

A G E N D A
LAS VEGAS VALLEY WATER DISTRICT
BOARD OF DIRECTORS

SPECIAL MEETING
9:45 A.M. – MAY 15, 2017

COMMISSION CHAMBERS
CLARK COUNTY GOVERNMENT CENTER
500 S. GRAND CENTRAL PARKWAY, LAS VEGAS, NEVADA
(702) 258-3100

Board of Directors
Mary Beth Scow, President
Steve Sisolak, Vice President
Susan Brager
Larry Brown
Chris Giunchigliani
Marilyn Kirkpatrick
Lawrence Weekly

John J. Entsminger,
General Manager

Date Posted: May 8, 2017

The Las Vegas Valley Water District makes reasonable efforts to assist and accommodate persons with physical disabilities who desire to attend the meeting. For assistance, call the Agenda Coordinator (702) 258-3939 at least 24 hours prior to the meeting.

THIS MEETING HAS BEEN PROPERLY NOTICED AND POSTED IN THE FOLLOWING LOCATIONS:

LAS VEGAS VALLEY WATER DISTRICT
1001 SOUTH VALLEY VIEW BOULEVARD
LAS VEGAS, NEVADA

GRANT SAWYER STATE OFFICE BUILDING
555 EAST WASHINGTON AVENUE
LAS VEGAS, NEVADA

CLARK COUNTY GOVERNMENT CENTER
500 SOUTH GRAND CENTRAL PARKWAY
LAS VEGAS, NEVADA

REGIONAL JUSTICE CENTER
200 LEWIS AVENUE
LAS VEGAS, NEVADA

All items listed on this agenda are for action by the Board of Directors, unless otherwise indicated. Items may be taken out of order. The Board of Directors may combine two or more agenda items for consideration, and/or may remove an item from the agenda or delay discussions relating to an item on the agenda at any time.

Visit our website at http://www.lvvd.com/about/board_meetings.html or main office at 1001 S. Valley View Boulevard, Las Vegas, Nevada for Las Vegas Valley Water District agenda postings, copies of supporting material and approved minutes. To receive meeting information, including supporting material, contact the LVVWD Agenda Coordinator at (702) 258-3939 or agendas@lvvd.com.

CALL TO ORDER, INVOCATION AND PLEDGE OF ALLEGIANCE

COMMENTS BY THE GENERAL PUBLIC

NO ACTION MAY BE TAKEN: At this time, the Board of Directors will hear general comments from the public on items listed on this agenda. If you wish to speak to the Board about items within its jurisdiction, but not appearing on this agenda, you must wait until the "Comments by the General Public" period listed at the end of this agenda. Please limit your comments to three minutes or less.

ITEM NO.

1. *For Possible Action:* Approve agenda with the inclusion of tabled and/or reconsidered items, emergency items and/or deletion of items.
2. *For Possible Action:* Conduct a Public Hearing on the Tentative Budget for the Las Vegas Valley Water District and subsequently adopt a Final Budget for fiscal year 2017-18.

Copies of the Budget, which have been prepared on forms in such detail as prescribed by the Nevada Department of Taxation, are on file for public inspection at the Las Vegas Valley Water District, 1001 S. Valley View Boulevard, Las Vegas, Nevada.

COMMENTS BY THE GENERAL PUBLIC

NO ACTION MAY BE TAKEN: At this time, the Board of Directors will hear general comments from the public on matters under the jurisdiction of the Las Vegas Valley Water District. Please limit your comments to three minutes or less.

**LAS VEGAS VALLEY WATER DISTRICT
BOARD OF DIRECTORS
AGENDA ITEM**

May 15, 2017

Subject: Conduct Public Hearing	Director's Backup
Petitioner: John J. Entsminger, General Manager	
Recommendations: That the Board of Directors conduct a Public Hearing on the Tentative Budget for the Las Vegas Valley Water District and subsequently adopt a Final Budget for fiscal year 2017-18.	

Fiscal Impact:

The approval of a Final Budget will establish revenue and expenditure levels for the District for fiscal year 2017-18.

