Minor Main Repl.	\$ 156,400	\$ 156,400	\$ 160,700	\$ 160,700	\$ 165,000	\$ 165,000
Minor Pumping Plant Equip.	\$ 51,500	\$ 51,500	\$ 52,900	\$ 52,900	\$ 54,300	\$ 54,300
Minor Purification Equip.	\$ 14,600	\$ 14,600	\$ 15,000	\$ 15,000	\$ 15,400	\$ 15,400
Office Furniture and Equip.	\$ 10,000	\$ 10,000	\$ 10,200	\$ 10,200	\$ 10,500	\$ 10,500
Transportation Equipment						
Replace Vehicle # 1182	\$ -	\$ -	\$ -	\$ -	\$ 48,950	\$ -
Replace Vehicle # 2128	\$ -	\$ -	\$ -	\$ -	\$ 48,950	\$ -
Misc. Tools and Safety Equip.	\$ 7,800	\$ 7,800	\$ 8,000	\$ 8,000	\$ 8,200	\$ 8,200
Additions to General Structure	\$ 20,000	\$ 20,000	\$ 20,600	\$ 20,600	\$ 21,100	\$ 21,100
<b>Total Blanket Budget</b>	<b>\$ 707,900</b>	<b>\$ 707,900</b>	<b>\$ 690,000</b>	<b>\$ 690,000</b>	<b>\$ 820,000</b>	<b>\$ 722,100</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 1,768,000</b>	<b>\$ 1,372,300</b>	<b>\$ 4,168,400</b>	<b>\$ 3,835,600</b>	<b>\$ 2,502,000</b>	<b>\$ 1,583,200</b>
			<b>3-YEAR TOTAL:</b>	<b>\$ 8,438,400</b>	<b>\$ 6,791,100</b>	
			<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>		<b>\$ 1,647,300</b>	
			<b>3-YEAR TOTAL DIFFERENCE (GSWC-ORA)/(GSWC):</b>		<b>20%</b>	

2

3 **1. South Arcadia - Disinfection Buildings at Encinita, Farna, and**4 **Persimmon (\$600,500 total)**

5 GSWC requests \$24,800 in 2015 and \$173,800 in 2016 for each disinfection building

6 replacement at the Encinita and Farna sites, and \$24,800 in 2015 and \$178,500 in 2017 for the

1 Persimmon site. Based on GSWC’s review, ORA finds that it is reasonable to replace these  
2 buildings.

3 However, the proposed new buildings are excessive in scope and cost. Therefore, ORA adjusts  
4 the construction portion of the costs from GSWC’s request to \$40,000 (before loadings factors).  
5 ORA’s Common Plant Issues testimony on Disinfection Buildings provides the basis for this cost  
6 adjustment.

7 **2. South San Gabriel - Disinfection Building at San Gabriel Plant**  
8 **(\$146,400)**

9 GSWC requests \$18,500 in 2016 and \$127,900 in 2017 to replace the disinfection building.  
10 Based on GSWC’s review, ORA finds that it is reasonable to replace these buildings.

11 However, the proposed new buildings are excessive in scope and cost. Therefore, ORA adjusts  
12 the construction cost from GSWC’s request to \$40,000 (before loadings factors). ORA’s  
13 Common Plant Issues testimony on Disinfection Buildings provides the basis for this cost  
14 adjustment.

15 **3. South Arcadia – Replace Pipelines on Bisby Street Area (\$846,900)**

16 GSWC requests \$84,800 in 2015 and \$762,100 in 2017 to replace 2,700 feet of 4-inch and 6-inch  
17 steel pipe with 8-inch DI in the Bisby Street Area. In its Region 3 Workpapers, GSWC states  
18 that these pipelines had 15 leaks in 2009-2013 and are 61 years old.<sup>130</sup> According to GSWC, the  
19 new pipeline installation is necessary to address leaks, hydraulic deficiency, age, and the  
20 condition of the pipeline.<sup>131</sup>

21 In GSWC’s response to ORA’s data request, GSWC provided the following leak information  
22 showing that there were actually only 11 leaks instead of the 15 leaks that GSWC stated in its  
23 workpapers.<sup>132</sup> For 2009 and 2010, GSWC did not provide information on the type and  
24 description for leaks.

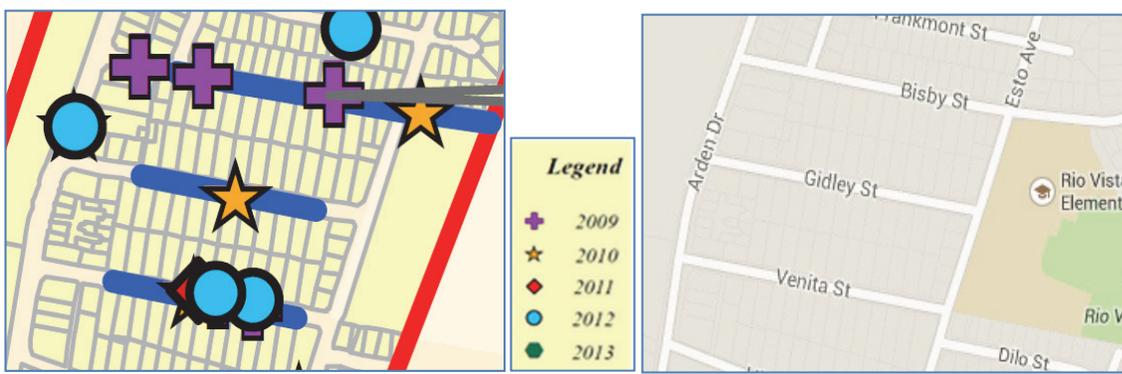
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<sup>130</sup> GSWC’s Workpapers for Region 3 vol. 5 of 6, Sheet no. 233.

<sup>131</sup> Ibid, Sheet no. 233.

<sup>132</sup> GSWC Response to ORA Data Request DK1-004, Q.1b for Region 3.

#	Dates of leak	Year of leak	Address of leak	Type/Description of leak
1	6/20/2009	2009	10422 Bisby	No description provided by GSWC
2	8/10/2009	2009	10446 Bisby	No description provided by GSWC
3	10/23/2009	2009	10555 Bisby	No description provided by GSWC
5	3/25/2010	2010	10617 Bisby	No description provided by GSWC
6	8/20/2010	2010	10516 Gidley Street	No description provided by GSWC
4	1/31/2009	2009	10525 Venita	No description provided by GSWC
7	1/31/2009	2009	10548 Venita	No description provided by GSWC
8	3/16/2010	2010	10507 Venita	No description provided by GSWC
9	2/24/2014	2011	10511 Venita Street	Pinhole - Corrosion
10	3/29/2012	2012	10525 Venita St	Pinhole - Corrosion
11	3/29/2012	2012	10551 Venita St	Pinhole - Corrosion



GSWC Leak Map

Google Map

- 1 The information above shows that the leaks are concentrated in one of the segments – Venita.
- 2 The remaining segments – Bisby and Gidley – have not had any leaks since 2010. According to
- 3 GSWC’s Pipeline Management Program Report, steel pipes can last as long as 71 years in the
- 4 South Arcadia system.<sup>133</sup> Moreover, GSWC’s Pipeline Prioritization Results in the Pipeline
- 5 Management Program Report indicates that these pipelines do not have hydraulic deficiency.<sup>134</sup>
- 6 Therefore, ORA recommends that only the Venita portion be replaced. Correspondingly, ORA

<sup>133</sup> GSWC’s PMP Report, p. 8-149.

<sup>134</sup> Ibid, Attachment E 256 of 257.

1 recommends that the Commission allow only 33%<sup>135</sup> of the requested construction estimate  
2 (before loadings).

3 **4. San Gabriel – Replace Vehicle #1182 and #2128 (\$97,900)**

4 GSWC requests a total of \$97,900 for the replacement of Vehicle #1182 (heavy-duty truck) and  
5 Vehicle #2128 (heavy-duty truck) in 2017. For reasons identified in ORA’s testimony on  
6 vehicle replacements, ORA removes these vehicle replacements from this GRC’s capital  
7 budgets.

8 **5. Additional Adjustments to Requested Capital Expenditures – San**  
9 **Gabriel Valley CSA**

10 This section addresses projects included as CWIP in GSWC’s Table 4-M, Utility Plant. These  
11 “CWIP to be closed” amounts in Table 4-M are made up of capital expenditures from projects  
12 listed in GSWC’s “CWIP” workpapers. In its application, GSWC did not provide detailed  
13 project description or cost details for these projects. While GSWC labelled these projects as  
14 CWIP or Construction Work In Progress, it is not an accurate description for many. As ORA  
15 discovered, some projects have not started (and therefore cannot be considered “CWIP”), are no  
16 longer needed, have been cancelled by GSWC, or have changed in scope and schedule  
17 significantly. ORA makes the following adjustments to reflect its findings.

18 **Table 1-Q: ORA adjustments to CWIP – San Gabriel Valley CSA**

San Gabriel Valley CSA Project	2013	
	GSWC	ORA
Garvey Well No. 3, Drill and Equip	\$1,242,295	\$0
<b>TOTAL</b>	<b>\$1,242,295</b>	<b>\$0</b>

19 GSWC requested \$2 million to construct the Garvey Well #3 in A.08-07-010. However, the  
20 company is expected to receive \$4.7 million in Proposition 50 funding.<sup>136</sup> GSWC’s 2013 CWIP

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<sup>135</sup> An approximate proration because Venita segment makes up about 33% of the total pipeline lengths that GSWC proposes to replace.

1 balance includes \$1,242,295 for this well; there is no contribution amount booked to offset the  
2 CWIP amount. To reflect the fact that the plant will be funded by Proposition 50, and therefore  
3 should not have a net ratebase impact in the Test Year forecast, ORA removes the Garvey Well  
4 #3 cost included in the end of year 2013 CWIP balance.

5 **J. CONCLUSION**

6 ORA recommends that the Commission adopt ORA’s recommended adjustments presented  
7 above since they are consistent with the Commission’s Water Action Plan principles for water  
8 utilities providing safe, high quality water, reliable water supplies, and efficient use of water at  
9 reasonable rates.

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<sup>136</sup> Per 2/17/2015 from Nancy Tran of GSWC to Pat Ma of ORA regarding the South San Gabriel system’s Garvey Well #3: “Prop 50 authorized roughly \$4.7M for the project and as of January 2015, we’ve spent roughly \$1.4M and received \$1M in contributions.”

1 **Chapter 2. PLANT, REGION 3 – MOUTNAIN-DESERT DISTRICT**

2 **A. INTRODUCTION**

3 This chapter presents ORA’s analyses and recommendations for Plant in Service for the  
4 Mountain-Desert District in GSWC’s Region 3. This District consists of the Mountain-Desert  
5 District Office and five Customer Service Areas (CSAs) – Apple Valley,<sup>137</sup> Barstow, Calipatria,  
6 Morongo Valley,<sup>138</sup> and Wrightwood. ORA presents its review and adjustments of GSWC’s  
7 plant requests by District Office and Customer Service Area (CSA).

8 **B. SUMMARY OF RECOMMENDATIONS**

9 **Table 2-A** below presents a summary of capital budgets for the Mountain-Desert District in  
10 GSWC’s Region 3. Additional adjustments to on-going or previously authorized projects  
11 (Construction Work in Progress or “CWIP”) are presented near the end of each CSA section. In  
12 the following sections, ORA presents its recommended adjustments to GSWC’s budget and  
13 specific project requests. Cost estimates also reflect recommendations in ORA Common Plant  
14 Issues testimony.

15 For purposes of comparison, ORA presents its recommended plant estimates using GSWC’s  
16 proposed construction overhead factor (17.42%). ORA’s recommendations on capital overhead  
17 loading presented in its Report on General Office should be used to develop final authorized  
18 project costs.

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<sup>137</sup> Apple Valley CSA has 4 water systems: Apple Valley North, Apple Valley South, Lucerne, and Desert View.

<sup>138</sup> Morongo Valley CSA has 2 water systems: Morongo Del Norte and Morongo Del Sur.

1 **Table 2-A: Capital Budget Summary – Region 3 Mountain-Desert District**

Mountain-Desert Capital Budget	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Mountain-Desert District Office	\$ 20,800	\$ 18,900	\$ 67,900	\$ 19,500	\$ 64,700	\$ 63,400
Apple Valley CSA	\$ 2,234,800	\$ 1,299,600	\$ 3,165,500	\$ 602,500	\$ 3,295,600	\$ 1,772,900
Barstow CSA	\$ 1,388,200	\$ 1,037,700	\$ 2,924,900	\$ 1,244,600	\$ 4,432,500	\$ 1,179,400
Calipatria CSA	\$ 243,900	\$ 133,300	\$ 148,900	\$ 235,500	\$ 307,900	\$ 240,400
Morongo CSA	\$ 757,300	\$ 127,500	\$ 340,000	\$ 130,300	\$ 1,284,300	\$ 85,300
Wrightwood CSA	\$ 2,153,000	\$ 759,100	\$ 371,500	\$ 176,500	\$ 2,926,100	\$ 724,800
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 6,798,000</b>	<b>\$ 3,376,100</b>	<b>\$ 7,018,700</b>	<b>\$ 2,408,900</b>	<b>\$ 12,311,100</b>	<b>\$ 4,066,200</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 26,127,800</b>	<b>\$ 9,851,200</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>					<b>\$ 16,276,600</b>	
<b>3-YEAR TOTAL DIFFERENCE, (GSWC-ORA)/(GSWC):</b>					<b>62%</b>	

2

3 **C. MOUNTAIN-DESERT DISTRICT OFFICE**

4 **Table 2-B** below presents a summary of capital budgets for the Mountain-Desert District Office.  
 5 Differences in ORA and GSWC estimates are due to ORA’s disallowance of the Contingency  
 6 budget and vehicle replacements as explained in ORA Common Plant Issues testimony.

7 **Table 2-B: Capital Budget Summary – Mountain-Desert District Office**

Mountain-Desert District Office	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Contingency Budget	\$ 1,900	\$ -	\$ 6,200	\$ -	\$ 5,900	\$ -
<b>Total Contingency Budget</b>	<b>\$ 1,900</b>	<b>\$ -</b>	<b>\$ 6,200</b>	<b>\$ -</b>	<b>\$ 5,900</b>	<b>\$ -</b>
Office Furniture and Equipment	\$ 13,200	\$ 13,200	\$ 13,600	\$ 13,600	\$ 14,000	\$ 14,000
Transportation Equipment						
i. Vehicle # 70109	\$ -	\$ -	\$ 42,200	\$ -	\$ -	\$ 43,300
ii. Vehicle # 501377	\$ -	\$ -	\$ -	\$ -	\$ 38,700	\$ -
Misc. Tools and Safety Equipment	\$ 5,700	\$ 5,700	\$ 5,900	\$ 5,900	\$ 6,100	\$ 6,100
<b>Total Blanket Budget</b>	<b>\$ 18,900</b>	<b>\$ 18,900</b>	<b>\$ 61,700</b>	<b>\$ 19,500</b>	<b>\$ 58,800</b>	<b>\$ 63,400</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 20,800</b>	<b>\$ 18,900</b>	<b>\$ 67,900</b>	<b>\$ 19,500</b>	<b>\$ 64,700</b>	<b>\$ 63,400</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 153,400</b>	<b>\$ 101,800</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>					<b>\$ 51,600</b>	
<b>3-YEAR TOTAL DIFFERENCE, (GSWC-ORA)/(GSWC):</b>					<b>34%</b>	

8

9 **5. Mountain-Desert District Office - Replace Vehicle #70109 & #501377**  
 10 **(\$80,900)**

11 GSWC requests \$80,900 to replace Vehicle #70109 (cargo van in excess of 8,501 pounds of  
 12 Gross Vehicle Weight Rating) in 2016 and Vehicle #501377 (4-wheel drive vehicle) in 2017.  
 13 For reasons identified in ORA’s testimony on vehicle replacements, ORA shifts Vehicle #70109

1 replacement from 2016 to 2017, and removes Vehicle #501377 replacement from this GRC's  
2 capital budget.

3 **D. APPLE VALLEY CSA**

4 **Table 2-C** below presents a summary of capital budgets for the Apple Valley CSA.

**Table 2-C: Capital Budget Summary – Apple Valley CSA**

Apple Valley CSA	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Apple Valley N. - SCADA Phase III	\$ -	\$ -	\$ 18,600	\$ 17,800	\$ 129,300	\$ 123,400
Yucca Booster Zone, Construct res.	\$ -	\$ -	\$ -	\$ -	\$ 425,900	\$ -
Apple Valley S. - SCADA Phase III	\$ -	\$ -	\$ 10,400	\$ 9,900	\$ 71,800	\$ 68,600
Kiowa, Drill and equip new well	\$ 409,500	\$ -	\$ 2,388,000	\$ -	\$ -	\$ -
Kiowa, Construct res. & booster sta.	\$ -	\$ -	\$ -	\$ -	\$ 335,400	\$ -
Mohawk, Recoat reservoir	\$ -	\$ -	\$ -	\$ -	\$ 348,800	\$ 333,000
Mohawk, emerg. transfer switch	\$ -	\$ -	\$ -	\$ -	\$ 181,800	\$ 181,800
Anoka Plant, Recoat reservoir	\$ 390,900	\$ 373,100	\$ -	\$ -	\$ -	\$ -
Lucerne Valley, SCADA	\$ -	\$ -	\$ -	\$ -	\$ 148,700	\$ 141,900
<b>Total Water Supply</b>	<b>\$ 800,400</b>	<b>\$ 373,100</b>	<b>\$ 2,417,000</b>	<b>\$ 27,700</b>	<b>\$ 1,641,700</b>	<b>\$ 848,700</b>
Miscellaneous Street Improvements	\$ 134,000	\$ 134,000	\$ 139,000	\$ 139,000	\$ 144,000	\$ 144,000
<b>Total Street Improvements</b>	<b>\$ 134,000</b>	<b>\$ 134,000</b>	<b>\$ 139,000</b>	<b>\$ 139,000</b>	<b>\$ 144,000</b>	<b>\$ 144,000</b>
Dexter Rd Area Main Replacement	\$ 317,300	\$ -	\$ -	\$ -	\$ -	\$ -
Mesquite Rd., Papago to Chipeta	\$ 234,000	\$ 93,000	\$ -	\$ -	\$ -	\$ -
Taos & Waalew Rd Area Main Repl.	\$ -	\$ -	\$ -	\$ -	\$ 93,100	\$ 33,800
Rambling Rd., Verde to Valencia	\$ 142,100	\$ 135,600	\$ -	\$ -	\$ -	\$ -
Verde Dr., Kiowa to Valencia	\$ 247,000	\$ 235,800	\$ -	\$ -	\$ -	\$ -
Nandina St Area Main Replacement	\$ -	\$ -	\$ -	\$ -	\$ 236,500	\$ 131,800
Milpas Dr Area Main Replacements	\$ -	\$ -	\$ 98,300	\$ 17,900	\$ 851,600	\$ 265,800
<b>Total Distribution Improvements</b>	<b>\$ 940,400</b>	<b>\$ 464,400</b>	<b>\$ 98,300</b>	<b>\$ 17,900</b>	<b>\$ 1,181,200</b>	<b>\$ 431,400</b>
Water Quality	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Water Quality</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Miscellaneous	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Miscellaneous</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Contingency Budget	\$ 31,900	\$ -	\$ 45,600	\$ -	\$ 28,900	\$ -
<b>Total Contingency Budget</b>	<b>\$ 31,900</b>	<b>\$ -</b>	<b>\$ 45,600</b>	<b>\$ -</b>	<b>\$ 28,900</b>	<b>\$ -</b>
New Business Funded by GSWC	\$ 9,000	\$ 9,000	\$ 10,000	\$ 10,000	\$ 11,000	\$ 11,000
<b>Total New Business</b>	<b>\$ 9,000</b>	<b>\$ 9,000</b>	<b>\$ 10,000</b>	<b>\$ 10,000</b>	<b>\$ 11,000</b>	<b>\$ 11,000</b>
Meters	\$ 13,600	\$ 13,600	\$ 14,500	\$ 14,500	\$ 15,400	\$ 15,400
Services	\$ 115,200	\$ 115,200	\$ 118,300	\$ 118,300	\$ 121,500	\$ 121,500
Minor Main Replacements	\$ 70,900	\$ 70,900	\$ 72,800	\$ 72,800	\$ 74,800	\$ 74,800
Minor Pumping Plant Equip.	\$ 46,700	\$ 46,700	\$ 175,200	\$ 175,200	\$ 49,300	\$ 49,300
Minor Purification Equip.	\$ 2,200	\$ 2,200	\$ 2,300	\$ 2,300	\$ 2,300	\$ 2,300
Office Furniture and Equip.	\$ 4,400	\$ 4,400	\$ 4,500	\$ 4,500	\$ 4,700	\$ 4,700
Transportation Equipment						
i. Vehicle # 69798	\$ 46,400	\$ 46,400	\$ -	\$ -	\$ -	\$ -
ii. Vehicle # 70095	\$ -	\$ -	\$ 47,700	\$ -	\$ -	\$ 49,000
Misc. Tools and Safety Equip.	\$ 2,700	\$ 2,700	\$ 2,800	\$ 2,800	\$ 2,900	\$ 2,900
Additions to General Structure	\$ 17,000	\$ 17,000	\$ 17,500	\$ 17,500	\$ 17,900	\$ 17,900
<b>Total Blanket Budget</b>	<b>\$ 319,100</b>	<b>\$ 319,100</b>	<b>\$ 455,600</b>	<b>\$ 407,900</b>	<b>\$ 288,800</b>	<b>\$ 337,800</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 2,234,800</b>	<b>\$ 1,299,600</b>	<b>\$ 3,165,500</b>	<b>\$ 602,500</b>	<b>\$ 3,295,600</b>	<b>\$ 1,772,900</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 8,695,900</b>	<b>\$ 3,675,000</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$ 5,020,900</b>
<b>3-YEAR TOTAL DIFFERENCE, (GSWC-ORA)/(GSWC):</b>						<b>58%</b>

1           **1. Apple Valley South - Kiowa Plant, Drill and Equip Replacement Well (\$2.8**  
2           **million)**

3 GSWC requests \$409,500 in 2015 for design and \$2,388,000 in 2016 for construction to drill and  
4 equip a new well at the Kiowa Plant in the Apple Valley South system. This well would replace  
5 Mohawk Well #3A. GSWC states in its testimony and its testimony attachment that the well  
6 casing for Mohawk Well #3A is failing and production capacity is not reliable.<sup>139</sup> GSWC also  
7 states that the condition of the well and its surrounding components are deteriorating and the  
8 well is nearing the end of its useful life. Additionally, GSWC has a long-term plan of combining  
9 its Apple Valley South system with its Apple Valley North system, because the South system has  
10 more sources of supply. For the above reasons, GSWC requests replacing Mohawk Well #3A  
11 with the proposed Kiowa Well. ORA provides a comprehensive assessment below to  
12 demonstrate that the project is not needed at this time.

13 Well casing

14 GSWC provided information regarding the failing well casing for Well #3A. However, it is not  
15 evident that failure is imminent or the well requires immediate replacement. GSWC discusses a  
16 hole in the blank casing at a depth of 264 feet below ground, an inspection showing an  
17 anomalous reduction in the thickness of steel casing, and casing thickness reduction causing  
18 susceptibility to corrosion.<sup>140</sup> In its testimony, GSWC provides a Well Video Survey Inspection  
19 Report as evidence.<sup>141</sup> However, the Inspection Report did not note any significant problems or  
20 contain any recommendations regarding needed repairs/replacement of the well.

21 Concrete pad

22 GSWC mentions cracking and tilting of the concrete pad around the pump of the well as an  
23 indication of deteriorating well conditions. During ORA's field visit, ORA observed that the

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<sup>139</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, Attachment AV-01 – Well Video Survey Inspection Report, Pacific Surveys, May 3, 2012.

<sup>140</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 380.

<sup>141</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, Attachment AV01 – Well Video Survey Inspection Report, Pacific Surveys, May 3, 2012.

1 cracking and tilting was on the concrete pad that appeared to be added next to the pump pad.  
2 The concrete pad on which the pump rests did not have any cracks or tilting.

### 3 Pump control

4 GSWC also mentions an allegedly deteriorating pump control panel as an indication of the end  
5 of Mohawk Well #3A's useful life. The panel was constructed per the electrical standard that  
6 existed when it was installed.<sup>142</sup> If it is properly maintained, it can have up to 40 years of useful  
7 life as GSWC claimed in its testimony on the Barstow CSA's Bradshaw Well project. As  
8 presented in further detail below, this project is not needed.

### 9 Project History

10 GSWC requested a new well development in Apple Valley South system in a prior rate case (A.  
11 08-07-010). This request was denied by the Commission in D.10-11-035. At the time of the  
12 project request in that GRC, drilling and equipping a new well in Apple Valley South system  
13 was only a part of GSWC's larger, future project to construct a supply source in the South  
14 system and to connect the new supply to the Apple Valley North system. The future project  
15 request would include a new well, a new reservoir, a new booster station, and transmission  
16 pipeline from the South system to the North system. As explained in more detail below, ORA is  
17 concerned that if the Kiowa well project is allowed, it would open the gate for subsequent project  
18 requests that will lead to the Apple Valley North and South system interconnection project that  
19 the Commission already denied in the past GRC.

### 20 Mohawk Well #3A Rehabilitation

21 When ORA examined the possibility of well rehabilitation instead of replacement, GSWC  
22 responded that "the estimated project cost for retrofitting Mohawk Well #3A, including  
23 installation of the liner and reconstruction of a pump building, chlorine facilities, and electrical  
24 equipment, will be approximately \$500,000."<sup>143</sup> GSWC's main concern was that re-lining the

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<sup>142</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 381. GSWC states that the Mohawk Well #3A electrical panel is about 30 years old.

<sup>143</sup> GSWC Response to ORA Data Request BYU-001, Question 6. (b).

1 well (rehabilitation) would reduce the production capacity of Mohawk Well #3A by up to 50% -  
2 from 600 gpm to 300 gpm.<sup>144</sup> Thus, if the system demand can be met with the reduced  
3 production capacity of 300 gpm, \$500,000 is a more cost-effective alternative than developing a  
4 new well for \$2.8 million.

5 Mohawk Well #3A can meet the demand with the reduced capacity

6 GSWC's 2013 Apple Valley South Water Master Plan indicates the Mohawk Zone's (served by  
7 the subject Mohawk Well #3A) supply capacity meets the following demand scenarios: Average  
8 Day Demand, Maximum Day Demand, and Peak Hour Demand (ADD, MDD and PHD). **Table**  
9 **2-D** below shows the supply capacity analysis from the Apple Valley South Water Master Plan  
10 (Table 5-7 of the Water Master Plan). GSWC's Water Master Plan shows a supply deficiency in  
11 meeting the MDD+Fire Flow (MDD+FF) demand. However, the MDD+FF demand is GSWC's  
12 own requirement. Meeting MMD+FF demand is not required by CPUC General Order 103-A or  
13 the California Waterworks Standards (from Title 22 of the California Code of Regulations).

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<sup>144</sup> GSWC Response to ORA Data Request BYU-001, Question 6. (c).

1 **Table 2-D: GSWC’s Existing Supply and Capacity Analysis – Mohawk Zone**  
 2 **(Table 5-7 from Apple Valley South Water Master Plan<sup>145</sup>)**

TABLE 5-7 Existing System Supply and Capacity Analysis—Mohawk Zone  
 Existing System Supply and Capacity Analysis—Mohawk Zone  
 GSWC Region III Water Master Plan—Apple Valley South System

		Planning Scenario							
		ADD		MDD		PHD		MDD+FF	
Duration (Hours)		24		24		4		2	
Demand		GPM	MG	GPM	MG	GPM	MG	GPM	MG
Mohawk Zone		258	0.372	445	0.641	668	0.160	2,945	0.353
Anoka Zone	(PRV)	0	0.000	131	0.189	131	0.031	131	0.016
<b>Total Demand</b>		<b>258</b>	<b>0.372</b>	<b>576</b>	<b>0.829</b>	<b>799</b>	<b>0.192</b>	<b>3,076</b>	<b>0.369</b>
Supply Capacity		GPM	MG	GPM	MG	GPM	MG	GPM	MG
Wells	600	600	0.864	600	0.864	600	0.144	600	0.072
Boosters	1,210	0	0.000	0	0.000	199	0.048	1,210	0.145
PRVs	NA	-	-	-	-	-	-	-	-
Reservoirs	NA	-	-	-	-	-	-	-	-
<b>Total Supply</b>		<b>600</b>	<b>0.864</b>	<b>600</b>	<b>0.864</b>	<b>799</b>	<b>0.192</b>	<b>1,810</b>	<b>0.217</b>
<b>Supply Minus Demand</b>		<b>342</b>	<b>0.492</b>	<b>24</b>	<b>0.035</b>	<b>0</b>	<b>0.000</b>	<b>-1,266</b>	<b>-0.152</b>
<b>Supply Meets Demand</b>		<b>YES</b>		<b>YES</b>		<b>YES</b>		<b>NO</b>	

3  
 4 Using the same calculations, ORA re-creates the Plan’s Table 5-7 using 300 gpm for the well  
 5 capacity. ORA also included the full booster capacity for MDD and PHD scenarios. In [Table 2-](#)  
 6 [E](#) below, where ORA’s numbers differ from GSWC’s, the numbers are shaded for emphasis.

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<sup>145</sup> 2013 Apple Valley South System Water Master Plan, p. 5-7.

1 **Table 2-E: ORA’s Existing Supply and Capacity Analysis – Mohawk Zone**  
 2 **(Modified Table 5-7 from Apple Valley South Water Master Plan<sup>146</sup>)**

Mohawk Zone Analysis		Planning Scenario - ORA							
		ADD		MDD		PHD		MDD+FF	
Duration (hours)		24		24		4		2	
Demand		GPM	MG	GPM	MG	GPM	MG	GPM	MG
	Mohawk Zone	258	0.372	445	0.641	668	0.160	2,945	0.353
	Anoka Zone (PRV)	0	0.000	131	0.189	131	0.031	131	0.016
<b>Total Demand</b>		<b>258</b>	<b>0.372</b>	<b>576</b>	<b>0.829</b>	<b>799</b>	<b>0.192</b>	<b>3,076</b>	<b>0.369</b>
Supply	Capacity								
	Wells	<b>300</b>	<b>0.432</b>	<b>300</b>	<b>0.432</b>	<b>300</b>	<b>0.072</b>	<b>300</b>	<b>0.036</b>
	Boosters	1,210	0	<b>1,210</b>	<b>1.742</b>	<b>1,210</b>	<b>0.290</b>	1,210	0.145
	PRV's	NA							
	Reservoirs	NA							
<b>Total Supply</b>		<b>300</b>	<b>0.432</b>	<b>1,510</b>	<b>2.174</b>	<b>1,510</b>	<b>0.362</b>	<b>1,510</b>	<b>0.181</b>
<b>Supply minus Demand</b>		<b>42</b>	<b>0.060</b>	<b>934</b>	<b>1.345</b>	<b>711</b>	<b>0.171</b>	<b>-1,566</b>	<b>-0.188</b>
<b>Supply Meets Demand</b>		<b>Yes</b>		<b>Yes</b>		<b>Yes</b>		<b>No</b>	

3  
 4 As presented in ORA’s modified Table 5-7 of the Plan, even with the reduced production  
 5 capacity of 300 gpm, the system’s supply can still meet ADD, MDD, and PHD demands in the  
 6 Mohawk Zone.

7 [Connecting Apple Valley North and South systems](#)

8 GSWC explains that the need to supply the Apple Valley *North* system by the proposed new well  
 9 in the South system is based on the supply and storage deficiency identified in the 2013 Apple  
 10 Valley *North* System Water Master Plan.<sup>147</sup> However, the storage deficiency in the North system  
 11 is already being addressed by the construction of Valley Crest Reservoir project, which was  
 12 authorized in the previous GRC and the Yucca Reservoir construction requested in this GRC.

13 Additionally, facility rehabilitation is a more cost-effective alternative that can address GSWC’s  
 14 concerns regarding the conditions of the Mohawk Well #3A. Moreover, it is necessary to  
 15 consider GSWC’s intention and prevent a train of future multi-million dollar project requests that  
 16 might arise should this requested well be built – i.e., new well will result in surplus water

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<sup>146</sup> 2013 Apple Valley South System Water Master Plan, p. 5-7.

<sup>147</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 381.

1 supply,<sup>148</sup> then GSWC will request a new reservoir to store the surplus, then a transmission line  
2 to transfer the surplus to the North system (more than three miles of 12-inch pipeline<sup>149</sup>), then a  
3 new booster station at Kiowa will need to be built to push the surplus water to the North system.  
4 The Mohawk Well #3A is able to meet ADD, MDD, and PHD demand scenarios even with the  
5 reduced capacity of 300 gpm. As such, GSWC does not need a new well. GSWC needs to  
6 research and consider other alternatives that are more cost effective than constructing a new well,  
7 such as rehabilitating the existing well and facilities, and increasing booster capacity as GSWC  
8 had identified as a solution in its 2013 Apple Valley Water Master Plan, Section 5. GSWC is  
9 proposing to submit its request of pipeline project to combine the North and the South Systems  
10 in the next GRC.<sup>150</sup> A comprehensive review of the need and cost effectiveness of connecting  
11 the two systems and all associated infrastructure investment (including this new well) should be  
12 done at that time.

### 13 ORA's Recommendation

14 The new well is not needed for a multitude of reasons including that the system does not need the  
15 additional capacity of this new well, well rehabilitation costs less and can meet the system's  
16 capacity needs, and GSWC must evaluate alternatives that address the existing needs and not  
17 plan for a future, not-yet authorized connection between the North and South systems. For all  
18 these reasons, ORA recommends that the Commission reject this request.

### 19 **2. Apple Valley South - Kiowa Plant, Construct Reservoir and Booster Station** 20 **(\$335,400, design only)**

21 GSWC also requests \$335,400 in 2017 to design a reservoir and a booster station at Kiowa Plant.  
22 The need for this project is tied with the Kiowa Well construction project and construction of a  
23 new transmission pipeline from the Apple Valley South system to the North system. As

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<sup>148</sup> According to GSWC Response to ORA Date Request BYU-001, the proposed well at Kiowa site will have design capacity of 2,000 gpm; 2,000 gpm (new well) – 600 gpm (Mohawk Well #3A) = 1,400 gpm surplus.

<sup>149</sup> Attachment 8.e. of GSWC's response to ORA Data Request BYU-004 – GSWC Interoffice Memo from Adrian Combes and Dane Sinagra, dated December 23, 2009.

<sup>150</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 382.

1 discussed above, the new well at Kiowa Plant is not needed, which also makes this Reservoir and  
 2 Booster Station unnecessary. Therefore, ORA recommends the Commission reject this related  
 3 project.

4 **3. Apple Valley South - Mohawk Plant, Install Emergency Transfer Switch**  
 5 **(\$181,800)**

6 GSWC requests \$181,800 in 2017 to install two emergency manual transfer switches at Mohawk  
 7 Plant - one at Mohawk Well 2 and another at the booster station - for emergency generator  
 8 connections in case of Southern California Edison power outages. According to GSWC’s  
 9 testimony, Mohawk Well #3A has such an emergency transfer switch but does not have  
 10 sufficient capacity by itself to meet PHD and MDD+FF.<sup>151</sup>

11 As discussed above, Mohawk Well #3A is capable of meeting demands even with the reduced  
 12 capacity of 300 gpm. Also, the Mohawk Booster D (500 gpm) is powered by a gas engine, as  
 13 shown in the excerpt below from the September 24, 2008 Inspection Report by the California  
 14 Department of Public Health, now the Division of Drinking Water of the State Water Resources  
 15 Control Board (DDW).<sup>152</sup> This gas-powered booster will allow GSWC to pump water during  
 16 electric power outages.

Station Name	Address	Pressure Zone Served	Hp	Capacity (gpm)	Comments
Anoka A	Anoka Well site	Anoka	10	150	Pump test 8/2008.
Anoka B	Anoka Well site	Anoka	20	400	Pump test 8/2008.
Mohawk A	Mohawk Well site	Mohawk	10	155	Pump test. 8/2008
Mohawk B	Mohawk Well site	Mohawk	10	155	Pump test 8/2008
Mohawk C	Mohawk Well site	Mohawk	20	400	Pump test 8/2008
Mohawk D	Mohawk Well site	Mohawk	76	500	Variable speed natural gas engine, only comes on at low pressure. Pump test 8/2008.

17

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<sup>151</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p.386.

<sup>152</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, Attachment AV02- CDPH DDW Annual Inspection Report – Apple Valley South System.

1 Therefore, the addition of the emergency manual switches at the Mohawk Plant is not needed.  
2 ORA recommends that the Commission reject this project request.

3 **4. Apple Valley North - Yucca Booster Zone, Construct Reservoir (\$425,900)**

4 GSWC requests \$425,900 in 2017 to construct a 0.3-MG reservoir in the Yucca Booster Zone.  
5 GSWC states that the project is needed due to storage deficiency identified in the December 24,  
6 2008 DDW Inspection Report. The report noted a storage deficiency in the Apple Valley North  
7 system and recommended additional storage capacity to meet MDD. The Report also suggested  
8 replacing the Central Tanks due to their corroded condition. In order to address the DDW's  
9 concerns, GSWC requested and was approved in the previous GRC to construct the Valley Crest  
10 Reservoir and Booster Station. Since the Valley Crest Reservoir with the design capacity of 0.4  
11 MG does not allow the system to meet the MDD requirements of the California Waterworks  
12 Standards, GSWC also planned for the construction of the Yucca Reservoir (0.3MG). The  
13 Valley Crest Reservoir and the Booster Station construction project was supposed to be  
14 completed during the previous GRC as it was proposed. However, GSWC's latest estimate is  
15 that it will not be completed until mid-2016.<sup>153</sup> ORA recommends that GSWC defer the Yucca  
16 Reservoir construction project until the next GRC when GSWC can reassess the system's storage  
17 and operation needs after the installation of the Valley Crest Reservoir and Booster Station.  
18 Furthermore, given the length of time GSWC has taken to complete the Valley Crest project  
19 (about two rate case cycles); it is imprudent to allow GSWC to use ratepayer funds on another  
20 storage reservoir project at this time. Thus, ORA recommends that the Commission reject this  
21 request.

22 **5. Apple Valley North – Replace Pipelines on Dexter Lane, Sycamore Lane and**  
23 **Central Lane (\$317,300)**

24 GSWC requests \$317,300 in 2015 for design and construction to replace 1,000 feet of the  
25 existing 4-inch steel pipeline with 8-inch PVC in Sycamore Lane and Dexter Lane, install 1,000  
26 feet of new 8-inch PVC in Dexter Lane and Central Lane, and abandon the existing 4-inch steel

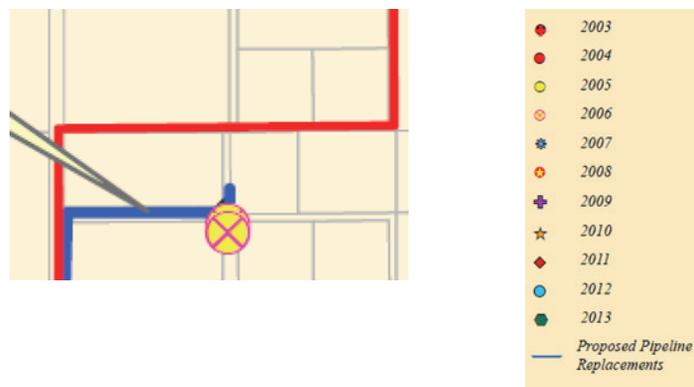
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<sup>153</sup> Email from Jenny Darney-Lane of GSWC to Brian Yu of ORA, dated February 20, 2015.

1 pipeline. GSWC’s workpaper states that the pipeline installation is needed to address “leaks in  
2 the existing pipeline.”<sup>154</sup> According to the same workpaper, the existing pipeline is 56 years old  
3 and had 44 leaks in the past 5 years.

4 However, GSWC reported in its response to ORA’s inquiry that there were only 2 leaks in 2009-  
5 2013. One leak was on Dexter Lane in 2011 and one leak was on Central Lane in 2011.<sup>155</sup>

6 GSWC’s response to a subsequent ORA’s inquiry provided the following leak information on  
7 the pipeline segments.<sup>156</sup> GSWC’s response only included 2 leaks in 2006 and the proposed  
8 pipeline replacement identified on the map did not fit the above project description. Instead, it  
9 only identified the new pipeline installation, shown below.



10 The following system map, clipped from Apple Valley North System Wall Map, better illustrates  
11 the locations of existing pipeline and the proposed pipeline installations described in the project  
12 justification, with ORA’s notations.<sup>157</sup>

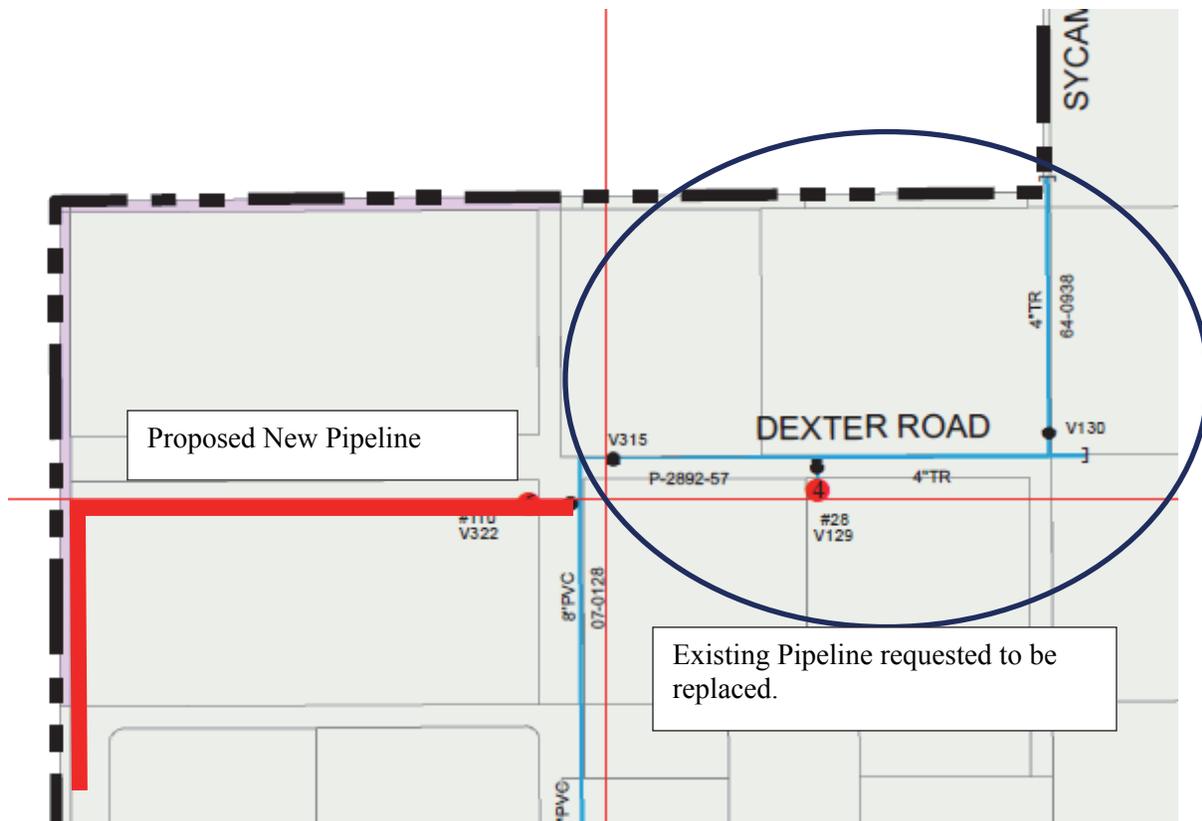
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<sup>154</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 324.

<sup>155</sup> GSWC Response to ORA Data Request DK4-001.

<sup>156</sup> GSWC Response to ORA Data Request BYU-005.

<sup>157</sup> GSWC Response to Supplemental Data Request No. 84, submitted with the July 2014 application (A.14-07-006).



1

2 GSWC requests to replace the pipelines on Dexter Lane and Sycamore Lane with 8-inch PVC.

3 Although GSWC’s workpaper states the existing pipelines are steel, the Apple Valley North

4 System Wall Map indicates that the existing pipelines are 4-inch TR.<sup>158</sup> TR is GSWC’s

5 designation of Transite pipes which is a type of Asbestos Cement (AC) pipe.<sup>159</sup> The GSWC’s

6 Pipeline Management Program (PMP) Report filed with this application indicates that AC pipes

7 can last as long as 105 years in the Apple Valley area.<sup>160</sup> This segment should be monitored but

8 not replaced at this time given the age (56 years) and the low number leaks.

9 In order to address the pipeline leaks in this area, GSWC only needs to monitor the existing 4-

10 inch TR pipelines. ORA recommends that the Commission reject the project request.

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<sup>158</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 324.