Background:

Pursuant to NRS 354.596, the District filed a Tentative Budget with the State Department of Taxation on or before April 15, 2017. The Tentative Budget has been reviewed by the Department of Taxation for compliance with state statutes, regulations, and guidelines. A delineation of budget components was provided to the Board of Directors in General Manager's Information Report Number 172. The Board conducted a public workshop on the Tentative Budget on April 24, 2017.

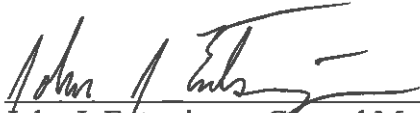
NRS 354.596 requires that the District conduct a Public Hearing on the Tentative Budget, and the hearing may be consolidated with all local government budgets administered by the Board of County Commissioners on the third Monday in May (May 15, 2017). Notice of this hearing has been published in the *Las Vegas Review-Journal* in accordance with the law.

Subsequent to conducting the Public Hearing, NRS 354.598 requires the Board to adopt a Final Budget for the District no later than June 1, 2017, and transmit it to the Nevada Department of Taxation.

The Board is being asked to conduct a Public Hearing on the District's Tentative Budget and adopt a Final Budget for fiscal year 2017-18.

This action is authorized pursuant to NRS 354.596, NRS 354.598, and Section 9(1) of the Las Vegas Valley Water District Act, Chapter 167, Statutes of Nevada 1947. The office of the General Counsel has reviewed and approved this agenda item.

Respectfully submitted:



John J. Entsminger, General Manager

JJE:BT:MC:jb

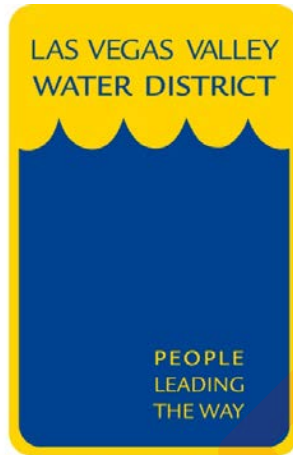
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AGENDA
ITEM #

2

Las Vegas Valley Water District

Operating & Capital Budget Fiscal Year Ending June 30, 2018



COMMUNITY SERVICE ENVIRONMENT

Board of Directors

Mary Beth Scow, President
Steve Sisolak, Vice President
Susan Brager
Lawrence L. Brown III
Chris Giunchigliani
Marilyn Kirkpatrick
Lawrence Weekly

John J. Entsminger
General Manager

Brian G. Thomas
Acting Chief Financial Officer

Matt J. Chorpene
Assistant Chief Financial Officer

Prepared by the Finance Department
1001 South Valley View Blvd., Las Vegas, Nevada 89153
702-870-2011 www.lvwwd.com

DRAFT

Note of Appreciation

We would like to express our appreciation to the Finance department staff, and staff members of other departments for their special work in the preparation of the 2017-18 budget document.

CERTIFICATE OF ACHIEVEMENT

The Government Finance Officers Association of the United States and Canada (GFOA) presented an award of Distinguished Presentation to the **Las Vegas Valley Water District for its annual budget for the fiscal year beginning July 1, 2016.**

In order to receive this award, a governmental unit must publish a budget document that meets program criteria as a policy document, as an operations guide, as a financial plan and as a communication device.

The award is valid for a period of one year only. The District believes our current budget continues to conform to program requirements, and we are submitting it to the GFOA to determine its eligibility for another award.



GOVERNMENT FINANCE OFFICERS ASSOCIATION

*Distinguished
Budget Presentation
Award*

PRESENTED TO

**Las Vegas Valley Water District
Nevada**

For the Fiscal Year Beginning

July 1, 2016

Executive Director

Las Vegas Valley Water District
Operating and Capital Budget
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Fiscal Year Ending June 30, 2018

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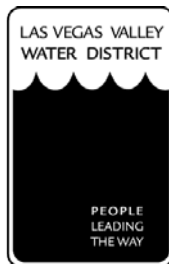
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SECTION 1

GENERAL MANAGER'S INFORMATION REPORT

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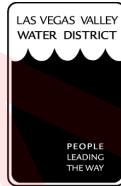