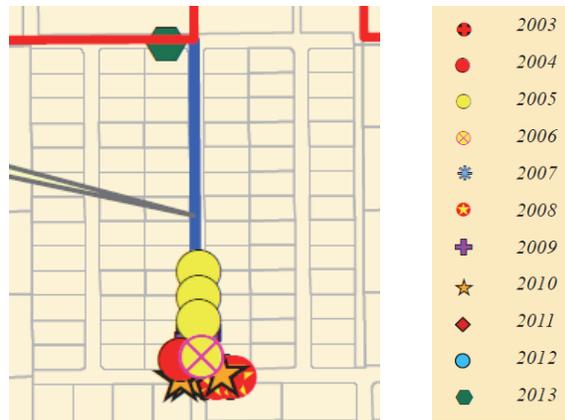
<sup>159</sup> GSWC’s PMP Report, pp. 4-2 to 4-11.

<sup>160</sup> GSWC’s PMP Report, p. 8-175.

1        **6. Apple Valley North – Replace Pipeline on Mesquite Road (\$234,000)**

2        GSWC requests \$234,000 in 2015 for construction to replace 1,300 feet of existing 4-inch steel  
3        pipeline in Mesquite Road with 8-inch PVC. GSWC did not request a design budget for this  
4        project. GSWC’s workpaper states the replacement is needed to address “leaks and water quality  
5        issues of the existing pipeline.”<sup>161</sup> According to the same workpaper, the existing pipeline is 54  
6        years old and had seven leaks in the past five years. ORA assumes the five years are from 2009  
7        to 2013 since the workpaper states its cost estimates are based on 2013 unit costs.<sup>162</sup>

8        In response to ORA’s inquiry, GSWC reports that there were eight leaks in 2009-2013 and  
9        provides the following leak map.<sup>163</sup>



10       GSWC also responded that there were 24 leaks in the past 10 years.<sup>164</sup> ORA finds that the  
11       number of leaks in the past five and 10 years warrants pipeline replacement. However, as  
12       illustrated in the leak map above, the leaks were concentrated on the south end of Mesquite  
13       Road. ORA estimates the length of the leaky pipeline portion to be 400 feet, and recommends  
14       that only that portion be replaced.<sup>165</sup>

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<sup>161</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 326.

<sup>162</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 326.

<sup>163</sup> GSWC Responses to ORA Data Requests DK4-001 and BYU-005.

<sup>164</sup> GSWC Response to ORA Data Request BYU-005.

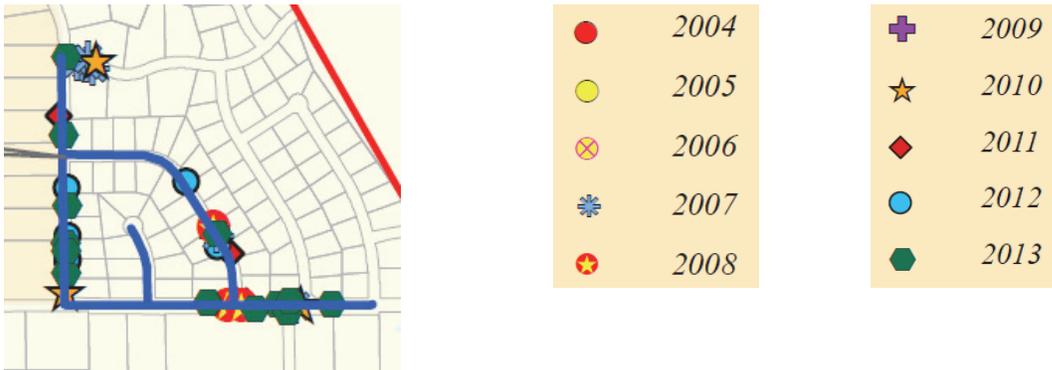
<sup>165</sup> ORA used the Google Maps Distance Measure Tool to estimate the length.

1 Another GSWC justification for the pipeline replacement was to address the water quality issues.  
2 However, when ORA asked for support of this statement, GSWC responded that there is “no  
3 water quality issue at this project location.”<sup>166</sup> Thus, ORA considers water quality a non-issue.  
4 For the reasons discussed above, ORA recommends that the Commission to only approve the  
5 replacement of 400 feet of pipeline as identified above and reject the remainder of the project  
6 request.

7 **7. Apple Valley North – Replace Pipelines in Taos & Waalew Road Area (\$93,100,**  
8 **design only)**

9 GSWC requests \$93,100 in 2017 for design to replace 4,800 feet of the 4 to 6-inch steel pipeline  
10 in Taos and Waalew Road area. GSWC is not requesting construction costs for this project in  
11 this GRC. GSWC’s workpaper states the replacement is needed to address “leaks, age, and  
12 condition of the existing pipeline.”<sup>167</sup> According to the same workpaper, the existing pipeline is  
13 56 years old and had 12 leaks in the past five years.

14 In response to ORA’s inquiry, GSWC reports that there were 26 leaks in 2009-2013, and  
15 provides the following leak map.<sup>168</sup> Dark lines over the streets indicate the proposed  
16 replacement segments.



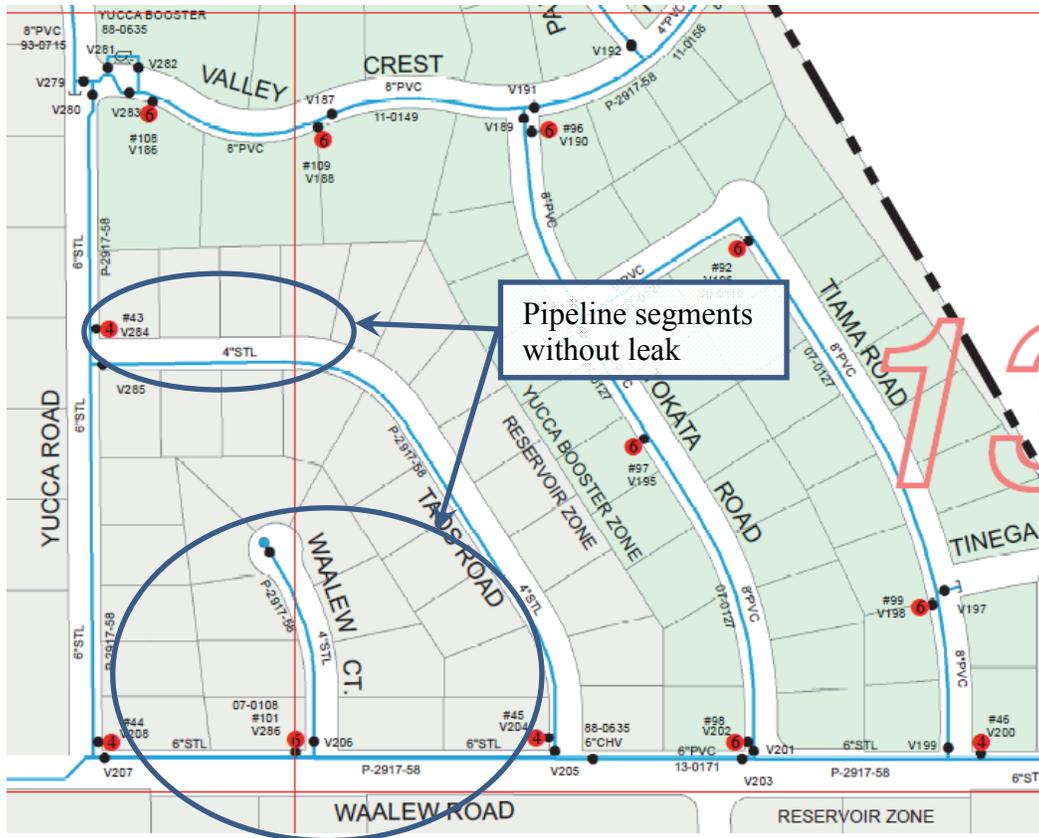
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<sup>166</sup> GSWC Response to ORA Data Request BYU-005.

<sup>167</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 328

<sup>168</sup> GSWC Responses to ORA Data Requests DK4-001 and BYU-005.

1 ORA finds the number of leaks on some of the pipeline segments warrants replacement.  
 2 However, GSWC also requests replacing segments of pipeline that did not have any leak history.  
 3 Specifically, the 4-inch steel pipeline along Waalew Court, the west to east run of 4-inch steel  
 4 pipeline along Taos Road, and the 6-inch steel pipeline in Waalew Road between Yucca Road  
 5 and Waalew Court have not had any leaks. The street names and the existing pipelines are better  
 6 illustrated in the following system map, with ORA's notations:<sup>169</sup>



7  
 8 It is prudent to replace only the segments with a leak history. According to GSWC's PMP  
 9 Report, steel pipes can last as long as 68 years in Apple Valley area.<sup>170</sup> Given the age (56 years)  
 10 of the pipelines, segments that have had no leaks should be monitored, not replaced.

<sup>169</sup> Apple Valley North System Wall Map, provided by GSWC in response to SDR Q.84.

<sup>170</sup> GSWC Pipeline Management Program Report, p. 8-175.

1 When ORA inquired about the condition of the existing pipelines, GSWC responded with the  
2 information only pertaining to the age (56 years) and the leaks (56 leaks in the past 10 years) and  
3 no additional details about the condition that would support the replacement request.<sup>171</sup> Thus,  
4 ORA recommends that the Commission approve only 3,000 feet of the requested project's  
5 pipelines: 1,200 feet on Yucca Road from Waalew to Valley Crest, 800 feet on Waalew Road  
6 from Taos to Tiama, and 1,000 feet in Taos Road.<sup>172</sup> ORA's estimated design cost reflects this  
7 adjustment, as well as its adjustment to the design cost factor to 7% (as discussed in ORA's  
8 Common Plant Issues testimony.)

9 Moreover, ORA's partial support for this design project is contingent upon the following  
10 conditions. These conditions will ensure that GSWC proceeds in accordance with its capital  
11 budget plan and that adequate information is available to determine the construction cost of this  
12 pipeline replacement in the next GRC.

- 13 • GSWC's agreement and commitment to complete the design in 2017 as proposed.
- 14 • GSWC's agreement and commitment to include in its eventual request in the next GRC  
15 application to construct the designed pipeline with a complete design and a minimum of  
16 three construction bids to support its construction budget request.
- 17 • GSWC's agreement and commitment to resubmit its justification for this pipeline  
18 replacement including support for design and construction cost estimates in the event that  
19 GSWC does not complete the design of this pipeline and obtain the bids as specified  
20 above by the time it submits in application (assuming the pipeline is still needed at that  
21 time).
- 22 • GSWC's acceptance that ORA's support for a budget to perform the design of this  
23 pipeline replacement is not an automatic support for the resulting design and proposed  
24 construction budget.

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<sup>171</sup> GSWC Response to ORA Data Request BYU-005, Question 2. b).

<sup>172</sup> ORA used Google Maps Measurement Tools to estimate the pipeline lengths.

1        **8. Apple Valley South – Replace Pipelines in the Nandina Street Area (\$236,500,**  
2        **design only)**

3 GSWC requests \$236,500 in 2017 for design costs to replace the 11,350 feet of 4, 6, and 8-inch  
4 steel pipelines in the Nandina Street area with 8-inch PVC. GSWC is not requesting the  
5 construction budget in this GRC. GSWC’s workpaper states that the replacement is needed to  
6 address “leaks, age, and condition of the existing pipeline,” and the existing pipelines are 55  
7 years old and had 95 leaks in the past 5 years.<sup>173</sup>

8 In response to ORA’s inquiry, GSWC reports that there were 109 leaks in 2009-2013.<sup>174</sup>

9 GSWC’s response to ORA Data Request BYU-005 provides the following leak map:



10 Even though there was a discrepancy in the leak counts - 95 leaks from the project justification  
11 and 109 leaks from GSWC’s response to ORA inquiry - the general magnitude of leak history  
12 supports the project request. ORA also reviewed the 2013 Apple Valley South System Water  
13 Master Plan and concluded that GSWC’s request for this pipeline replacement to address leaks is  
14 reasonable. ORA recommends that the Commission allow the requested pipeline replacement.

15 Again, because this is a design-only budget request, ORA’s support for this design project is  
16 contingent upon the following conditions. This is to ensure that GSWC proceeds in accordance  
17 with its capital budget plan and to ensure adequate information is available to determine the  
18 construction cost of this pipeline replacement in the next GRC.

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<sup>173</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 334.

<sup>174</sup> GSWC Response to ORA Data Request DK4-001.

- 1 • GSWC’s agreement and commitment to complete the design in 2017 as proposed.
- 2 • GSWC’s agreement and commitment to include in its eventual request in the next GRC  
3 application to construct the designed pipeline with a complete design and a minimum of  
4 three construction bids to support its construction budget request.
- 5 • GSWC’s agreement and commitment to resubmit its justification for this pipeline  
6 replacement including support for design and construction cost estimates in the event that  
7 GSWC does not complete the design of this pipeline and obtain the bids as specified  
8 above by the time it submits in application (assuming the pipeline is still needed at that  
9 time).
- 10 • GSWC’s acceptance that ORA’s support for a budget to perform the design of this  
11 pipeline replacement is not an automatic support for the resulting design and proposed  
12 construction budget.

13 **9. Desert View – Replace Pipelines in the Milpas Drive Area (\$949,900)**

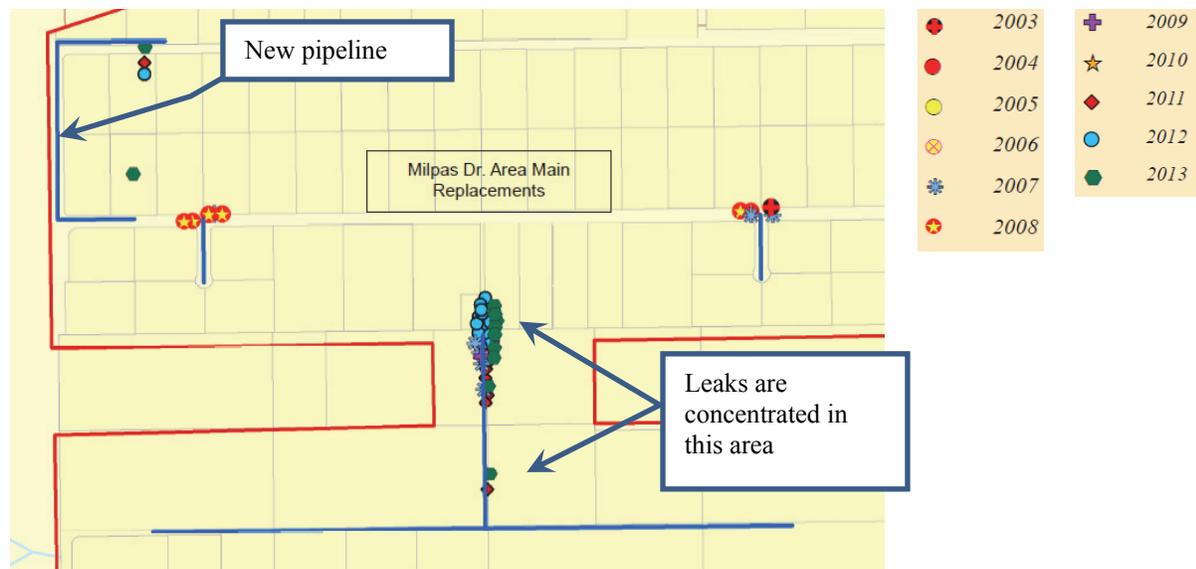
14 GSWC requests \$98,300 in 2016 for design and \$851,600 in 2017 for construction to replace  
15 6,000 feet of 2, 3, and 6-inch steel pipeline in the Milpas Drive area with 8-inch PVC. GSWC’s  
16 workpaper states that the replacement is needed to address “leaks, water quality issues, hydraulic  
17 deficiencies, age and condition of the existing pipeline,” and the existing pipeline is 62 years old  
18 and had 40 leaks in the past 5 years.<sup>175</sup> The workpaper also states that the Department of Public  
19 Health indicated that the pipeline is in poor condition in its recent inspection report.

20 In response to ORA’s inquiry, GSWC reports that there were 42 leaks in 2009-2013, and  
21 provides the following leak map.<sup>176</sup>

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<sup>175</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 336.

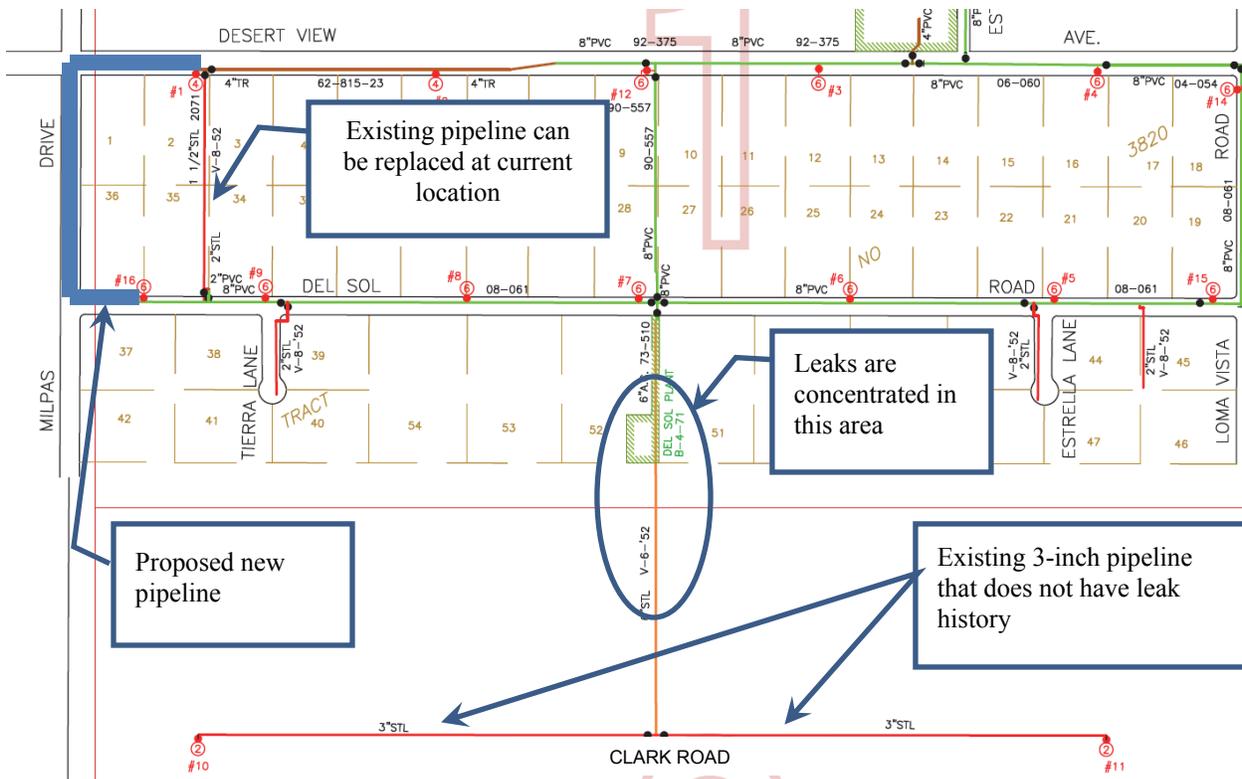
<sup>176</sup> GSWC Responses to ORA Data Requests DK4-001 and BYU-005.



1 Similar to previously discussed projects, GSWC requests replacing pipelines that do not have  
 2 leaks. Specifically, the 3-inch steel pipeline along Clark Road and 2-inch steel pipelines along  
 3 Tierra Lane and Estrella Lane have not had any leaks. GSWC also requests installing a new  
 4 pipeline along the Milpas Road and Desert View Road instead of replacing the existing pipeline  
 5 at the current location. The street names and the existing pipelines are better illustrated in the  
 6 system map below, with ORA's notations:<sup>177</sup>

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<sup>177</sup> Apple Valley Desert View System Wall Map, provided by GSWC in response to SDR Q.84.



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In its project justification, GSWC referred to the Department of Public Health inspection report for the water quality issues. The most recent inspection of the Desert View system was conducted by the County of San Bernardino’s Department of Public Health (DPH) on January 17, 2012. San Bernardino DPH issued the report (DPH Report) on January 15, 2013.<sup>178</sup> On page 5 of the DPH Report, it reports all of the items under the Water Quality Monitoring Schedule to be in compliance. Page 4 of the DPH Report makes the following findings for the age and condition of the distribution lines and valves: “Part of the distribution lines have been replaced with 8-inch C900 PVC, some sections still have original 2- to 4-inch steel pipes, which causes rustic colored water.”<sup>179</sup> Page 6 of the same report states the following in the Corrections to be Completed section: “The district shall plan and budget to replace the old lines to provide

<sup>178</sup> GSWC MDR Response, G.6, Region 3, County of San Bernardino Department of Public Health Environmental Health Services Safe Drinking Water Program Small Water System Sanitary Survey Report, inspection dated January 17, 2012, report dated January 15, 2013.

<sup>179</sup> GSWC MDR Response, G.6, Region 3, County of San Bernardino Department of Public Health Environmental Health Services Safe Drinking Water Program Small Water System Sanitary Survey Report, inspection dated January 17, 2012, report dated January 15, 2013., p. 4.

1 safe, wholesome, and potable water to all of its customers.” ORA notes that the DPH Report did  
2 not specify a date to complete the noted corrections. Since the DPH nor GSWC identified  
3 specific location or pipeline segments that cause the rustic colored water, GSWC should replace  
4 the segments of pipelines that have the worse conditions first (ones with leak history) and  
5 ascertain whether the replacements resolve the water quality issues.

6 ORA also reviewed Section 6 of GSWC’s Desert View System Water Master Plan to verify  
7 GSWC’s claim of hydraulic deficiency. Table 6-3 of the Desert View System Water Master Plan  
8 states the following: “No hydraulic deficiencies were identified in the existing system.”<sup>180</sup>  
9 Therefore, the hydraulic deficiency is a non-issue.

10 In sum, there are no hydraulic deficiencies and it is not prudent for GSWC to replace pipelines  
11 that do not have any leak history. Thus, ORA recommends the following:

- 12 • New pipeline installation along Milpas Drive and Desert View Road should be denied.  
13 The existing 1.5-inch and 2-inch pipeline between the Desert View Road and Del Sol  
14 Road (800 feet) should be replaced at its current location.
- 15 • Replacement requests for the existing 2-inch pipelines in Tierra Lane and Estrella Lane  
16 should be denied. These pipelines did not have any leaks in the past five years.
- 17 • Replacement request for the existing 3-inch steel pipeline along Clark Road should be  
18 denied. This pipeline did not have any leak history.
- 19 • Replacement request for the existing 6-inch steel pipeline between GSWC’s Del Sol  
20 Plant and Clark Road (900 feet) should be granted.