LAS VEGAS VALLEY WATER DISTRICT

FISCAL YEAR 2017-18

OPERATING AND CAPITAL BUDGET

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LAS VEGAS VALLEY WATER DISTRICT

GENERAL MANAGER'S INFORMATION REPORT

DATE: April 18, 2017

NO. 172

SUBJECT: LAS VEGAS VALLEY WATER DISTRICT
PROPOSED OPERATING AND CAPITAL BUDGET FOR FISCAL YEAR 2017-18

The Tentative Operating and Capital Budget of the Las Vegas Valley Water District (LVVWD) for fiscal year 2017-18 was submitted by April 15, 2017, to the State of Nevada Department of Taxation in accordance with NRS 354.596. Attached for your review is the General Manager's Information Report.

Executive Summary

For over a half-century, the LVVWD's customers have enjoyed one of the nation's most reliable municipal water systems. During that time, the LVVWD has developed from a system serving a population of 25,000 exclusively with groundwater to a 300-square-mile water delivery network providing Colorado River water to the vast majority of its more than 375,000 customer accounts.

Today, portions of the water delivery system are nearing the end of their service lives and require reinvestment to ensure the system continues to operate at peak performance. The fiscal year 2017-18 Budget Plan reflects the LVVWD's continued commitment to maintain reliability, improve efficiency and enhance the customer experience through reinvestment in the community water system.

Capital Improvements and Asset Management

System Profile.

The LVVWD operates and maintains a

complex water distribution system consisting of:

- 4,500 miles of transmission lines
- 1,900 miles of service laterals
- 76 reservoirs
- 57 pump stations
- 921 million gallons of storage capacity
- 69 production wells
- 26 artificial recharge wells
- more than 400,000 water meters
- Solar-electric facilities with the capacity to generate 3.1 megawatts of power

Each of these components is critical to ensuring LVVWD customers have reliable access to water at all times.

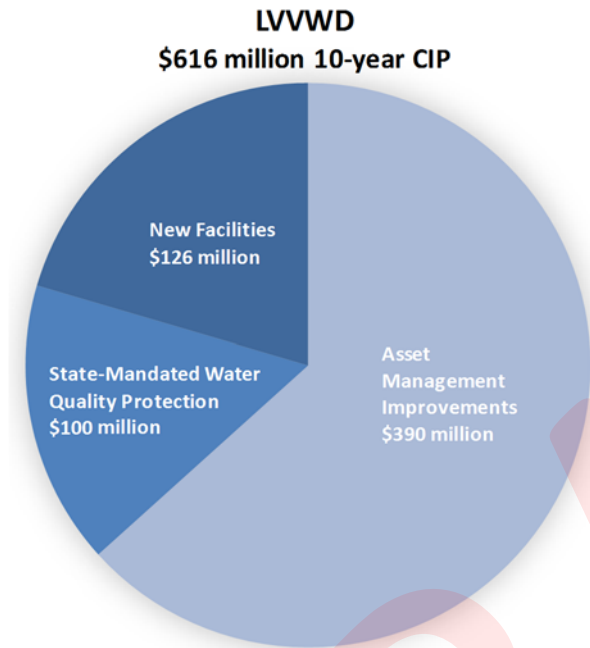
Capital Improvement Plan.

The LVVWD operates one of the most reliable and efficient public water systems in the country. Parts of the system, however, are more than 50 years old and nearing the end of their useful life. Capital improvements are necessary to continue reliable operation of the water distribution system, as well as addressing state-mandated water quality issues and new development needs. Proactive maintenance, repair and replacement of aging infrastructure aids in preventing unanticipated service outages, compromised water quality and costly emergency repairs.

In January 2017, the LVVWD Board of Directors (Board) adopted a \$616 million (in

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2016 dollars) 10-year Capital Improvement Plan (CIP) that will guide decisions related to asset management, necessary water system expansion and water quality compliance activities.