21 ORA recommends that the Commission approve only 1,700 feet of the requested 6,000 feet: 900  
22 feet for the 6-inch steel pipeline and 800 feet for the 1.5 and 2-inch steel pipeline.<sup>181</sup> ORA’s  
23 design cost estimate reflects the 1,700 feet of replacement pipeline, and its lower design cost  
24 factor of 7%.

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<sup>180</sup> GSWC Region 3 Desert View System Water Master Plan, p. 6-6.

<sup>181</sup> ORA used Google Maps Measurement Tool to estimate the lengths

1        **10. Apple Valley – Replace Vehicle #70095 (\$47,700)**  
2        GSWC requests the replacement of Vehicle #70095 (heavy-duty truck) in 2016. For reasons  
3        identified in ORA’s Common Plant Issues testimony on vehicle replacements, ORA recommends  
4        deferral of Vehicle #70095 replacement to

5        **E. BARSTOW CSA**

6        **Table 2-F** below presents a summary of capital budgets for the Barstow CSA.

1

**Table 2-F: Capital Budget Summary - Barstow CSA**

Barstow CSA	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Bradshaw Wells #11 & 12, Electrical	\$ -	\$ -	\$ 32,900	\$ -	\$ 227,900	\$ -
College Reservoir Seismic Couplings	\$ -	\$ -	\$ 6,600	\$ 6,300	\$ 46,000	\$ 43,900
Eaton Tank, Construct	\$ -	\$ -	\$ 292,200	\$ -	\$ 1,688,300	\$ -
<b>Total Water Supply</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 331,700</b>	<b>\$ 6,300</b>	<b>\$ 1,962,200</b>	<b>\$ 43,900</b>
1st Ave Bridge Replacement	\$ 117,400	\$ -	\$ 1,027,100	\$ -	\$ -	\$ -
Miscellaneous Street Improvements	\$ 153,000	\$ 153,000	\$ 158,000	\$ 158,000	\$ 163,000	\$ 163,000
<b>Total Street Improvements</b>	<b>\$ 270,400</b>	<b>\$ 153,000</b>	<b>\$ 1,185,100</b>	<b>\$ 158,000</b>	<b>\$ 163,000</b>	<b>\$ 163,000</b>
Arrowhead Ave, Irwin to w/o Irwin	\$ -	\$ -	\$ 36,200	\$ -	\$ 376,700	\$ -
Buena Vista St., 6th to 7th	\$ -	\$ -	\$ 217,700	\$ -	\$ -	\$ -
Carson St., Lillian to Muriel	\$ -	\$ -	\$ -	\$ -	\$ 363,200	\$ -
Frances Dr, Muriel to Mountain View	\$ -	\$ -	\$ 37,400	\$ -	\$ 390,000	\$ -
<b>Total Distribution Improvements</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 291,300</b>	<b>\$ -</b>	<b>\$ 1,129,900</b>	<b>\$ -</b>
Water Quality	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Water Quality</b>	<b>\$ -</b>					
UWMP - Barstow	\$ 65,000	\$ -	\$ -	\$ 65,000	\$ -	\$ -
<b>Total Miscellaneous</b>	<b>\$ 65,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 65,000</b>	<b>\$ -</b>	<b>\$ -</b>
Contingency Budget	\$ 95,700	\$ -	\$ 101,500	\$ -	\$ 107,000	\$ -
<b>Total Contingency Budget</b>	<b>\$ 95,700</b>	<b>\$ -</b>	<b>\$ 101,500</b>	<b>\$ -</b>	<b>\$ 107,000</b>	<b>\$ -</b>
New Business Funded by GSWC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total New Business</b>	<b>\$ -</b>					
Meters	\$ 86,800	\$ 86,800	\$ 94,300	\$ 94,300	\$ 130,900	\$ 130,900
Services	\$ 543,500	\$ 543,500	\$ 558,100	\$ 558,100	\$ 573,200	\$ 573,200
Minor Main Replacements	\$ 137,900	\$ 137,900	\$ 141,600	\$ 141,600	\$ 145,500	\$ 145,500
Minor Pumping Plant Equip.	\$ 81,100	\$ 81,100	\$ 185,000	\$ 185,000	\$ 85,500	\$ 85,500
Minor Purification Equip.	\$ 1,300	\$ 1,300	\$ 1,300	\$ 1,300	\$ 1,400	\$ 1,400
Office Furniture and Equip.	\$ 8,600	\$ 8,600	\$ 8,800	\$ 8,800	\$ 9,100	\$ 9,100
Transportation Equipment						
i. Vehicle # 67685	\$ 72,400	\$ -	\$ -	\$ -	\$ -	\$ -
ii. Vehicle # 67490	\$ -	\$ -	\$ -	\$ -	\$ 48,950	\$ -
iii. Vehicle # 67491	\$ -	\$ -	\$ -	\$ -	\$ 48,950	\$ -
Misc. Tools and Safety Equip.	\$ 13,800	\$ 13,800	\$ 14,200	\$ 14,200	\$ 14,600	\$ 14,600
Additions to General Structure	\$ 11,700	\$ 11,700	\$ 12,000	\$ 12,000	\$ 12,300	\$ 12,300
<b>Total Blanket Budget</b>	<b>\$ 957,100</b>	<b>\$ 884,700</b>	<b>\$ 1,015,300</b>	<b>\$ 1,015,300</b>	<b>\$ 1,070,400</b>	<b>\$ 972,500</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 1,388,200</b>	<b>\$ 1,037,700</b>	<b>\$ 2,924,900</b>	<b>\$ 1,244,600</b>	<b>\$ 4,432,500</b>	<b>\$ 1,179,400</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 8,745,600</b>	<b>\$ 3,461,700</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$ 5,283,900</b>
<b>3-YEAR TOTAL DIFFERENCE, (GSWC-ORA)/(GSWC):</b>						<b>60%</b>

2

3 **1. Barstow – Replace Electrical Panels for Bradshaw Wells #11 and #12**  
4 **(\$260,800)**

5 GSWC requests \$32,900 in 2016 for design and \$227,900 in 2017 for construction to replace  
6 electrical panels for Bradshaw Wells #11 and #12.

1 Bradshaw Well #11 Electrical Panel Replacement Request

2 The electrical panel for the Well #11 is out of service due to a fire incident that occurred in  
3 August 2012. GSWC is currently seeking cost recovery from Southern California Edison (SCE),  
4 since GSWC’s own investigation concluded that SCE’s meter installation on this site the day  
5 before the fire was the main cause of the fire.<sup>182</sup> In response to ORA’s inquiry, GSWC stated  
6 that the estimated damage value is \$60,000, which is less than GSWC’s insurance deductible of  
7 \$100,000.<sup>183</sup> GSWC is pursuing the full recovery of \$60,000 through a third-party agency  
8 Sedgwick Claims Management Services, Inc., which GSWC designated to handle the case with  
9 SCE. SCE acknowledged that it received GSWC/Sedgwick’s claim and is in the process of  
10 investigating its contractor who installed the meter in question.<sup>184, 185</sup>

11 As an attachment to its testimony, GSWC provided the investigation report of its electrical  
12 contractor, Linkture.<sup>186</sup> The report recommends replacing the damaged electrical panel. ORA  
13 agrees with the need for replacing the panel as the backboard and electrical parts attached to it  
14 were consumed during the fire incident.<sup>187</sup> However, providing GSWC funding from ratepayers  
15 reduces GSWC’s incentive to actively pursue cost recovery from SCE, whose actions GSWC has  
16 determined are responsible for the fire that destroyed the panel. GSWC should continue  
17 pursuing cost recovery from SCE, and when the issue is settled between GSWC and SCE,  
18 GSWC should re-request Well #11 electrical panel replacement with its costs appropriately  
19 reflecting compensation from SCE.

20 GSWC requests the electric panel be replaced to bring the Bradshaw Well #11 back into service.  
21 GSWC claims that “with this well out of service the system does not have the capacity to meet

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<sup>182</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, attachment BA01 - *Bradshaw Well Pump No. 11 Electrical Assessment* by Linkture Consulting Engineers.

<sup>183</sup> GSWC Response to ORA Data Request BYU-003.

<sup>184</sup> Ibid. SCE letter to Sedgwick dated July 22, 2014.

<sup>185</sup> Ibid. SCE email to Sedgwick dated October 29, 2014.

<sup>186</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, attachment BA01 - *Bradshaw Well Pump No. 11 Electrical Assessment* by Linkture Consulting Engineers

<sup>187</sup> ORA visually assessed the remnants of the fire damaged panel during ORA’s Barstow site visit.

1 demand in the MDD, PHD, and MDD+FF scenarios.”<sup>188</sup> GSWC provided the Bear Valley  
2 Zone’s supply/demand scenarios data to support its claim (represented in **Table 2-G** below),  
3 stating that the data “does not take into account the loss of Bradshaw Well #11.”<sup>189</sup>

4 **Table 2-G: Bear Valley Zone’s Excess Supply in Various Demand Scenarios**<sup>190</sup>

	Demand Scenarios			
	ADD	MDD	PHD	MDD+FF
Excess Supply Capacity	5,692 gpm	499 gpm	47 gpm	328 gpm

5  
6 GSWC asserts that with the Bradshaw Well #11’s capacity of 1,000 gpm off-line the supply  
7 would not be able to meet the demands.<sup>191</sup> However, ORA’s analysis indicates that GSWC’s  
8 system demand<sup>192</sup> can be met by the rest of Bradshaw Wells, even without Bradshaw Well #11.  
9 GSWC’s ability to meet system demand allows the company to wait for the resolution of its  
10 claims with SCE.

11 As shown in **Figure 2-A** below, the Bradshaw wells directly supply the Bear Valley Zone only.  
12 The Bear Valley Zone is also supplied by Crooks Well, which is currently in service. However,  
13 GSWC elected not to consider the Crooks Well’s capacity (1,500 gpm) in its supply-demand  
14 analysis.

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<sup>188</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 348.

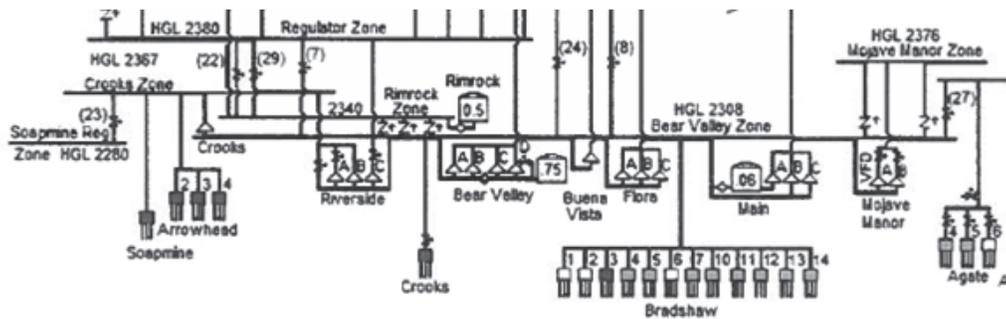
<sup>189</sup> Ibid, p. 348.

<sup>190</sup> Ibid, p. 347.

<sup>191</sup> Ibid, p. 348.

<sup>192</sup> For the Bear Valley Zone which the Bradshaw Wells supply exclusively.

1 **Figure 2-A: Bradshaw wells directly supply the Bear Valley Zone**<sup>193</sup>



2  
3 The total capacity of wells listed in the Plan’s Table 5-12 (10,700 gpm) is the total capacity of all  
4 12 Bradshaw Wells; Crooks Well’s capacity of 1,500 gpm was not considered in the PHD and  
5 MDD+FF scenarios.

6 **Table 2-H: 2011 Barstow Water Master Plan’s Table 5-12**

*TABLE 5-12 Existing System Supply and Capacity Analysis—Bear Valley Zone*

Existing System Supply and Capacity Analysis—Bear Valley Zone  
GSWC Region III Water Master Plan—Barstow System

		Planning Scenario							
		ADD		MDD		PHD		MDD+FF	
Duration (Hours)		24		24		4		4	
Demand		GPM	MG	GPM	MG	GPM	MG	GPM	MG
Bear Valley Zone		899	1.295	1,708	2.460	2,876	0.690	5,708	1.370
Beryl Tank Zone (BP)		340	0.490	647	0.932	386	0.093	481	0.115
Eaton Zone (BP)		0	0.000	0	0.000	0	0.000	0	0.000
Mojave Manor Zone (BP)		160	0.230	304	0.438	512	0.123	304	0.073
Agarita Tank Zone (BP)		1,654	2.382	3,442	4.956	3,442	0.826	3,442	0.826
Crooks Zone (BP)		797	1.148	1,000	1.440	1,000	0.240	1,000	0.240
Regulator Zone (BP)		1,158	1.668	1,900	2.736	1,900	0.456	1,900	0.456
<b>Total Demand</b>		<b>6,008</b>	<b>7.212</b>	<b>9,001</b>	<b>12.961</b>	<b>10,116</b>	<b>2.428</b>	<b>12,836</b>	<b>3.080</b>
Supply Capacity									
Wells		10,700	15.408	9,500	13.680	9,500	2.280	10,700	2.568
Boosters		-	-	-	-	-	-	-	-
PRVs		7,760	-	-	-	-	-	-	-
Reservoirs		0.750	-	-	-	663	0.159	2,463	0.591
<b>Total Supply</b>		<b>10,700</b>	<b>15.408</b>	<b>9,500</b>	<b>13.680</b>	<b>10,163</b>	<b>2.439</b>	<b>13,163</b>	<b>3.160</b>
Supply Minus Demand		6,692	8.196	499	0.719	47	0.011	328	0.079
Supply Meets Demand		YES		YES		YES		YES	

7

<sup>193</sup> Table 3-A of GSWC Report on Results of Operations, Region 3.

1 The above table shows that, despite the exclusion of Crooks Well, the total capacity of the 12  
 2 Bradshaw Wells was enough to meet ADD, MDD, PHD, and MDD+FF demand scenarios.  
 3 ORA modified the above Table 5-12 to verify GSWC’s claim that, with Bradshaw Well #11 out  
 4 of service, the system does not have capacity to meet demand. For the current supply capacity,  
 5 ORA used the pump capacity numbers from GSWC’s 2013 Field Pump Test Sheets that were  
 6 included in GSWC’s response to Minimum Data Request (MDR) E.14, as shown in **Table 2-I**  
 7 below.

8 **Table 2-I: Bradshaw Wells’ Pump Test Results (2013) in gpm**

Pump No.	1	2	4	5	6	7	10	11	12	13	14	Total
Design Capacity (in gpm)	800	850	1,050	1,200	850	1,000	1,000	1,000	1,100	850	1,000	<b>10,700</b>
Test Results (in gpm)	855	883	1,224	897	273	1,037	1,255	0	1,349	1,069	1,028	<b>9,870</b>

9  
 10 The test results came out to be lower than the design capacity due to the Well #11 being out of  
 11 service. ORA conservatively used 9,870 gpm as a basis for the current system supply capacity in  
 12 its analysis.

13 Another modification ORA made to Table 5-12 was the size of available storage (reservoir). In  
 14 the course of modifying Table 5-12, ORA learned that the reservoir capacity for the Bear Valley  
 15 Zone in 2014 has just increased by 1.0 MG, as a result of the addition of Bear Valley Reservoir  
 16 Phase II. ORA includes this new storage capacity in its analysis, which GSWC failed to do.  
 17 With these changes, ORA’s analysis of the system supply and demand, shown in ORA’s  
 18 Modified Table 5-12 below, shows that the system can meet all demand scenarios with the  
 19 Bradshaw Well #11 off-line (ORA’s modified numbers are in shaded cells.)

1

**Table 2-J: ORA's Modified Table 5-12 – Bear Valley Zone Analysis**

Bear Valley Zone Analysis			Planning Scenario - ORA modified Supply							
			ADD		MDD		PHD		MDD+FF	
Duration (hours)			24		24		4		3	
Demand			GPM	MG	GPM	MG	GPM	MG	GPM	MG
	Bear Valley Zone		899	1.295	1,708	2.460	2,876	0.690	5,708	1.370
	Beryl Tank Zone	(BP)	340	0.490	647	0.932	386	0.093	481	0.115
	Eaton Zone	(BP)	0	0.000	0	0.000	0	0.000	0	0.000
	Mojave Manor Zone	(BP)	160	0.230	304	0.438	512	0.123	304	0.073
	Agarita Tank Zone	(BP)	1,654	2.382	3,442	4.956	3,442	0.826	3,442	0.826
	Crooks Zone	(BP)	797	1.148	1,000	1.440	1,000	0.240	1,000	0.240
	Regulator Zone	(BP)	1,158	1.668	1,900	2.736	1,900	0.456	1,900	0.456
<b>Total Demand</b>			<b>5,008</b>	<b>7.212</b>	<b>9,001</b>	<b>12.961</b>	<b>10,116</b>	<b>2.428</b>	<b>12,835</b>	<b>3.080</b>
Supply Capacity										
	Wells	10,700	<u>9,870</u>	14.213	<u>9,870</u>	14.213	<u>9,870</u>	2.369	<u>9,870</u>	2.369
	Boosters	NA		0.000		0.000				
	PRV's	7,760		0.000		0.000				
	Reservoirs	<u>1,750</u>		0.000	0	0.000	72,917	<u>1,750</u>	72,917	<u>1,750</u>
<b>Total Supply</b>			<b>9,870</b>	<b>14.213</b>	<b>9,870</b>	<b>14.213</b>	<b>82,787</b>	<b>4.119</b>	<b>82,787</b>	<b>4.119</b>
<b>Supply minus Demand</b>			<b>4862</b>	<b>7.001</b>	<b>869</b>	<b>1.251</b>	<b>72671</b>	<b>1.691</b>	<b>69,952</b>	<b>1.038</b>
<b>Supply Meets Demand</b>			<b>Yes</b>		<b>Yes</b>		<b>Yes</b>		<b>Yes</b>	

2

3 In sum, because the system can meet demands with the Bradshaw Well #11 offline, GSWC can  
4 afford to defer the electrical panel repair/construction until it receives compensation from SCE,  
5 at which time, it should make the repair and record the funds received from SCE as contributed  
6 plant. ORA recommends that the Commission disallow the requested budget from this GRC.

7 [Barstow – Replace Electrical Panel Replacement for Bradshaw Well #12](#)

8 GSWC also requests replacing the electric panel for the Bradshaw Well #12. In its testimony,  
9 GSWC proposes upgrading the electrical panel and switchgear for Bradshaw Well #12 to bring  
10 them up to current industry standards, improve operator and customer safety, improve reliability  
11 and ease of maintenance, and to improve electrical efficiency.

12 ORA asked GSWC whether the panel replacement is required by any authorities due to safety or  
13 electrical concerns. GSWC's response, below, indicates that it is not required.

14 GSWC testimony did not indicate that the electrical panel for Well #12  
15 was required to be replaced; however, it was indicated that due to the age

1 and condition of the panel it was prudent to plan accordingly to replace the  
2 panel which would bring it up to current standards with the added benefit  
3 of increased safety and reliability.<sup>194</sup>

4 GSWC's testimony states that the electrical panel was constructed in 1988.<sup>195</sup> GSWC claims  
5 that this type of panel typically has 30 to 40 years of expected life depending on the maintenance  
6 and environmental conditions.<sup>196</sup> With this information, ORA finds that the electrical panel still  
7 has four to 14 years of life remaining. ORA believes it is only prudent to replace electrical  
8 panels when it is damaged/failed beyond repair, it is too costly to repair, or replacement parts are  
9 too hard to find due to age. GSWC's reason for the panel replacement request due to age and  
10 condition is not convincing. When asked to present GSWC's hardship in acquiring necessary  
11 parts for maintaining the panel, the company provided maintenance records which do not show  
12 any signs of difficulties in replacing parts to maintain the panel.<sup>197</sup> GSWC's maintenance  
13 records did not have any repeated major repairs which could be the sign of impending failure or  
14 safety concerns. All of the above findings indicate that the Bradshaw Well #12's electrical panel  
15 upgrade is not needed at this time. Therefore, ORA recommends that the Commission reject  
16 GSWC's request to replace electrical panels at both Bradshaw Wells #11 and #12.

## 17 **2. Barstow – Eaton Plant – Construct Storage Tank (\$1,980,500)**

18 GSWC requests \$292,200 in 2016 for design and \$1,688,300 in 2017 for construction of a new  
19 0.6 MG storage tank at the Eaton Plant site. GSWC states that the need for a storage tank is due  
20 to a storage deficiency of 0.523 MG identified in Table 5-14 of 2011 Barstow Water Master  
21 Plan.<sup>198</sup> ORA reviewed the Plan's Table 5-14, which turned out to be a system supply and  
22 capacity analysis and did not contain the storage deficiency information as claimed in GSWC's  
23 testimony. Instead, the system storage deficiency was found in the Master Plan's Table 5-26,  
24 which identified the said storage deficiency of 0.523 MG.

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<sup>194</sup> GSWC Response to ORA Data Request BYU-003, Question 1.d.

<sup>195</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p.347.

<sup>196</sup> Ibid.

<sup>197</sup> GSWC Response to ORA Data Request BYU-001.

<sup>198</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 350.

1 The Plan determined this storage deficiency by comparing the available storage in the Eaton  
2 Zone against the required<sup>199</sup> storage calculated in the Table 5-25 of the Barstow Water Master  
3 Plan.<sup>200</sup> The Eaton Zone's available storage is from the two tanks in the Eaton Zone (0.21 MG  
4 total) and the available storage from the Lenwood Zone tank (1.0 MG), for a total of 1.21 MG.<sup>201</sup>  
5 The required storage calculated from Table 5-25 is 1.380 MG with which the majority of the  
6 required storage is due to the Fire Flow storage requirement of 0.96 MG. The Fire Flow storage  
7 requirement should not be counted in the required storage analysis. The system supply and  
8 capacity analysis from the Plan's Table 5-14 shows the Eaton Zone's supply and storage capacity  
9 can meet all of the planned demand scenarios. Since the system can meet the fire flow  
10 requirements as well as all other demand scenarios, a separate requirement for meeting the fire  
11 flow with only storage capacity is unnecessary. The following **Table 2-K** shows the Eaton  
12 Zone's supply plus storage capacity is capable of meeting all demand scenarios.

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<sup>199</sup> Emphasized to show the requirement is from GSWC's calculation, not by any authorities.

<sup>200</sup> 2011 Barstow System Water Master Plan, p. 5-26.