The CIP represents a significant investment over a 10-year planning horizon to facilitate improvements to the following key system components:

- Reservoirs
- Pumping Stations
- Pipelines and Service Laterals
- Valves and Vaults
- Meters
- Water Quality Systems
- Groundwater Wells
- Facilities and Building Improvements
- Electrical Systems
- Communication Systems
- New Facilities

Because the service life of these individual components vary immensely, by as much as

decades, sophisticated planning tools are utilized. These tools help create repair and replacement schedules, which allow for orderly and fiscally prudent project implementation. The precise timing and scope of individual projects is evaluated annually to optimize system efficiency and the use of ratepayer dollars.

Asset Management Improvements. Projections indicate that an investment of \$390 million will be required over the 10-year planning horizon to maintain system infrastructure in a manner that meets current service levels and water quality standards. Key projects include: reservoir and pumping station maintenance and rehabilitation; replacement and renewal of vaults and valves; pipeline and service lateral replacement; cyclical water meter replacement; and upgrades to the Supervisory Control and Data Acquisition (SCADA) control system.

Water Quality. In addition to rigorous and regular testing, the LVVWD must comply with various state and federal mandates to protect water quality throughout the system. One of these mandates is backflow protection, a mechanism that prevents the reintroduction of water from private properties into the municipal water system. Approximately 32,000 meters within the LVVWD service area do not currently have backflow protection. While a portion of these meters will be retrofitted as needed in the years to come, the LVVWD has identified more than 11,000 meters to be included in the backflow retrofit program over the next decade at an annual cost of \$10 million.

New Facilities. The LVVWD projects \$126 million will be spent on the construction of a total of four reservoirs, four pumping stations

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and associated appurtenances in the northwest, southwest and far west parts of the valley. These projects will benefit existing customers and facilitate access to the municipal water supply for planned developments.

The CIP reflects projected long-term projects and associated costs. However, all expenditures will be considered for authorization through the Board's annual budgeting process.

The initiatives outlined in the CIP will help the LVVWD maintain current service and water quality standards, ensuring continued reliability for its residential and business customers.

Service Rules and Rates Process.

In February 2016, the Board appointed a nine-member citizen's advisory committee to evaluate organizational initiatives and make recommendations to the Board. Specifically, the committee was tasked with evaluating funding options for the proposed 10-year CIP and changes to the LVVWD's Service Rules.

The committee met nine times between February and October 2016 and evaluated equity within the Service Rules, the need to invest in infrastructure maintenance, financing capital expenditures, maintaining revenue stability and other water-related issues. After careful deliberation, the committee presented 11 recommendations to the Board, including modest rate increases of 3% each in 2017 and 2018, and annual increases tied to the Consumer Price Index in the years following. Ultimately, these recommendations will fund the LVVWD's capital needs over the next 10 years and meet the reserve targets set forth in the Board-

adopted Reserve Policy.

The initial water rate increase became effective in February 2017 and resulted in a typical residential monthly water bill increasing by approximately 75 cents.

LVVWD Operations

The LVVWD provides water service to more than 1.4 million residents in the City of Las Vegas and parts of unincorporated Clark County. The LVVWD also operates the public water systems in Blue Diamond, Coyote Springs, Jean, Kyle Canyon, Laughlin and Searchlight. In 2016, the LVVWD delivered approximately 108 billion gallons of water to customers throughout its service area.

Customer Care.

The Customer Care and Field Services department provides support to customers and manages payment, payment arrangements, collection courtesy calls, delinquent account processing, high consumption concerns, field investigations, meter maintenance, water-waste complaints, billing, problem resolution and 24/7 emergency phone coverage.

Efforts to increase customer care efficiency continue to yield positive results, and staff perpetually evaluates opportunities to streamline operations and reduce costs.

Analytics Software. Customer Care and Field Services staff currently initiate between 4,000 – 5,000 phone calls per month to notify customers of abnormal meter reads potentially stemming from on-property leaks. With the recently-installed use of Itron Analytics software, staff can now conduct hourly meter reads and advise customers of

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possible leaks in an even shorter timeframe. In addition to increased responsiveness and customer interaction, this also results in decreased water waste and reduced service demands for onsite monitoring.