<sup>201</sup> The Lenwood Tank (1.0MG) serves the Lenwood Zone, but it can also serve the Eaton Zone via a PRV rated at 880 gpm. GSWC is allocating the Lenwood Tanks capacity as 0.353MG for the Lenwood Zone and 0.647MG for the Eaton Zone.

1 **Table 2-K: Barstow Water Master Plan’s Table 5-14 - Eaton Zone system capacity**  
 2 **analysis<sup>202</sup>**

Eaton Zone Analysis		Planning Scenario - GSWC							
		ADD		MDD		PHD		MDD+FF	
Duration (hours)		24		24		4		4	
Demand		GPM	MG	GPM	MG	GPM	MG	GPM	MG
Eaton Zone		407	0.586	773	1.113	1302	0.312	4,773	1.146
Lenwood Zone	(BP)	324	0.467	616	0.887	616	0.148	616	0.148
Bear Valley Zone	(PRV)	0	0.000	0	0.000	0	0.000	0	0.000
<b>Total Demand</b>		<b>731</b>	<b>1.053</b>	<b>1389</b>	<b>2.000</b>	<b>1918</b>	<b>0.460</b>	<b>5389</b>	<b>1.293</b>
Supply		Capacity							
Wells	5000	5000	7.200	3200	4.608	3200	4.608	5000	1.200
Boosters	NA		0.000		0.000				
PRV's	880		0.000		0.000				
Reservoirs	0.210		0.000		0.000			875	0.210
<b>Total Supply</b>		<b>5000</b>	<b>7.200</b>	<b>3200</b>	<b>4.608</b>	<b>3200</b>	<b>4.608</b>	<b>5875</b>	<b>1.410</b>
<b>Supply minus Demand</b>		<b>4269</b>	<b>6.147</b>	<b>1811</b>	<b>2.608</b>	<b>1282</b>	<b>4.148</b>	<b>486</b>	<b>0.117</b>
<b>Supply Meets Demand</b>		Yes		Yes		Yes		Yes	

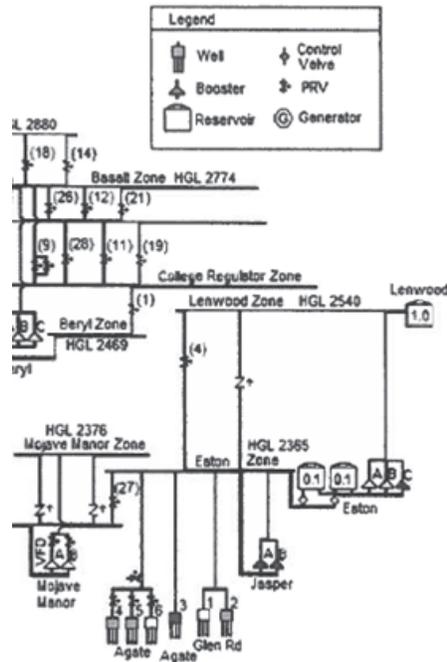
3  
 4 As presented in **Figure 2-B** below, the Eaton Zone is supplied directly by five wells: Agate  
 5 Wells No. 4, 5, 6, and Glen Road Wells No.1 and 2. The Eaton Zone’s demands (ADD, MDD,  
 6 and PHD) can be met by these wells’ capacity. Additionally, the Zone’s Maximum Day Demand  
 7 plus Fire Flow (MDD+FF) demand scenario is also met with the wells’ capacity plus the existing  
 8 Eaton Tanks (0.21 MG) storage capacity.

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<sup>202</sup> Excerpt from 2011 Barstow Water Master Plan Table 5-14.

1

Figure 2-B: System Schematic around the Eaton and Lenwood Zone<sup>203</sup>



2

3

*Note: Agate Well #3 and Jasper Boosters A and B are off line in this figure.*

4

As it is presented in the above **Table 2-K**, the Eaton Zone does not have any deficiency in meeting its demand. However, GSWC refers to a storage deficiency from Table 5-26 of the

5

6

Barstow Water Master Plan.<sup>204</sup> The following **Table 2-L** shows the difference between GSWC's

7

and ORA's required storage for the Eaton Zone.

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<sup>203</sup> Table 3-A of GSWC Report on Results of Operations, Region 3.

<sup>204</sup> 2011 Barstow System Water Master Plan, p. 5-28.

1 **Table 2-L: GSWC’s required storage vs. ORA’s required storage (in gpm)**<sup>205</sup>

<b>Eaton Zone required storage</b>		
	<b>GSWC</b>	<b>ORA</b>
<b>Operational</b>		
PHD	1,302	1,302
MDD	773	773
PHD minus MDD	529	529
Duration	4	4
MG	0.127	0.127
<b>Fire</b>		
GPM	4,000	0
Duration	4	4
MG	0.960	0.000
<b>Emergency</b>		
ADD	407	407
Duration	12	12
MG	0.293	0.293
<b>Total Required Storage (MG)</b>	<b>1.380</b>	<b>0.420</b>
<b>Total Available Storage (MG)</b>	<b>0.857</b>	<b>0.857</b>
<b>Avail. minus Req. (MG)</b>	<b>-0.523</b>	<b>0.437</b>
<b>Deficient?</b>	<b>Yes</b>	<b>No</b>

2

3 In the **Table 2-L** above, the difference between GSWC’s and ORA’s numbers is the inclusion of

4 Fire Storage. If the water delivery to the Eaton Zone solely depends on the tanks, in other words,

5 if all of the wells pump water into the tanks and then distribute this water to the system, GSWC’s

6 claims on the storage deficiency may be true. However, as presented above in **Figure 2-B** and

7 **Table 2-K** that is not the case. As shown in **Table 2-K**, the fire demand can be met by the

8 supply capacity of wells plus the 0.21 MG storage capacity of the existing Eaton Tanks. Thus, in

9 analyzing the Eaton Zone’s storage capacity, only the Operational and Emergency storage should

10 be considered. **Table 2-L** shows the system’s available storage capacity at 0.857MG (0.21 MG

11 from Eaton Tanks and 0.647 MG allocation from Lenwood Tank) is more than enough to meet

12 the required storage for the Eaton Zone at 0.42 MG.<sup>206</sup>

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<sup>205</sup> 2011 Barstow Water Master Plan’s Table 5-25 and Table 5-26.

<sup>206</sup> Ibid.

1 In sum, there is no storage deficiency in the Eaton Zone and GSWC cannot feasibly justify the  
2 addition of a new tank at the Eaton Plant site. Therefore, ORA recommends that the  
3 Commission reject this request.

4 **3. Barstow – 1<sup>st</sup> Avenue Bridge Replacement – Relocate 1,400 LF of pipeline**  
5 **(\$1,144,500)**

6 GSWC requests \$117,400 in 2015 for design and \$1,027,100 in 2016 for construction of  
7 approximately 1,400 linear feet of 18-inch ductile iron pipe, in casings using jack and bore  
8 method, across the Burlington Northern Santa Fe (BNSF) railroad right-of-way. The need for  
9 this project came from the 1<sup>st</sup> Avenue bridge replacement project that the City of Barstow is  
10 currently pursuing. Currently, GSWC’s water main is attached on the bridge. GSWC initially  
11 planned to replace the pipe along the bridge but BNSF notified GSWC that BNSF no longer  
12 allows water mains constructed over its tracks and only allows water mains crossing tracks  
13 underground.

14 Based on ORA’s review of the franchise agreement with BNSF, it appears GSWC has no other  
15 option but to follow BNSF’s policy.<sup>207</sup> However, the construction schedule for the bridge  
16 replacement has been delayed due to difficulties the City had in acquiring a government grant to  
17 replace the bridge.<sup>208,209</sup> According to an article from the Desert Dispatch, the City was awarded  
18 \$42,732,800 for the construction of the bridge replacement from CalTrans; however, the award  
19 requires the City to be responsible for 11.47% of the total award, which is \$4,901,453.<sup>210</sup> The  
20 article states that the City is pursuing the required 11.47% fund from the San Bernardino

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<sup>207</sup> GSWC provided its franchise agreement with BNSF as an evidence in response to ORA Data Request BYU-001.

<sup>208</sup> City of Barstow Council Meeting Agendas, dated April 4, 2011 – reporting the temporary repairs and placing weight limits on vehicles

<sup>209</sup> City of Barstow Council Meeting Agendas, dated November 1, 2010.

<sup>210</sup> <http://www.desertdispatch.com/> Bridging the Funding Gap – North First Avenue Bridge projects on Council agenda, Mike Lamb, Desert Dispatch, January 19, 2015.

1 County’s local highway program, and the City’s request will be reviewed by the County in  
2 2015.<sup>211</sup>

3 GSWC received the following schedule from the City for the bridge replacement project.<sup>212</sup>

<b>TASK</b>	<b>DATE</b>
Begin Preliminary Design	May 2015
Complete Structure Type Selection Report	September 2015
Begin Final Design	September 2015
Complete Environmental Doc	February 2016
Complete 60% PS&E Plans	March 2016
Complete 95% PS&E Plans	July 2016
Complete 100% PS&E Plans	September 2016
Complete Right of Way Certification	September 2016
Bid Project	October 2016
Begin Construction	January 2017

4  
5 The City’s construction schedule is preliminary and uncertain due to the fact that the City has not  
6 procured the full funding for the project. Additionally, it is not certain that GSWC will need to  
7 construct the requested pipeline (through and under the BNSF tracks) during this GRC cycle.

8 This is because GSWC has not received the utility relocation notice from the City yet.<sup>213</sup>

9 Moreover, GSWC’s cost estimate for this project is based on a preliminary design due to many  
10 unknowns such as the exact location of the new pipeline, construction scheduling with BNSF,  
11 Jack-and-Bore method estimates (no bid info), etc.

12 Because of the many significant uncertainties in timing and costs as described above, ORA  
13 recommends that the Commission allows this project as an Advice Letter project with the cap  
14 amount of \$1,144,500.

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<sup>211</sup> Ibid.

<sup>212</sup> GSWC Response to ORA Data Request BYU-004, Question 5.a.; GSWC stated that this information was “taken from the most recent email communications with the City of Barstow and its consulting firms working on the project.”

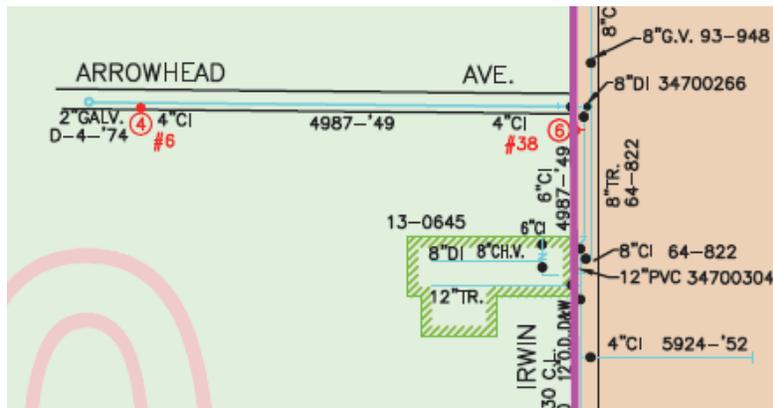
<sup>213</sup> Ibid, Question 5.c.

1        **4. Barstow – Replace Pipelines on Arrowhead Ave. (\$412,900)**

2        GSWC requests \$36,200 in 2016 for design and \$376,700 in 2017 for construction to replace  
3        approximately 1,000 feet of the existing pipeline (2-inch steel and 4-inch Ductile Iron (DI)  
4        mixed) with 1,000 feet of 8-inch PVC pipe. GSWC’s workpaper states that the installation of  
5        new pipeline is necessary to address “leaks, age, and condition of the existing pipeline.”<sup>214</sup>  
6        According to GSWC’s statements in the same workpaper, the existing pipeline is 65 years old  
7        and is in poor condition.

8        Although GSWC cited “leaks” as one of the project justifications, GSWC’s response to ORA’s  
9        inquiry states that there were zero leaks in the segment to be replaced in this project.<sup>215</sup>

10        To verify how much of the existing pipeline is of 4-inch DI and of 2-inch steel, ORA reviewed  
11        GSWC’s Barstow System Wall Map that GSWC provided in response to ORA’s Supplemental  
12        Data Request Question 84. From the Barstow System Wall Map, ORA found that the existing  
13        pipeline on Arrowhead Ave is mostly 4-inch Cast Iron (CI) pipe (instead of DI as it was stated in  
14        the workpaper) as shown below:



15        Only a small segment of 2-inch pipeline at the end of Arrowhead Avenue is galvanized steel.

17        According to GSWC’s PMP Report, CI pipes can last as long as 87 years in the Barstow area.<sup>216</sup>

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<sup>214</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 264

<sup>215</sup> Attachment 1b of GSWC’s response to ORA Data Request DK4-001

<sup>216</sup> GSWC Pipeline Management Program Report, p. 8-159

1 Also, the 2-inch galvanized steel pipeline does not need to be replaced until there are signs of  
2 deterioration such as repeated leaks or hydraulic deficiencies.

3 ORA reviewed GSWC’s 2011 Barstow Water Master Plan to verify if the requested Arrowhead  
4 Ave pipeline replacement was recommended; it was not. Thus, GSWC’s claim on the conditions  
5 of the existing pipeline is not supported by its own pipeline condition assessment in the Water  
6 Master Plan. Additionally, ORA asked GSWC to describe the condition of the existing pipeline  
7 since the project justification on the workpaper did not elaborate more than stating it is in poor  
8 condition. GSWC’s response to ORA’s inquiry was to repeat the project justification’s wording  
9 verbatim with no additional supporting details.<sup>217</sup> GSWC’s request for the pipeline replacement  
10 is neither adequately supported nor justified; therefore, ORA recommends that the Commission  
11 reject the request.

#### 12 **5. Barstow – Replace Pipelines on Buena Vista Street (\$217,700)**

13 GSWC requests \$217,700 in 2016 for construction to replace 500 feet of the existing 4-inch cast  
14 iron (CI) pipeline with 8-inch PVC pipe. GSWC is not requesting any design budget for this  
15 project. GSWC’s workpaper states that the new pipeline is needed to address the “age of the  
16 existing pipeline.”<sup>218</sup> The workpaper also states the existing pipeline is 62 years old.

17 As mentioned earlier, CI pipes can last as long as 87 years in the Barstow area.<sup>219</sup> Also,  
18 according to GSWC’s response to ORA Data Request DK4-001, the requested pipeline did not  
19 have any record of leaks. Therefore, ORA recommends that the Commission reject the request.

#### 20 **6. Barstow – Replace Pipelines on Carson Street (\$363,200)**

21 GSWC requests \$363,200 in 2017 for construction to replace 900 feet of the existing 4-inch CI  
22 pipeline with 8-inch PVC. GSWC’s workpaper states the pipeline replacement is needed to

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<sup>217</sup> GSWC Response to ORA Data Request BYU-005, Question 1. b). i.

<sup>218</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 266

<sup>219</sup> GSWC Pipeline Management Program Report, p. 8-159.

1 address “age of the existing pipeline.”<sup>220</sup> According to the same workpaper, the existing pipeline  
2 is 57 years old.

3 As mentioned earlier, CI pipes can last as long as 87 years in the Barstow area.<sup>221</sup> ORA also  
4 found that the requested pipeline did not have any leaks in the past 5 years and only one leak (in  
5 2004) in the past 10 years.<sup>222,223</sup> Citing age as a reason to replace a pipeline is too simplistic,  
6 especially in this situation where the CI pipeline’s age is only 57 years old and the last leak was  
7 10 years ago. Therefore, ORA recommends that the Commission disallow the request.

### 8 **7. Barstow – Replace Pipelines on Frances Drive (\$427,400)**

9 GSWC requests \$37,400 in 2016 for design and \$390,000 in 2017 for construction to replace  
10 1,650 feet of the existing 4-inch CI pipeline with 8-inch PVC. GSWC’s workpaper states that  
11 the need for the replacement is to address “age and condition of the existing pipeline.”<sup>224</sup>  
12 According to the same workpaper, the existing pipeline is 62 years old.

13 As mentioned earlier, CI pipes can last as long as 87 years in Barstow area.<sup>225</sup> Thus, the age of  
14 the existing pipeline cannot be a determining factor for replacement. Also, according to  
15 GSWC’s response to ORA Data Request DK4-001, the requested pipeline did not have any leaks  
16 in the past 5 years. GSWC’s response to ORA Data Request BYU-005 however, indicates that  
17 there was one occurrence of a leak in 2013.

18 ORA asked GSWC to describe the condition of the existing pipeline since the project  
19 justification on the workpaper did not elaborate other than referring to the Conditional  
20 Assessment Section of the 2011 Barstow Water Master Plan. GSWC’s response to ORA’s  
21 inquiry was to repeat the project justification’s wording verbatim.<sup>226</sup> GSWC failed to provide

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<sup>220</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 268.

<sup>221</sup> GSWC Pipeline Management Program Report, p. 8-159.

<sup>222</sup> GSWC Response to ORA Data Request DK4-001, Question 1.b, attachment 1b.

<sup>223</sup> GSWC Response to ORA Data Request BYU-005, attachment 1.

<sup>224</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 270.

<sup>225</sup> GSWC Pipeline Management Program Report, p. 8-159.

<sup>226</sup> GSWC Response to ORA Data Request BYU-005, Question 1. b). ii.

1 details on the condition of the existing pipeline that warrant replacement. Additionally, the  
2 project is not recommended in the 2011 Barstow Water Master Plan. Therefore, ORA  
3 recommends that the Commission deny the request.

#### 4 **8. Barstow – Urban Water Management Plan (\$65,000)**

5 GSWC requests \$65,000 in 2015 to update its 2010 version of Urban Water Management Plan in  
6 accordance with the California Department of Water Resources’ requirements. ORA does not  
7 oppose this request but recommends that the estimated cost be shifted from the 2015 to the 2016  
8 capital budget. ORA’s Common Plant Issues testimony on UWMP provides the basis for the  
9 adjusted timeline.

#### 10 **9. Barstow – Replace Vehicle #67685, #67490 and #67491 (\$170,300)**

11 GSWC requests a total of \$170,300 for the replacement of Vehicle #67685 (heavy duty truck) in  
12 2015 and Vehicles #67490 (heavy duty truck) and #67491 (heavy duty truck) in 2017. For  
13 reasons identified in ORA’s Common Plant Issues testimony on vehicle replacements, ORA  
14 removes these vehicle replacements from this GRC’s capital budgets.

#### 15 **10. Additional Adjustments to Requested Capital Expenditures – Barstow CSA**

16 This section addresses projects included as “CWIP to be closed” for 2014 and 2015 in GSWC’s  
17 Table 4-M, Utility Plant. These “CWIP to be closed” amounts in Table 4-M are made up of  
18 capital expenditures from projects listed in GSWC’s “CWIP” work papers. In its application,  
19 GSWC did not provide a detailed project description or cost details for these projects. While  
20 GSWC labelled these projects as CWIP or Construction Work In Progress, it is not an accurate  
21 description for many of these projects. As ORA discovered, some projects have not started (and  
22 therefore cannot be considered “CWIP”), are no longer needed, have been cancelled by GSWC,  
23 or have changed in scope and schedule significantly. ORA makes the following adjustments to  
24 reflect its findings.

1

**Table 2-M: ORA adjustments to CWIP**

Projects	2013		2014		2015		2016	
	GSWC	ORA	GSWC	ORA	GSWC	ORA	GSWC	ORA
Linda Vista Pipeline	\$ 140,308	\$ 140,308	\$ 434,899	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
H Street Booster Station	\$ 32,557	\$ 32,557	\$ 0	\$ 0	\$ 1,154,801	\$ 0	\$ 0	\$ 0
H Street Plant Site Acquisition	\$ 47,995	\$ 47,995	\$ 108,120	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Irwin Reservoir & Transmission Ma	\$ 197,757	\$ 197,757	\$ 0	\$ 0	\$ 4,194,613	\$ 0	\$ 0	\$ 0
Linda Vista Reservoir	\$ 39,864	\$ 39,864	\$ 0	\$ 0	\$ 1,353,168	\$ 0	\$ 0	\$ 0
Bradshaw 11 Install Transfer Switch	\$ 0	\$ 0	\$ 13,500	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Buena Vista St., 6th to 7th	\$ 6,784	\$ 6,784	\$ 0	\$ 0	\$ 3,830	\$ 0	\$ 0	\$ 0
Valley Crest Reservoir	\$ 125,690	\$ 125,690	\$ 2,120,595	\$ 0	\$ 0	\$ 0	\$ 0	\$ 2,120,595
Valley Crest Booster Station	\$ 235,412	\$ 235,412	\$ 922,633	\$ 0	\$ 0	\$ 0	\$ 0	\$ 922,633
<b>Adjustments to be made to Table 4-M, Line 13</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ (3,599,747)</b>	<b>\$ 0</b>	<b>\$ (6,706,413)</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 3,043,228</b>

2

3 [Linda Vista Pipeline, H Street Booster Station, H Street Plant Site Acquisition, and Linda Vista](#)  
4 [Reservoir \(\\$3,311,712\)](#)

5 In this GRC, GSWC includes these projects' expenditures in its CWIP list.<sup>227</sup> These projects are  
6 all linked to each other. The Linda Vista Reservoir has to be built first to justify the need for the  
7 Linda Vista Pipeline and the H Street Booster Station project.<sup>228</sup> GSWC's testimony from the  
8 previous GRC A.11-07-017 states that the Linda Vista Reservoir was scheduled to be completed  
9 in 2011.<sup>229</sup> ORA observed no signs of construction activity when ORA visited the proposed  
10 reservoir site in 2011. The same testimony states that GSWC needed to construct the H Street  
11 Booster Station to fill the Linda Vista Reservoir,<sup>230</sup> and requested H Street Booster Station as  
12 well as the H Street Plant Site Acquisition projects. GSWC explained that the purpose for the  
13 Linda Vista Reservoir was to replace the existing reservoirs at GSWC's Basalt Plant and Beryl  
14 Plant,<sup>231</sup> and the H Street Booster Station would replace the Beryl and Basalt booster pumps.

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<sup>227</sup> GSWC's Region 3 CWIP Workpapers.

<sup>228</sup> In the settlement adopted in the last GRC A.11-07-017, GSWC was authorized budget-level amounts for water supply projects, and not for specific projects.

<sup>229</sup> A.11-07-017 GSWC Capital Testimony, p. 402.

<sup>230</sup> Ibid., p. 403.

<sup>231</sup> A.11-07-017 GSWC Capital Testimony, p. 402.

1 During its Barstow site visit in 2014, ORA found that these four projects were still not  
2 constructed. Moreover, ORA learned that the H Street Plant site belongs to the Bureau of Land  
3 Management (BLM, a federal entity) and GSWC has experienced difficulties in acquiring an  
4 easement agreement with the BLM. GSWC’s staff also expressed its difficulties in obtaining  
5 information from the BLM regarding the H Street Site easement. These difficulties clearly  
6 caused significant project delays and uncertainty.

7 ORA also found that the Linda Vista Reservoir site’s easement agreement also has not been  
8 finalized between GSWC and the BLM. According to the BLM’s project search page, it lists the  
9 project as “ROW-Golden State Water Co.; Linda Vista Water Reservoir and Pipeline,” and the  
10 status of the project is listed as “pending; need field reports & draft EA.”<sup>232</sup> This indicates that  
11 the schedule of the Linda Vista Reservoir and the Pipeline construction also remains uncertain,  
12 as in the case of the H Street site above.

13 Additionally, the Linda Vista Reservoir project was not requested in previous GRCs. Since  
14 GSWC stated the reservoir was scheduled to be completed in 2011 in its Capital Testimony in  
15 A.11-07-017, ORA assumed the project was authorized in a prior GRC. ORA searched the case  
16 records of GSWC’s A.05-02-004, A.08-07-010, and A.11-07-017 and could not find any records  
17 of GSWC requesting the Linda Vista Reservoir construction. However, ORA was able to find  
18 the Linda Vista Reservoir project listed under the CWIP projects list in A.11-07-017  
19 workpapers.<sup>233</sup> In those workpapers, the budget amount for the project was listed as “1” and the  
20 GSWC Authorized Work Order Amount was “blank.” The CWIP Statement as of 4/30/11 was  
21 “\$89,813,” but the Remaining to Spend Against Budget was “-\$89,813,” and finally the Total  
22 Requested CWIP 2011 was “blank.” Based on the ORA’s findings, ORA concludes that the  
23 Linda Vista Reservoir was planned, but it was never requested in prior GRCs. It is highly  
24 unreasonable for GSWC to include unauthorized projects in the CWIP list for the current GRC

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<sup>232</sup> BLM Project Number: COI-BLM-CA-D080-2013-0078; Source:  
[http://www.blm.gov/ca/forms/nepa/search.php?doc\\_number=DOI-BLM-CA-D080-2013-0078&analysis\\_type=&program=&description=&geo\\_location=&contact\\_name=&status=&initiation\\_date=&completion\\_date=&fo\\_code=&fy=&Submit>Show+Results](http://www.blm.gov/ca/forms/nepa/search.php?doc_number=DOI-BLM-CA-D080-2013-0078&analysis_type=&program=&description=&geo_location=&contact_name=&status=&initiation_date=&completion_date=&fo_code=&fy=&Submit>Show+Results); EA: Environmental Assessment.

<sup>233</sup> A.11-07-017 GSWC Workpapers, Region 3 CWIP Analysis 061711 Rev 2, line 68.

1 without accompanying project justifications. Since the Linda Vista Reservoir project was not  
2 built, the associated projects, H Street Booster Station and Land and the Linda Vista Pipeline,  
3 should also be removed from the current CWIP list. GSWC must make a full presentation of  
4 needs and costs for these projects in the future GRC proceedings if it wishes to pursue them.

5 [Irwin Reservoir and Transmission Main \(\\$4,392,371\)](#)

6 GSWC requested the Irwin Reservoir and Transmission Main project in A.11-07-017. In this  
7 GRC, GSWC lists this project in the 2015 CWIP list. During its site visit to the Barstow system,  
8 ORA learned that GSWC is having difficulties with the BLM in acquiring an easement for the  
9 project. As with other projects involving dealings with the BLM, ORA finds the construction  
10 schedule highly uncertain and recommends removing the project from the 2015 CWIP budget.  
11 As with the above discussed CWIP projects, GSWC should re-submit this project in the next  
12 GRC if it still wishes to GSWC pursue the project.

13 [Transfer Switch at Bradshaw Well # 11 \(\\$13,500\)](#)

14 GSWC includes in its CWIP list budget the installation of a transfer switch at Bradshaw Well  
15 #11 in 2014. As discussed in the Bradshaw Wells #11 and #12 Electric Panel Replacement  
16 projects earlier in the Barstow CSA section, Bradshaw Well #11 is currently out of service due to  
17 the fire incident of 2012. GSWC should submit its request for this project in the GRC after the  
18 panel replacement funding and construction have been resolved.

19 [Pipeline Replacement on Buena Vista Street– from 6<sup>th</sup> to 7<sup>th</sup> \(\\$3,830\)](#)

20 GSWC requests this pipeline replacement project in this GRC, and as discussed earlier, ORA  
21 recommends rejection of the project. Accordingly, ORA removes the project's dollars from the  
22 2015 CWIP.

23 [Valley Crest Reservoir and Booster Station \(\\$3,404,330\)](#)

24 GSWC includes this project under the 2014 CWIP budget. ORA found that the project is still in  
25 design and per GSWC's updated estimate as of February 2015, the project construction would

1 not be completed until mid-2016.<sup>234</sup> Therefore, ORA recommends moving CWIP amounts from  
 2 the 2014 CWIP budget to the 2016 CWIP budget.

3 **F. CALIPATRIA CSA**

4 **Table 2-N** below presents a summary of capital budgets for the Calipatria CSA.

5 **Table 2-N: Capital Budget Summary - Calipatria CSA**

Calipatria CSA	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Holabird WTP, Grounding Survey	\$ -	\$ -	\$ -	\$ -	\$ 99,100	\$ 94,600
<b>Total Water Supply</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 99,100</b>	<b>\$ 94,600</b>
Miscellaneous Street Improvements	\$ 41,000	\$ 41,000	\$ 43,000	\$ 43,000	\$ 45,000	\$ 45,000
<b>Total Street Improvements</b>	<b>\$ 41,000</b>	<b>\$ 41,000</b>	<b>\$ 43,000</b>	<b>\$ 43,000</b>	<b>\$ 45,000</b>	<b>\$ 45,000</b>
<b>Total Distribution Improvements</b>	<b>\$ -</b>					
<b>Total Water Quality</b>	<b>\$ -</b>					
<b>Total Miscellaneous</b>	<b>\$ -</b>					
Contingency Budget	\$ 17,700	\$ -	\$ 8,800	\$ -	\$ 14,000	\$ -
<b>Total Contingency Budget</b>	<b>\$ 17,700</b>	<b>\$ -</b>	<b>\$ 8,800</b>	<b>\$ -</b>	<b>\$ 14,000</b>	<b>\$ -</b>
New Business Funded by GSWC	\$ 8,000	\$ 8,000	\$ 9,000	\$ 9,000	\$ 10,000	\$ 10,000
<b>Total New Business</b>	<b>\$ 8,000</b>	<b>\$ 8,000</b>	<b>\$ 9,000</b>	<b>\$ 9,000</b>	<b>\$ 10,000</b>	<b>\$ 10,000</b>
Meters	\$ 7,700	\$ 7,700	\$ 9,500	\$ 9,500	\$ 10,300	\$ 10,300
Services	\$ 8,700	\$ 8,700	\$ 8,900	\$ 8,900	\$ 9,100	\$ 9,100
Minor Main Replacements	\$ 25,500	\$ 25,500	\$ 26,200	\$ 26,200	\$ 26,900	\$ 26,900
Minor Pumping Plant Equip.	\$ 9,700	\$ 9,700	\$ 10,000	\$ 10,000	\$ 10,200	\$ 10,200
Minor Purification Equip.	\$ 23,500	\$ 23,500	\$ 24,100	\$ 24,100	\$ 24,700	\$ 24,700
Office Furniture and Equip.	\$ 6,900	\$ 6,900	\$ 7,100	\$ 7,100	\$ 7,300	\$ 7,300
Transportation Equipment						
i. Vehicle # 67462	\$ 46,450	\$ -	\$ -	\$ 47,700	\$ -	\$ -
ii. Vehicle # 67464	\$ 46,450	\$ -	\$ -	\$ 47,700	\$ -	\$ -
iii. Vehicle # 67463	\$ -	\$ -	\$ -	\$ -	\$ 49,000	\$ -
Misc. Tools and Safety Equip.	\$ 1,400	\$ 1,400	\$ 1,400	\$ 1,400	\$ 1,400	\$ 1,400
Additions to General Structure	\$ 900	\$ 900	\$ 900	\$ 900	\$ 900	\$ 900
<b>Total Blanket Budget</b>	<b>\$ 177,200</b>	<b>\$ 84,300</b>	<b>\$ 88,100</b>	<b>\$ 183,500</b>	<b>\$ 139,800</b>	<b>\$ 90,800</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 243,900</b>	<b>\$ 133,300</b>	<b>\$ 148,900</b>	<b>\$ 235,500</b>	<b>\$ 307,900</b>	<b>\$ 240,400</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 700,700</b>	<b>\$ 609,200</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$ 91,500</b>
<b>3-YEAR TOTAL DIFFERENCE, (GSWC-ORA)/(GSWC):</b>						<b>13%</b>

6

<sup>234</sup> Email from Jenny Darney-Lane of GSWC, to Brian Yu of ORA (February 20, 2015)..

1           **1. Calipatria – Replace Vehicle #67462, #67464 and #67463 (\$141,900)**  
2   GSWC requests a total of \$141,900 for the replacement of Vehicles #67462 (heavy-duty truck)  
3   and #67464 (heavy-duty truck) in 2015 and Vehicle #67463 (heavy-duty truck) in 2017. For  
4   reasons identified in ORA’s Common Plant Issues testimony on vehicle replacements, ORA  
5   recommends deferral of Vehicles #67462 and 67464 replacements to 2016, and removal of  
6   Vehicle # 67463 replacement from this GRC’s capital budgets.

7   **G. MORONGO VALLEY CSA**

8   **Table 2-O** below presents a summary of capital budgets for the Morongo Valley CSA.

1

**Table 2-O: Capital Budget Summary - Morongo Valley CSA**

Morongo Valley CSA	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Mojave Tank Zone, Construct res.	\$ -	\$ -	\$ 196,700	\$ -	\$ 1,136,600	\$ -
<b>Total Water Supply</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 196,700</b>	<b>\$ -</b>	<b>\$ 1,136,600</b>	<b>\$ -</b>
<b>Total Street Improvements</b>	<b>\$ -</b>	<b>\$ -</b>				
<b>Total Distribution Improvements</b>	<b>\$ -</b>	<b>\$ -</b>				
Elm Well, Uranium Removal System	\$ 617,000	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Water Quality</b>	<b>\$ 617,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Miscellaneous</b>	<b>\$ -</b>	<b>\$ -</b>				
Contingency Budget	\$ 12,800	\$ -	\$ 13,000	\$ -	\$ 13,400	\$ -
<b>Total Contingency Budget</b>	<b>\$ 12,800</b>	<b>\$ -</b>	<b>\$ 13,000</b>	<b>\$ -</b>	<b>\$ 13,400</b>	<b>\$ -</b>
<b>Total New Business</b>	<b>\$ -</b>	<b>\$ -</b>				
Meters	\$ 5,800	\$ 5,800	\$ 5,200	\$ 5,200	\$ 5,900	\$ 5,900
Services	\$ 23,900	\$ 23,900	\$ 24,500	\$ 24,500	\$ 25,200	\$ 25,200
Minor Main Replacements	\$ 17,700	\$ 17,700	\$ 18,200	\$ 18,200	\$ 18,700	\$ 18,700
Minor Pumping Plant Equip.	\$ 23,500	\$ 23,500	\$ 24,100	\$ 24,100	\$ 24,700	\$ 24,700
Minor Purification Equip.	\$ 1,500	\$ 1,500	\$ 1,600	\$ 1,600	\$ 1,600	\$ 1,600
Office Furniture and Equip.	\$ 6,200	\$ 6,200	\$ 6,400	\$ 6,400	\$ 6,600	\$ 6,600
Transportation Equipment						
i. Vehicle # 1178	\$ 46,400	\$ 46,400	\$ -	\$ -	\$ -	\$ -
ii. Vehicle # 500010	\$ -	\$ -	\$ 47,700	\$ 47,700	\$ -	\$ -
iii. Vehicle # 1263	\$ -	\$ -	\$ -	\$ -	\$ 49,000	\$ -
Misc. Tools and Safety Equip.	\$ 1,900	\$ 1,900	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000
Additions to General Structure	\$ 600	\$ 600	\$ 600	\$ 600	\$ 600	\$ 600
<b>Total Blanket Budget</b>	<b>\$ 127,500</b>	<b>\$ 127,500</b>	<b>\$ 130,300</b>	<b>\$ 130,300</b>	<b>\$ 134,300</b>	<b>\$ 85,300</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 757,300</b>	<b>\$ 127,500</b>	<b>\$ 340,000</b>	<b>\$ 130,300</b>	<b>\$ 1,284,300</b>	<b>\$ 85,300</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 2,381,600</b>	<b>\$ 343,100</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$ 2,038,500</b>
<b>3-YEAR TOTAL DIFFERENCE, (GSWC-ORA)/(GSWC):</b>						<b>86%</b>

2

### 3 1. Morongo Del Norte - Install Uranium Removal System at Elm Well (\$617,000)

4 GSWC requests \$617,000 in 2015 for installing a Uranium Removal System (URS) at the 90-  
5 gpm Elm Well in its Morongo Del Norte system to meet water quality requirements. GSWC's  
6 testimony states that the Elm Well is currently out of service due to the uranium level being over  
7 the Maximum Contaminant Level (MCL). GSWC provided data that shows the uranium level at

1 the Elm Well ranges from 21 micrograms per liter ( $\mu\text{g/L}$ ) to 45  $\mu\text{g/L}$ .<sup>235</sup> According to the latest  
2 San Bernardino County Small Water System Sanitary Survey Report dated February 27, 2013,  
3 “the Elm Well’s Uranium level exceeds MCL and the well shall not be used until an approved  
4 treatment system is in place.” The same report states the Uranium level for the Elm Well was 28  
5 picocuries per liter ( $\text{pCi/L}$ )<sup>236</sup> whereas the United States Environmental Protection Agency’s  
6 MCL<sup>237</sup> for Uranium is 30  $\mu\text{g/L}$ , or equivalent to 20  $\text{pCi/L}$ .<sup>238</sup>

7 ORA does not dispute the Elm Well’s contamination level or treatment requirement. As ORA  
8 demonstrates below, GSWC’s request is unreasonable because the system does not need the  
9 added capacity and its associated added costs.

#### 10 [Supply capacity is sufficient without the Elm Well](#)

11 GSWC’s request for URS at Elm Well is based on the supply reliability needs in the Morongo  
12 Del Norte System. GSWC states that:

13 The request for treatment ... is to provide treatment for one of the three wells in  
14 the Morongo Del Norte System, so that one of the sources will have 100%  
15 availability regardless of fluctuating Uranium levels.<sup>239</sup>

16 Thus, GSWC’s proposal to bring back the Elm Well is based on its determination of system  
17 supply reliability rather than a critical need to meet demand. This is consistent with the San  
18 Bernardino County Small Water System Sanitary Survey Report dated February 27, 2013  
19 (“County Report”), which as shown below in **Table 2-P** indicates that without the Elm Well, the  
20 system is still capable of meeting its demands.

---

<sup>235</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, Attachment MV01 – Elm Well 2009 – 2010 Sample Data prepared by TestAmerica Environmental Testing Laboratory.

<sup>236</sup> Date of the last analysis in the report was January 25, 2011.

<sup>237</sup> <http://water.epa.gov/drink/contaminants/>

<sup>238</sup> The Uranium MCL level of 20  $\text{pCi/L}$  is also in accordance with State of California Title 22 Code of Regulations, Chapter 15, Section 64442, Table 64442

<sup>239</sup> GSWC Response to ORA Data Request BYU-001.

1

**Table 2-P: Excerpt from the February 27, 2013 County Report**

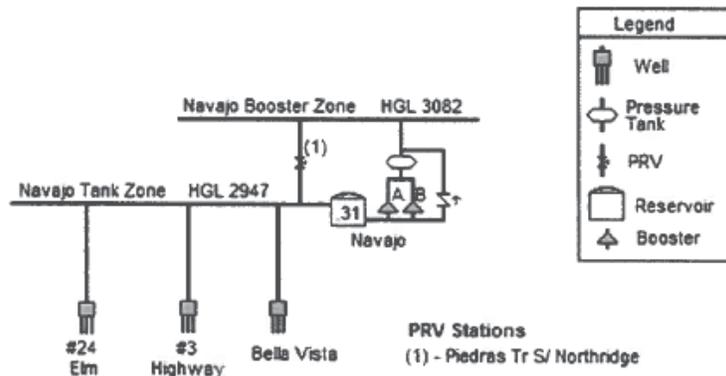
System Description					
Number of Active Sources:	2	Number of standby or inactive sources:	1	Number of storage facilities:	2
Total capacity of Storage:	302,000 gallons	What types of storage are used?	Steel bolted	Population served:	Approx. 950
Are treatment facilities used:	Yes	Are connections metered or flat?	Metered	Number of connections:	158
Connections to other systems:	No	Name of system connected:	N/A	Number of pressure zones:	2
Describe the area served by the system:	Residential and Commercial		What are the pressures of each zone:		40-100 psi
Describe the climatological conditions:	Mild winters/Hot summers		Describe the topographical conditions:		Desert
Production Data					
Maximum day consumption during warmest month:	130,000 gallons	Is source supply able to meet peak demand?	Yes		
Required storage capacity for the system:	≥ 130,000 gallons	Required source production:	120 gpm		
Is storage and source capacity adequate?	Yes	Does system meet Waterworks standards?	Yes		

2

3 **Figure 2-C** below shows that all wells in the Morongo Del Norte System supply directly to  
 4 Navajo Tank Zone. The Navajo Booster Zone's (a zone adjacent to and at higher gradient than  
 5 the Navajo Tank Zone) supply depends on the Navajo Boosters' capacity. Thus, the source  
 6 capacities of the wells only affect the Navajo Tank Zone.

7

**Figure 2-C: Morongo Del Norte System Schematic<sup>240</sup>**



8

<sup>240</sup> GSWC Report of Results of Operations for Region 3, Table 3-A.

1 GSWC’s Morongo Del Norte Water Master Plan’s Table 5-8 (presented below in **Table 2-Q**)  
 2 shows the system supply meets all demand scenarios assuming the capacities of all three wells  
 3 mentioned above (total of 290 gpm).

4 **Table 2-Q: Morongo Del Norte Water Master Plan’s Table 5-8**

TABLE 5-8 Existing System Supply and Capacity Analysis—Navajo Tank Zone  
 Existing System Supply and Capacity Analysis—Navajo Tank Zone  
 GSWC Region III Water Master Plan—Morongo Del Norte System

Duration (Hours)		Planning Scenario							
		ADD		MDD		PHD		MDD+FF	
		24		24		4		2	
Demand		GPM	MG	GPM	MG	GPM	MG	GPM	MG
Navajo Tank Zone		33	0.048	76	0.109	114	0.027	2,576	0.309
Navajo Booster Zone (BP & Check)		7	0.010	16	0.023	24	0.006	16	0.002
<b>Total Demand</b>		<b>40</b>	<b>0.068</b>	<b>92</b>	<b>0.132</b>	<b>138</b>	<b>0.033</b>	<b>2,692</b>	<b>0.311</b>
Supply	Capacity								
Wells	290	290	0.418	190	0.274	190	0.046	290	0.035
Boosters	NA	-	-	-	-	-	-	-	-
PRVs	125	0	0.000	0	0.000	0	0.000	0	0.000
Reservoirs	0.350	0	0.000	0	0.000	46	0.011	2,308	0.277
<b>Total Supply</b>		<b>290</b>	<b>0.418</b>	<b>190</b>	<b>0.274</b>	<b>238</b>	<b>0.067</b>	<b>2,688</b>	<b>0.312</b>
<b>Supply Minus Demand</b>		<b>250</b>	<b>0.360</b>	<b>98</b>	<b>0.141</b>	<b>98</b>	<b>0.024</b>	<b>8</b>	<b>0.001</b>
<b>Supply Meets Demand</b>		<b>YES</b>		<b>YES</b>		<b>YES</b>		<b>YES</b>	

5  
 6 ORA reconstructs the same table to reflect existing conditions. **Table 2-R** below presents the  
 7 Water Master Plan’s Table 5-8, as modified by ORA, with differences in input and assumptions  
 8 discussed in further detail following the table. It is important to note that although ORA does not  
 9 agree with GSWC’s exclusion of the largest well in certain demand scenarios, for this exercise,  
 10 ORA keeps that aspect of the calculation the same. As shown in the updated results, even with  
 11 Elm Well off-line, the system still has excess capacity in all demand scenarios.

12 **Table 2-R: System Supply and Capacity Analysis**

Navajo Tank Zone Analysis	Planning Scenario - Table 5-8 (GSWC)								Planning Scenario - Updated Table 5-8 (ORA)								
	ADD		MDD		PHD		MDD+FF		ADD		MDD		PHD		MDD+FF		
	24		24		4		2		24		24		4		2		
Demand	GPM	MG	GPM	MG	GPM	MG	GPM	MG	GPM	MG	GPM	MG	GPM	MG	GPM	MG	
Navajo Tank Zone	33	0.048	76	0.109	114	0.027	2,576	0.309	33	0.048	75	0.107	111.9	0.027	2,575	0.309	
Navajo Bstr Zone (BP)	7	0.010	16	0.023	24	0.006	16	0.002	7	0.010	16	0.023	23.55	0.006	16	0.002	
<b>Total Demand</b>	<b>40</b>	<b>0.058</b>	<b>92</b>	<b>0.132</b>	<b>138</b>	<b>0.033</b>	<b>2,592</b>	<b>0.311</b>	<b>40</b>	<b>0.058</b>	<b>90</b>	<b>0.130</b>	<b>135</b>	<b>0.033</b>	<b>2,591</b>	<b>0.311</b>	
Supply	Capacity																
Wells	290	290	0.418	190	0.274	190	0.274	290	0.035	220	0.317	100	0.144	100	0.144	220	0.026
Boosters	NA		0.000	0.000						0.000	0.000						
PRVs	125		0.000	0.000						0.000	0.000						
Reservoirs	0.350		0.000	0.000			2,308	0.277		0.000	0.000	1,458	0.350	2,917	0.350		
<b>Total Supply</b>		<b>290</b>	<b>0.418</b>	<b>190</b>	<b>0.274</b>	<b>190</b>	<b>0.274</b>	<b>2,598</b>	<b>0.312</b>	<b>220</b>	<b>0.317</b>	<b>100</b>	<b>0.144</b>	<b>1,558</b>	<b>0.494</b>	<b>3,137</b>	<b>0.376</b>
<b>Supply minus Demand</b>		<b>250</b>	<b>0.360</b>	<b>98</b>	<b>0.141</b>	<b>52</b>	<b>0.240</b>	<b>6</b>	<b>0.001</b>	<b>180</b>	<b>0.259</b>	<b>10</b>	<b>0.014</b>	<b>1,423</b>	<b>0.461</b>	<b>546</b>	<b>0.066</b>
<b>Supply Meets Demand</b>		<b>Yes</b>		<b>Yes</b>		<b>Yes</b>		<b>Yes</b>		<b>Yes</b>		<b>Yes</b>		<b>Yes</b>		<b>Yes</b>	

1 The following is an explanation of differing input and assumptions for **Table 2-R** above:

- 2 • ORA uses the following capacity values from the County Report, and excludes Elm Well  
3 to reflect its out of service status:<sup>241</sup>

Highway Well	100 gpm
Bell Vista Well	120 gpm
Elm Well	90 gpm

- 4 • Although the existing capacity of the Navajo Tank is 0.35 MG, GSWC only uses a  
5 portion of the total capacity. ORA uses the full capacity of the Navajo Tank in its  
6 analysis.
- 7 • For MDD, GSWC uses 92 gpm and ORA makes a modest adjustment and uses a slightly  
8 lower 90 gpm to reflect the clear and significant downward trend in historical water  
9 demand in the system as demonstrated in **Table 2-S** and **Figure 2-D** below.

10 **Table 2-S: Morongo Del Norte System Historical Demand**<sup>242</sup>

	Total Demand in AFY	ADD in gpm	MDD in gpm	Active service connections
2002	56	35	67	162
2003	59	37	65	161
2004	68	42	71	165
2005	68	42	92	163
2006	82	51	92	169
2007	78	48	78	166
2008	63	39	75	164
2009	65	40	67	167
2010	63	39	74	163
2011	53	33	63	161

11

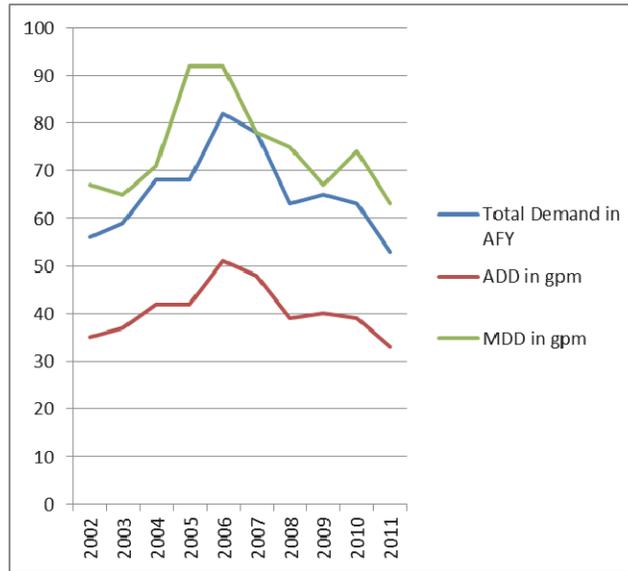
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<sup>241</sup> February 27, 2013 County Report, p. 3.

<sup>242</sup> 2013 Morongo Del Norte System Water Master Plan, Table 3-2, p. 3-4.

1

**Figure 2-D: Morongo Del Norte System’s Decreasing Demand Trend**



2

3 [Proposed URS at Elm Well is too costly](#)

4 GSWC previously constructed and installed a Uranium Removal System (URS) at its Yeager-  
5 Vale Plant, also in Morongo Valley CSA. GSWC’s estimate of \$617,000 for the Elm Well  
6 project is not reasonable when compared to the Yeager-Vale URS’s costs.

7 GSWC states it does not have the design for the Elm Well URS yet.<sup>243</sup> For the Yeager-Vale’s  
8 URS treatment, there are three large sets of identical URS each rated to handle 300 gpm (for a  
9 900 gpm total treatment capacity): one for Well #2, another for Well #3, and an extra set of URS  
10 for redundancy. These three URS sets are connected in-parallel and housed in a concrete-  
11 masonry building built on a concrete pad that has a secondary containment space at sub-ground  
12 level. This building scale would not be needed for the proposed Elm Well URS since it will  
13 have to treat only 90 gpm, or 15% of the Yeager-Vale site’s 600 gpm well capacity. Yet, in  
14 GSWC’s Project Cost Estimate (PCE) for the Elm URS, the line item for a pre-engineered steel  
15 building cost was based on the bid results from Yeager-Vale URS. The building cost estimate  
16 should instead be based on the need and design of the Elm URS as the Elm URS requires a  
17 smaller building.

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<sup>243</sup> GSWC Response to ORA Data Request BYU-003.

1 The final construction cost of the Yeager-Vale URS was about \$1.6 million. GSWC is requesting  
 2 \$617,000 for the Elm URS. **Table 2-T** below presents a comparison of the two projects’  
 3 construction costs. The resulting unit cost for the Elm URS is more than 2.5 times the unit cost  
 4 of the Yeager-Vale URS.

5 **Table 2-T: Comparison of URS Cost Estimates: Yeager-Vale vs. Elm**

FACILITY	Yeager-Vale	Elm
Capacity (gpm)	600	90
URS Package cost from WRT	\$607,897	\$64,000
Total construction cost	\$1,606,486	\$617,000
Construction cost sans URS purchase	\$998,589	\$553,000
% of URS cost in total construction	37.84%	10.37%
dollars per gpm treated	\$2,677.48	\$6,855.56
Percentage of Elm over Yeager-Vale		256.05%

6  
 7 GSWC’s estimates for piping costs, again not based on actual design, also appear too high.  
 8 According to its PCE, GSWC estimates 300 feet of plant piping and 150 feet of chemical piping  
 9 for the Elm Well URS. ORA reviewed GSWC’s PCE for the Yeager-Vale URS and found it  
 10 estimated only 220 feet of 8-inch pipe and 40 feet of chemical piping.<sup>244</sup> Common sense again  
 11 dictates that the Yeager-Vale URS, which is receiving feeds from two wells, Yeager-Vale Well  
 12 #2 and #3 at 300 gpm capacity each, would require more piping than the proposed Elm Well  
 13 URS, which would serve only one well at 90 gpm capacity.

14 [ORA’s Recommendation](#)

15 In sum, the Elm Well’s capacity is not needed; therefore, its URS treatment is not needed.  
 16 GSWC’s proposal also lacks specificity in the design, construction, and cost parameters and the  
 17 presented cost details appear to be overstated. For all of these reasons, ORA recommends that  
 18 the Commission reject this request.

19 **2. Morongo Del Sur - Construct Reservoir in Mojave Tank Zone (\$1.3 million)**

20 GSWC requests \$196,700 in 2016 for design and \$1,136,600 in 2017 to construct a 0.3 MG  
 21 water tank in the Mojave Tank Zone of its Morongo Del Sur System. GSWC asserts that this

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<sup>244</sup> GSWC’s workpapers from A.08-07-010, PCE – MV – Vale Uranium Removal, dated 02/26/2008.

1 project is due to a storage deficiency identified in the 2013 Morongo Del Sur System Water  
2 Master Plan. GSWC also refers to the CDPH/DDW 2011 Sanitary Survey Inspection Report’s  
3 (2011 CDPH Report) findings that required GSWC to develop a plan of action to meet the  
4 storage capacity requirements.<sup>245</sup> Attachment No. 1 of the CDPH report includes a description of  
5 deficiency for this zone as follows:

6 Storage Capacity: The Company is in non-compliance with the Waterworks  
7 Standards. The system does not have adequate storage volume to meet the MDD  
8 of 0.87MG. Need additional storage capacity.

9 The 2011 CDPH Report designates Order of Hazard C for this deficiency. According to the  
10 report, Hazard C is defined as a “Potential Health Hazard – Must be corrected as work load  
11 permits.” For this reason, ORA does not contest the need to construct the reservoir “as work  
12 load permits.” However, GSWC must address the design and construction budget to be included  
13 in rates before ORA can recommend this project.

14 [Acquisition of land for the reservoir](#)

15 GSWC requested and received approval for the land purchase portion of this project in 2008  
16 Region 3 GRC (A.08-07-010) in the amount of \$46,500.<sup>246</sup> Although GSWC represented in its  
17 testimony that the property for the new tank has been acquired,<sup>247</sup> its response to ORA’s inquiry  
18 demonstrated that was patently untrue.<sup>248</sup> ORA in its visit to the plant site on 10/16/2014 also  
19 observed that the proposed property has not been acquired; this was confirmed by GSWC’s local  
20 staff. In fact, GSWC’s staff expressed difficulties negotiating with the property owner who has  
21 persistently refused to sell his property to GSWC at GSWC’s appraisal value. This situation  
22 creates a high level of uncertainty to the overall project’s progress. ORA recommends that the  
23 Commission allow this project as an Advice Letter project with the budget capped at \$1,333,300.

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<sup>245</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, Attachment MV03 – CDPH Sanitary Survey Inspection Report for Morongo Del Sur System, September 13, 2011.

<sup>246</sup> Commission Decision D.10-11-035, GSWC DRA Joint Motion (Settlement Document), Appendix C, p. 29.

<sup>247</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p. 372.

<sup>248</sup> GSWC Response to ORA Data Request BYU-003, Question 7. (a).

1 Additionally, ORA recommends that the Commission’s **Division of Water and Audits**, in its  
2 reasonableness review of the Advice Letter, make sure that GSWC did not spend more than the  
3 appraised value of the land.

4 **3. Morongo Valley – Replace Vehicle #1263 (\$49,000)**

5 GSWC requests \$49,000 for the replacement of Vehicle #1263 (heavy-duty truck) in 2017. For  
6 reasons identified in ORA’s Common Plant Issues testimony on vehicle replacements, ORA  
7 recommends removal of Vehicle #1263 replacement from this GRC’s capital budgets.

1 **H. WRIGHTWOOD CSA**

2 **Table 2-U** below presents a summary of capital budgets for the Wrightwood CSA.

3 **Table 2-U: Capital Budgets - Wrightwood CSA**

Wrightwood CSA	2015		2016		2017	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Linnet Resvr, Earthquake Valve	\$ 148,400	\$ 96,900	\$ -	\$ -	\$ -	\$ -
New Sheep Crk res&pipe, USFS Perm.	\$ 102,200	\$ -	\$ 104,900	\$ -	\$ 107,800	\$ -
Heath Creek #7, Mod. Treat. Sys.	\$ 84,400	\$ 80,500	\$ -	\$ -	\$ -	\$ -
<b>Total Water Supply</b>	<b>\$ 335,000</b>	<b>\$ 177,400</b>	<b>\$ 104,900</b>	<b>\$ -</b>	<b>\$ 107,800</b>	<b>\$ -</b>
Miscellaneous Street Improvements	\$ 40,000	\$ 40,000	\$ 42,000	\$ 42,000	\$ 44,000	\$ 44,000
<b>Total Street Improvements</b>	<b>\$ 40,000</b>	<b>\$ 40,000</b>	<b>\$ 42,000</b>	<b>\$ 42,000</b>	<b>\$ 44,000</b>	<b>\$ 44,000</b>
Helen St., Cedar to Walnut	\$ 587,600	\$ 227,300	\$ -	\$ -	\$ -	\$ -
East Canyon Dr., Lone Pine/Orchard	\$ 230,000	\$ 219,500	\$ -	\$ -	\$ -	\$ -
Desert View, Lone Pine/Heathcreek	\$ 411,100	\$ -	\$ -	\$ -	\$ -	\$ -
Twin Lakes Dr., Lone Pine to Oak	\$ 444,900	\$ -	\$ -	\$ -	\$ -	\$ -
Virginia St. Area Main Replacement	\$ -	\$ -	\$ 116,800	\$ 36,500	\$ 1,133,800	\$ 580,300
State Hwy 2 Area Main Replacement	\$ -	\$ -	\$ -	\$ -	\$ 879,300	\$ -
Walnut St., Linnet to Virginia	\$ -	\$ -	\$ -	\$ -	\$ 601,600	\$ -
<b>Total Distribution Improvements</b>	<b>\$ 1,673,600</b>	<b>\$ 446,800</b>	<b>\$ 116,800</b>	<b>\$ 36,500</b>	<b>\$ 2,614,700</b>	<b>\$ 580,300</b>
<b>Total Water Quality</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Miscellaneous</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Contingency Budget	\$ 9,500	\$ -	\$ 9,800	\$ -	\$ 10,100	\$ -
<b>Total Contingency Budget</b>	<b>\$ 9,500</b>	<b>\$ -</b>	<b>\$ 9,800</b>	<b>\$ -</b>	<b>\$ 10,100</b>	<b>\$ -</b>
New Business Funded by GSWC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total New Business</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Meters	\$ 16,000	\$ 16,000	\$ 16,900	\$ 16,900	\$ 17,200	\$ 17,200
Services	\$ 25,700	\$ 25,700	\$ 26,400	\$ 26,400	\$ 27,100	\$ 27,100
Minor Main Replacements	\$ 15,100	\$ 15,100	\$ 15,600	\$ 15,600	\$ 16,000	\$ 16,000
Minor Pumping Plant Equip.	\$ 26,800	\$ 26,800	\$ 27,500	\$ 27,500	\$ 28,300	\$ 28,300
Minor Purification Equip.	\$ 2,100	\$ 2,100	\$ 2,200	\$ 2,200	\$ 2,200	\$ 2,200
Office Furniture and Equip.	\$ 4,000	\$ 4,000	\$ 4,100	\$ 4,100	\$ 4,200	\$ 4,200
Transportation Equipment						
i. Vehicle # 2104	\$ -	\$ -	\$ -	\$ -	\$ 49,000	\$ -
Misc. Tools and Safety Equip.	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,100	\$ 2,100
Additions to General Structure	\$ 3,200	\$ 3,200	\$ 3,300	\$ 3,300	\$ 3,400	\$ 3,400
<b>Total Blanket Budget</b>	<b>\$ 94,900</b>	<b>\$ 94,900</b>	<b>\$ 98,000</b>	<b>\$ 98,000</b>	<b>\$ 149,500</b>	<b>\$ 100,500</b>
<b>TOTAL CAPITAL BUDGET</b>	<b>\$ 2,153,000</b>	<b>\$ 759,100</b>	<b>\$ 371,500</b>	<b>\$ 176,500</b>	<b>\$ 2,926,100</b>	<b>\$ 724,800</b>
<b>3-YEAR TOTAL:</b>					<b>\$ 5,450,600</b>	<b>\$ 1,660,400</b>
<b>3-YEAR TOTAL ADJUSTMENT, GSWC &gt; ORA:</b>						<b>\$ 3,790,200</b>
<b>3-YEAR TOTAL DIFFERENCE, (GSWC-ORA)/(GSWC):</b>						<b>70%</b>

4

1           **1. Wrightwood - Install Earthquake Valve at Linnet Reservoir (\$148,500)**

2 GSWC requests \$148,400 in 2015 to install a seismically controlled hydraulic actuator on the  
3 existing 12-inch outlet valve of the Linnet Reservoir. GSWC also requests installation of a solar  
4 system with back up batteries to power the hydraulic actuator.

5 GSWC states that this item was not installed during the construction of the Linnet Reservoir due  
6 to a budget overrun. The Linnet Reservoir is located on the highest elevation of a private  
7 property and GSWC explained that if seismic activity damages the outlet of the tank, it will flood  
8 the private property (a Christian camp site). ORA agrees that the actuator is a needed safety  
9 measure. However, during its site visit, ORA noticed that the Linnet Reservoir already has a  
10 solar power unit installed on the top of the tank. Therefore, ORA recommends that the  
11 Commission allow this project but exclude-the solar power component. ORA’s cost estimate  
12 reflects this adjustment.

13           **2. Wrightwood – Consultant for USFS Easement Permit for New Sheep Creek**  
14           **Reservoir and Piping (\$314,900)**

15 GSWC requests \$102,200 in 2015, \$104,900 in 2016 and \$107,800 in 2017 to hire a consultant  
16 to work on its application for the easement permits from the United States Forest Services  
17 (USFS) needed for GSWC to construct the new Sheep Creek Reservoir and transmission  
18 pipeline.

19 Construction of the new Sheep Creek Reservoir project had been approved as an Advice Letter  
20 project in the 2008 Region 3 GRC (D.10-11-035). GSWC states that it “hired a consultant in  
21 2008 to prepare geotechnical investigations, environmental documentation, and design plans and  
22 specifications that were completed to 90%.”<sup>249</sup> The consultant also assisted GSWC in obtaining  
23 a Construction Permit from the USFS for the new reservoir and transmission mains. GSWC  
24 further explains that in the course of applying for the Construction Permit, it learned that the  
25 Special Use Permit for the existing reservoir site had expired. This in turn caused delays in

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<sup>249</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, pp. 411 – 412.

1 obtaining the Construction Permit from the USFS.<sup>250</sup> GSWC also describes the difficulties with  
2 USFS in both renewing the Special Use Permit and obtaining the Construction Permit due to  
3 USFS's staff changes.<sup>251</sup> GSWC explains that due to the difficulties with USFS and subsequent  
4 delays in obtaining the Construction Permit, its contract with the consultant expired and the  
5 project could not be completed within the given time frame of the advice letter. GSWC is  
6 requesting about \$100,000 per year in this GRC, for the total of three years, to hire a consultant  
7 to assist with the permit process with the USFS and finalize the design documents.

8 According to GSWC's explanations during the site visit and its response to ORA Data Request  
9 BYU-003, ORA found that there were unexplainable delays by the USFS. GSWC provided to  
10 ORA email communication trails with USFS that showed GSWC's difficulties in obtaining the  
11 permits: USFS lost a filed application due to a station fire; USFS could not contact the person  
12 who received the application; USFS could not determine who should be in charge; long non-  
13 response periods between communications.<sup>252</sup> ORA agrees that GSWC has had difficulties with  
14 USFS in obtaining the necessary permits to construct the project. However, ORA cannot agree  
15 with GSWC on its request to hire a consultant for over \$300,000, because there is no guarantee  
16 that the consultant would be able to acquire the permits for GSWC. When this project was  
17 authorized as an Advice Letter project in D.10-11-035, the design and construction cost for the  
18 reservoir was capped at \$376,250. GSWC is now requesting an amount that is close to what it  
19 had estimated to design and construct the reservoir for obtaining USFS permits and finish the  
20 remaining 10% design. Moreover, GSWC did not provide any information regarding how the  
21 consultant, when hired, would expedite the USFS permit process. When ORA asked about the  
22 role of the consultant, GSWC responded that the consultant would perform the following  
23 functions:<sup>253</sup>

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<sup>250</sup> Ibid., p.412 and GSWC Response to ORA Data Request BYU-003, Attachment 9, Letter from USFS District Ranger to Perry Dahlstrom of GSWC dated May 22, 2007.

<sup>251</sup> GSWC Prepared Testimony of Robert McVicker and Mark Insko, p.412 and GSWC Response to ORA Data Request BYU-003, Attachment 9, CH2MHILL (Contractor) memo dated May 1, 2007.

<sup>252</sup> GSWC Response to ORA Data Request BYU-003, Attachment 9, Email communication chain.

<sup>253</sup> GSWC Response to ORA Data Request BYU-004, Q. 10.a.

- 1 • Assisting GSWC in obtaining the construction permit.
- 2 • Contacting and meeting with USFS staff to identify the process and requirements for
- 3 the permit application (any changes from what was identified before).
- 4 • Maintaining contact with the USFS to keep the permit process updated.
- 5 • If necessary, preparing the permit application again.
- 6 • If necessary, modifying the design as needed to be acceptable for permit application.
- 7 • Preparing reports and necessary meeting materials and attending meetings.
- 8 • Project management.

9 GSWC is a large Class A water utility, and the tasks listed above should be well within the  
10 capabilities of its own staffing resources – both from the Mountain-Desert District Office and  
11 from the General Office. It is not necessary to spend an additional \$100,000+ per year of  
12 ratepayer funds to manage the permit process. ORA notes also that GSWC has not even bid out  
13 and received proposals from any consultants yet.<sup>254</sup>

14 Finally, the application had already been submitted to USFS for its review. The speed of  
15 obtaining the permit is highly dependent on USFS’s own internal process, and additional help  
16 from a consultant is unlikely to yield a different result. GSWC should continue keeping in touch  
17 with USFS for the Special Use Permit and Construction Permit status check.

18 The construction of the new reservoir was authorized as an Advice Letter project in 2010 (D.10-  
19 11-035) and the time allowed to complete the project and file the Advice Letter recovery expires  
20 on the beginning date of the subsequent Test Year. Thus, if GSWC wishes to pursue this project,  
21 it should prepare a new project justification for the construction of the new reservoir and submit  
22 for Commission review in the next GRC. The Construction Permit portion of the project should  
23 be included in the reservoir construction proposal. Therefore, ORA recommends that the  
24 Commission reject this request at this time and require GSWC to resubmit the entire Sheep  
25 Creek Reservoir and Piping project in future GRC.

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<sup>254</sup> GSWC Response to ORA Data Request BYU-004, Question 10.b.

1        **3. Wrightwood – Replace Pipelines on Helen Street (\$587,600)**

2        GSWC requests \$587,600 in 2015 for design and construction to replace 2,400 feet of existing 4  
3        and 5-inch steel pipeline in Helen Street with 8-inch PVC. GSWC’s workpaper states the  
4        replacement is needed to address “leaks, hydraulic deficiencies, and condition of the existing  
5        pipeline.”<sup>255</sup> According to the same workpaper, the existing pipeline had 3 leaks in the past 5  
6        years.

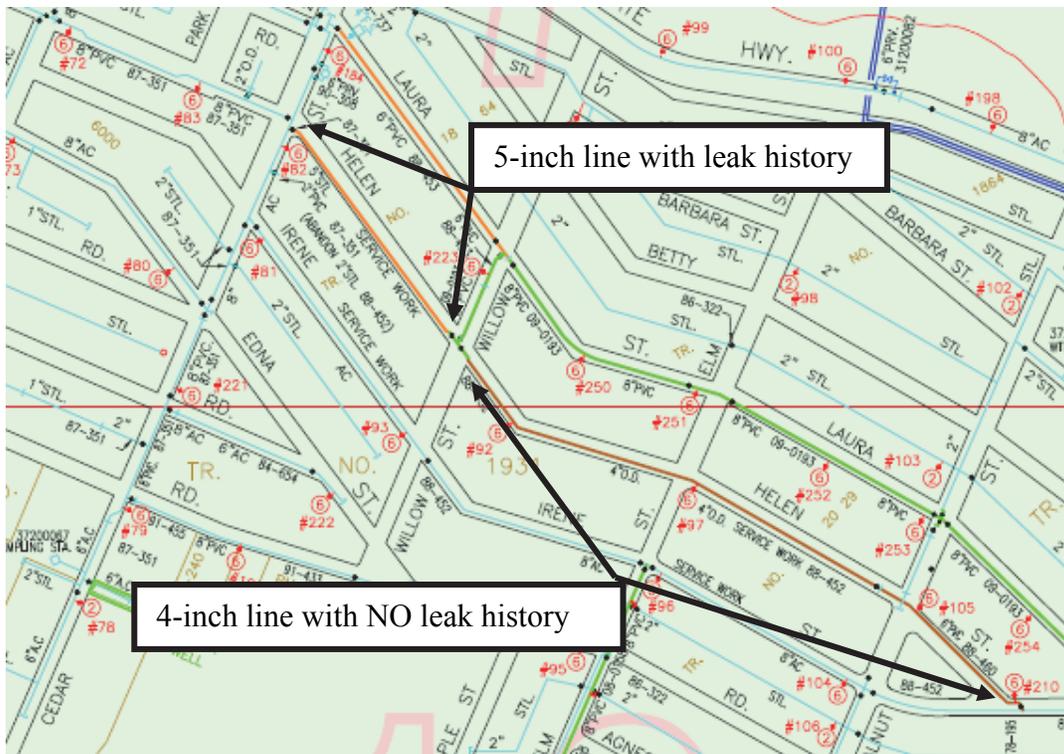
7        According to GSWC’s response to ORA Data Request DK4-001, there were 7 leaks in 2009-  
8        2013. GSWC’s response to ORA Data Request BYU-005 provided the following leak map and  
9        stated that the proposed pipeline segments had 10 leaks in the past 10 years:



10        ORA notes that the leaks only occurred on about half of the requested pipeline. Below is a  
11        section of GSWC’s Wrightwood Wall Map, with ORA’s notations, that illustrates the requested  
12        pipeline area:

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<sup>255</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 352



1

2 As shown in the Wrightwood Wall Map, the existing pipeline along Helen Street consists of: 5-

3 inch steel pipeline from Cedar to Willow; and 4-inch steel pipeline from Willow to Walnut. The

4 leaks are concentrated on the 5-inch pipeline. The 4-inch pipeline only had one occurrence of a

5 leak in 2013. GSWC’s response to ORA Data Request BYU-005 states the age of the pipeline is

6 only 27 years. Per GSWC’s PMP Report, steel pipes can last as long as 87 years in Wrightwood

7 area.<sup>256</sup>

8 ORA reviewed section 6 of 2013 Wrightwood System Water Master Plan to verify if GSWC had

9 identified the requested pipeline replacement in Table 6-3, which lists the recommended

10 improvements resulting from hydraulic deficiencies. The Helen Street pipeline replacement was

11 not included in the recommended improvements list. Thus, hydraulic deficiency is a non-issue.

12 ORA asked GSWC to provide details on the requested pipeline’s condition that warrants

13 replacement. GSWC responded with the same information that it provided in the project

14 justification: 4- to 5-inch steel pipeline, 27 years old, and 10 leaks in the past 10 years.

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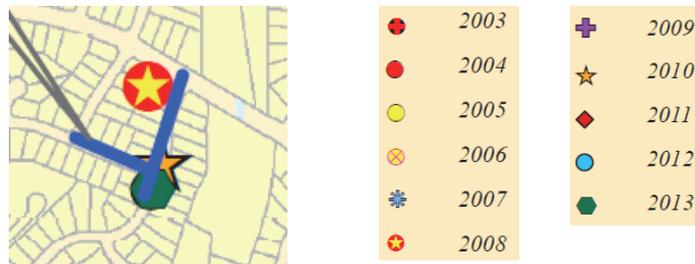
<sup>256</sup> GSWC Pipeline Management Program Report, p. 8-180

1 Consistent with other pipeline replacement project discussed in the Apple Valley CSA and  
2 Barstow CSA, GSWC should only replace the portion with leak history – in this case, the 5-inch  
3 pipeline. ORA recommends the Commission only allow the 5-inch portion of the requested  
4 pipeline.

5 **4. Wrightwood – Replace Pipelines on Desert View Drive and Heathcreek Drive**  
6 **(\$411,100)**

7 GSWC requests \$411,100 in 2015 for design and construction to replace 900 feet of existing 4-  
8 inch steel pipeline. GSWC’s workpaper states the replacement is needed to address “leaks,  
9 hydraulic deficiencies, and condition of the existing pipeline.”<sup>257</sup> According to the same  
10 workpaper and GSWC’s response to ORA Data Request DK4-001, the existing pipeline had 3  
11 leaks in the past 5 years.

12 GSWC’s response to ORA Data Request BYU-005 provides the following leak map:



13 Two of the leaks occurred at the same location: 5393 Desert View Drive in 2012 and in 2013.  
14 This is not necessarily a sign of failing pipeline since two out of three recent leaks occurring at  
15 the same location can be an indication of a localized issue and not indicative of the condition of  
16 the entire pipeline segment.

17 Table 6-3 of the Master Plan identified the pipeline experiences head loss during MDD scenario.  
18 However, page 6-6 of the Master Plan states the following:

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<sup>257</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 356

The hydraulic analysis concluded that several pipelines were subject to a high rate of headloss and/or velocity. However, as none of the above deficiencies resulted in low pressures in the system, these pipelines will not be recommended for replacement due to hydraulic deficiencies alone. These pipelines may be recommended for replacement in Section 8 (System Condition Assessment), due to age and material of the main.

That means the identified hydraulic issue alone is not sufficient justification to replace this particular pipeline. Lacking historical records of repeated leaks on the requested pipeline and lack of other evidence that warrants pipeline replacement, ORA recommends the Commission reject this request.

#### **5. Wrightwood – Replace Pipelines on Twin Lakes Drive and Sycamore Street (\$444,900)**

GSWC requests \$444,900 in 2015 for design and construction to replace 1,100 feet of existing 2-inch steel pipeline in Twin Lakes Drive with 8-inch PVC. GSWC also proposes installing new 200 feet of 8-inch PVC in Sycamore Street. GSWC’s workpaper states the replacement and the new installation are needed to address “hydraulic deficiencies, inaccessibility, and condition of the existing pipeline.”<sup>258</sup>

GSWC’s response to ORA Data Request DK4-001 states that the requested pipeline had zero leaks in the past five years. GSWC’s response to ORA Data Request BYU-005 reports that the existing 2-inch pipeline has the following hydraulic deficiency:

- The existing 2-inch pipeline has a restricted flow which is possibly due to tuberculation built up in the pipeline.
- The restricted flow resulted in head loss in the pipeline.

A steel pipe does develop tuberculation. GSWC’s response in describing the existing pipeline’s hydraulic deficiency lacks quantifiable information such as how much is the flow restricted, how much head loss the pipeline experiences, and how these restricted flow and head losses affect the system. GSWC did not provide such information. ORA reviewed Section 6 of the 2013 Wrightwood System Water Master Plan and its system hydraulic analysis did not identify any deficiencies in the requested pipeline (Table 6-3 did not contain the requested project as a

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<sup>258</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 358

1 recommendation.) Moreover, on page 6-6 of 2013 Wrightwood System Water Master Plan,  
2 GSWC states the following:

3 The hydraulic analysis concluded that several pipelines were subject to a high rate of  
headloss and/or velocity. However, as none of the above deficiencies resulted in low  
pressures in the system, these pipelines will not be recommended for replacement due to  
hydraulic deficiencies alone. These pipelines may be recommended for replacement in  
Section 8 (System Condition Assessment), due to age and material of the main.

4 As stated in the Water Master Plan above, hydraulic deficiency alone is not a valid justification  
5 for this pipeline replacement request. Additionally, GSWC lists inaccessibility as one of the  
6 project justifications. The existing pipelines are located between the streets, within the  
7 backyards of GSWC’s customers’ properties. Pipelines in this configuration are often referred to  
8 as Backyard Mains. Utilities often propose replacing these Backyard Mains, but inaccessibility  
9 cannot be only the reason for expensive main replacements. Main replacement requests should  
10 be based on reasonable needs such as repeated leak history or when replacing the main is less  
11 costly than mitigating issues with the pipeline conditions. ORA notes that the requested pipeline  
12 did not have any leaks, and GSWC has not had to access the existing pipeline for repair. For all  
13 these reasons, ORA recommends that the Commission reject the request.

14 **6. Wrightwood – Replace Pipelines on Virginia Street area main replacement**  
15 **(\$1,250,600)**

16 GSWC requests \$116,800 in 2016 for design and \$1,133,800 in 2017 for construction to replace  
17 3,700 feet of existing 2- and 3-inch steel pipeline in the Virginia Street area with 8-inch PVC.  
18 GSWC’s workpaper states that the replacement is needed to address “leaks, hydraulic  
19 deficiencies, age, and condition of the existing pipeline.”<sup>259</sup> According to the same workpaper,  
20 the existing pipeline is 54 years old and had 14 leaks in the past five years.

21 However, GSWC’s response to ORA Data Request DK4-001 states that there were only 8 leaks  
22 in 2009-2013. GSWC’s response to ORA Data Request BYU-005 provided the following leak  
23 map:

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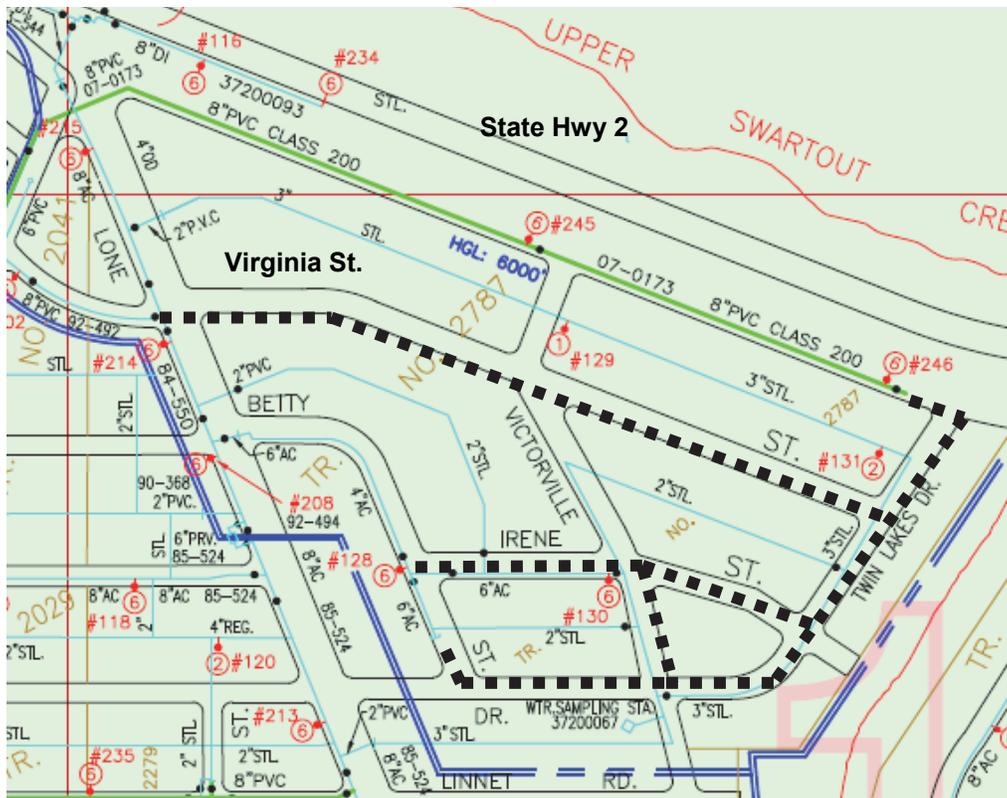
<sup>259</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 360



1 As shown in the above leak map, the pipeline along Virginia Street shows a history of repeated  
 2 leaks that ORA considers a reasonable justification for pipeline replacement. However, included  
 3 in the pipeline replacement request are some segments that have not had any leaks. According to  
 4 GSWC's project description in the workpaper, and comparing that with the existing pipeline  
 5 locations identified in the Wrightwood Wall Map below, ORA found that GSWC's request also  
 6 includes relocating the existing pipelines from backyards to the streets.<sup>260</sup> The scope of this  
 7 project is better illustrated in the following map. The dashed lines indicate GSWC's proposed  
 8 pipeline replacement projects.

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<sup>260</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 360.



1

2 It is apparent that GSWC proposes to remove the 3-inch steel pipeline (located between State

3 Hwy 2 and Virginia Street) and install a new pipeline along Virginia Street. GSWC did not

4 describe this pipeline relocation in the project justification nor support the need for the

5 relocation. ORA believes the existing 3-inch pipeline should be replaced at the current location.

6 ORA estimates the length of the pipeline replacement to be 2,000 feet.<sup>261</sup>

7 GSWC also proposes to install new pipelines along Twin Lakes Drive, Victorville Street, and

8 Irene Street. As indicated in the above leak map, most leaks occurred on the existing 3-inch steel

9 pipeline located in the backyards of the properties along Virginia Street. Twin Lakes Drive had

10 only 3 leaks in the past 10 years. Moreover, Irene Street and Victorville Street do not have any

11 history of leaks. It is only prudent to replace the 3-inch pipeline to address the leaks in this area.

12 Pipeline replacement requests for Twin Lakes Drive, Irene Street, and Victorville Street

13 mentioned above should be denied. As indicated in GSWC’s PMP Report, steel pipes can last as

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<sup>261</sup> ORA used Google Maps Measurement Tool to estimate the pipeline length.

1 long as 87 years in Wrightwood area.<sup>262</sup> Given the age (54 years) of the existing pipelines, age  
2 should not be a determining factor for replacement. Additionally, ORA found that section 6 of  
3 the 2013 Wrightwood System Water Master Plan did not identify any hydraulic deficiency in the  
4 requested pipeline segments.<sup>263</sup>

5 ORA recommends that the Commission reject GSWC’s request for pipeline replacement on  
6 Twin Lakes Drive, Irene Street and Victorville Street, and approve replacement of the 2,000 feet  
7 of the existing 3-inch steel pipeline at its current location.

8 **7. Wrightwood – Replace Pipelines on State Hwy 2 area main replacements**  
9 **(\$879,300)**

10 GSWC requests \$879,300 in 2017 for design and construction to install 1,300 feet of new 8-inch  
11 PVC pipeline along the State Hwy 2 and Cardinal Drive. GSWC’s workpaper states that the new  
12 pipeline installation is needed to address hydraulic issues and dead ends of the existing  
13 pipeline.<sup>264</sup>

14 GSWC’s response to ORA Data Request DK-001 states that there were zero leaks for the  
15 proposed pipeline project. According to the project description in the workpaper, and ORA’s  
16 further analysis of GSWC’s existing system maps, the scope of this project is not to replace the  
17 existing pipelines, but to install new pipelines to tie dead ends to the existing pipelines.<sup>265</sup>

18 GSWC requests installing new pipelines along Cardinal Drive and along State Hwy 2 to connect  
19 the dead ends, illustrated in the map below.<sup>266,267</sup>

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<sup>262</sup> GSWC Pipeline Management Program Report, p. 8-180.

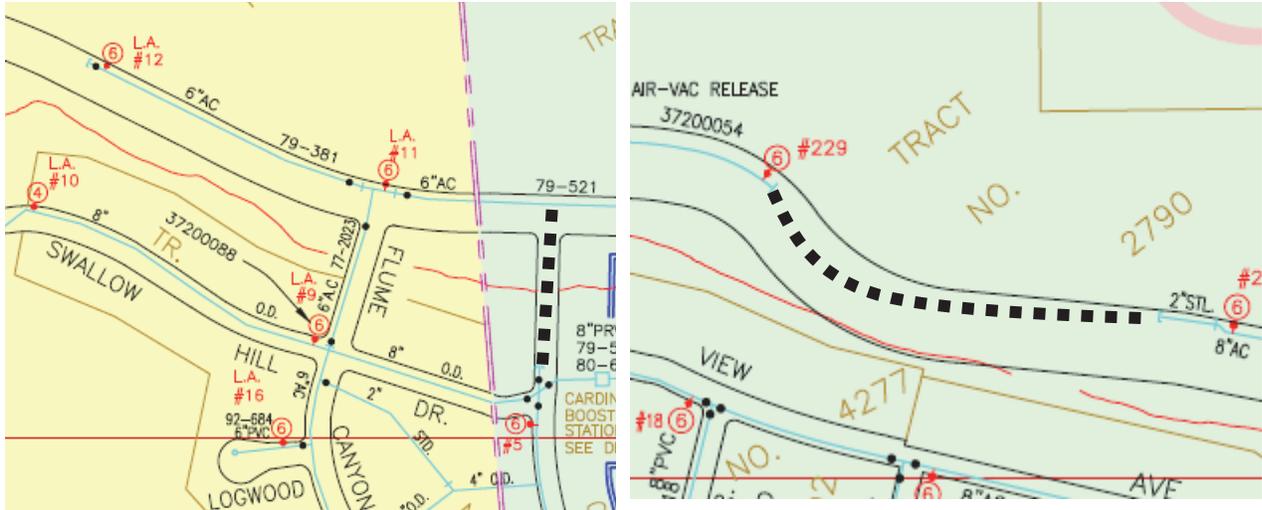
<sup>263</sup> 2013 Wrightwood System Water Master Plan, Table 6-3 does not have this project listed., pp. 6-5 to 6-6

<sup>264</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 362

<sup>265</sup> Ibid.

<sup>266</sup> The new pipelines proposed to tie dead ends to the main are marked with dashed lines.

<sup>267</sup> Wrightwood System Wall Map, provided by GSWC in response to SDR Q.84.



1 GSWC’s response to ORA Data Request BYU-005 describes these dead ends as causing  
 2 hydraulic deficiencies. GSWC did not provide any other justification for the need of this project  
 3 such as how the dead ends cause deficiencies at the proposed locations and affect the system.  
 4 Section 6 of the 2013 Wrightwood System Water Master Plan confirms ORA’s argument, since  
 5 Table 6-3 did not recommend installation of the requested pipeline to resolve the hydraulic  
 6 deficiency.  
 7 For all the above reasons, ORA recommends that the Commission reject this pipeline project.

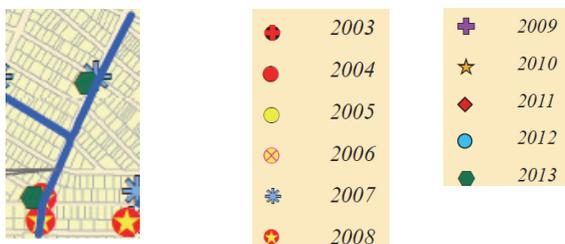
8 **8. Wrightwood – Replace Pipelines on Walnut Street (\$601,600)**

9 GSWC requests \$601,600 in 2017 for design and construction to replace 1,900 feet of existing 2-  
 10 inch pipeline in Walnut Street with 8-inch PVC. GSWC’s workpaper states the replacement is  
 11 needed to address “leaks, hydraulic deficiencies, age and condition of the existing pipeline.”<sup>268</sup>  
 12 According to the same work paper, the existing pipeline is 54 years old and had three leaks in the  
 13 past five years.

14 GSWC’s response to ORA Data Request DK4-001 states that there were three leaks in the past  
 15 five years. GSWC’s response to ORA Data Request BYU-005 provided the following leak map:

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<sup>268</sup> GSWC Region 3 Workpaper, Volume 6 of 6, Ratebase, Sheet 364



1 According to the above leak map, which shows leaks from the past 10 years, there were 5 leaks  
 2 in the past 10 years on Walnut Street; 1 leak in 2007, 2 leaks in 2008, and 2 leaks in 2013. As  
 3 mentioned earlier, steel pipes can last as long as 87 years in Wrightwood area.<sup>269</sup> Given the age  
 4 (54 years) of the existing pipeline and the small number of leaks, the requested pipeline  
 5 replacement is not justified. Additionally, Section 6 of the 2013 Wrightwood System Water  
 6 Master Plan did not identify any hydraulic deficiency in the requested pipeline. The Plan also  
 7 did not recommend replacement due to the condition of the pipeline. Thus, ORA recommends  
 8 that the Commission reject this request.

9 **9. Wrightwood – Replace Vehicle #2104 (\$49,900)**

10 GSWC requests \$49,000 for the replacement of Vehicle #2104 (heavy-duty truck) in 2017. For  
 11 reasons identified in ORA’s Common Plant Issues testimony on vehicle replacements, ORA  
 12 recommends removal of Vehicle #2104 replacement from this GRC’s capital budgets.

13 **10. Additional Adjustments to Requested Capital Expenditures – Wrightwood CSA**

14 This section addresses projects included as “CWIP to be closed” for 2014 and 2015 in GSWC’s  
 15 Table 4-M, Utility Plant. These “CWIP to be closed” amounts in Table 4-M are made up of  
 16 capital expenditures from projects listed in GSWC’s “CWIP” work papers. In its application,  
 17 GSWC did not provide detailed project description or cost details for these projects. While  
 18 GSWC labelled these projects as CWIP or Construction Work In Progress, it is not an accurate  
 19 description for many. As ORA discovered, some projects have not started (and therefore cannot  
 20 be considered “CWIP”), are no longer needed, have been cancelled by GSWC, or have changed  
 21 in scope and schedule significantly. ORA makes the following adjustment to reflect its findings.

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<sup>269</sup> GSWC Pipeline Management Program Report, p. 8-180.

1

**Table 2-V: ORA adjustments to CWIP**

Projects	2013		2014		2015	
	GSWC	ORA	GSWC	ORA	GSWC	ORA
Sheep Creek Reservoir	\$ 328,968	\$ 0	\$ 0	\$ 0	\$ 50,113	\$ 0
<b>Total amount to be subtracted from Table 4-M, Line 13</b>	\$ 328,968				\$ 50,113	

2

3 Sheep Creek Reservoir

4 GSWC requests about \$100,000 per year for three years in this GRC to hire a consultant to  
5 manage permit obtainment from USFS; ORA recommended disallowance of that request as well  
6 resubmittal of the entire Sheep Creek Reservoir and Pipeline project in the next GRC since the  
7 project was originally authorized as an advice letter project (see Section H.2 of this chapter).  
8 Therefore, ORA removes all CWIP dollars associated with this project.

9 **I. CONCLUSION**

10 ORA recommends that the Commission adopt ORA’s recommended adjustments presented  
11 above since they are consistent with the Commission’s Water Action Plan principles for water  
12 utilities providing safe, high quality water, reliable water supplies, and efficient use of water at  
13 reasonable rates.

14

[END OF REPORT]