LVVWD.com Enhancements. The LVVWD launched a mobile website in October 2015, which became a popular tool for customers throughout the following year. In 2016, 25 percent of all visits to the LVVWD website came from mobile devices, a trend expected to increase as more customers shift to mobile devices as a primary means of internet access. The LVVWD's online and mobile experience is continually improving to bring customers the best service possible. For that reason, a brand new, fully-responsive and mobile-friendly <http://www.lvvwd.com> is expected to launch in the summer of 2017.

Technological Innovation and Partnerships.

In 2013, the Nevada Governor's Office of Economic Development partnered with the Desert Research Institute (DRI), the LVVWD, the Southern Nevada Water Authority (SNWA) and other advancing organizations to create a joint water technology venture called WaterStart. The concept was to spur innovation in the water sector and generate economic growth in Nevada by leveraging the expertise of partnering organizations. This partnership has resulted in broad benefits to the region from advancements in the areas of conservation, water treatment, security, and other areas that influence a water system's efficiency and reliability.

Since the creation of WaterStart, the LVVWD and the SNWA have made significant progress through a series of technological pilot testing programs. Recently, the organizations deployed a pipeline monitoring technology

known as PipeMinder, which monitors underground pipelines and provides real-time hydraulic data about the behavioral flow of water within the pipelines. The PipeMinder system provides high-resolution views of pressure, flows and stresses that the water distribution network experiences on a daily basis and utilizes cloud-based reporting that provides simple access to real-time data.

This technology allows the LVVWD to monitor critical areas of the water system and ensure swift responses if issues arise. Before this technology existed, water managers either excavated and replaced pipelines before they failed or waited for failures and leaks to occur and made the appropriate repairs. The LVVWD's overall asset management efforts are now bolstered with PipeMinder's data, allowing for more effective prioritization of capital projects and ensuring ratepayer dollars are maximized and managed responsibly.

Asset Management.

To continue meeting customer needs and conservation goals, water infrastructure requires constant monitoring, maintenance, rehabilitation and eventual replacement. Under the LVVWD Asset Management Plan, the condition of existing water infrastructure is assessed to forecast short- and long-term capital replacement needs. These assessments allow staff to determine costs and timelines associated with major capital projects, while ensuring the availability of adequate financial resources to replace infrastructure reaching the end of its service life. The proactive monitoring and maintenance of the LVVWD's assets help to prevent costly emergency repairs, avoid unanticipated service interruptions, reduce

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maintenance deferrals and provide a more reliable water system for its customers.

Finance

The LVVWD is engaged in proactive, long-term financial planning to identify future infrastructure needs and ensure rates are predictable and future increases mitigated.

Financial Stability.

In January 2017, the Board adopted the 11 recommendations from the citizen's advisory committee. These recommendations were developed to facilitate continued financial stability. The LVVWD also remains vigilant in seeking savings through refunding opportunities on its outstanding debt. Over the last two years, the LVVWD refunded three debt series, resulting in over \$70 million in net present value savings. These bond refundings will provide an average annual savings of \$5.4 million in debt service costs.

Project Funding.

While significant reinvestment into the community water system is critical to its operational reliability, the LVVWD is sensitive to the financial impacts that projects can have on customers and stakeholders. To help mitigate these costs, staff consistently monitors state and federal grant funding opportunities, as well as Nevada State Revolving Fund (SRF) money potentially available to support asset management projects.

In August 2014, the Board authorized the LVVWD to issue General Obligation Bonds in an amount not to exceed \$50 million through the SRF program for the purpose of financing water system improvement projects in accordance with its Asset Management Plan.

On December 1, 2014, the LVVWD entered into a Drinking Water State Revolving Fund Loan (DWSRF) contract in the amount of \$20 million to support rehabilitation projects. The LVVWD advised the State Board for Financing Water Projects of its intent to return two more times in subsequent years to request additional funding needed to meet remaining Asset Management Plan objectives.

Subsequently, in September 2016, the LVVWD entered into a \$15 million contract with DWSRF to support rehabilitation projects, including reservoir spray aeration additions and the replacement of vaults, pipelines and large meters.

On February 1, 2017, the State Board for Financing Water Projects approved the LVVWD's request for the remaining \$15 million from the DWSRF to fund a variety of necessary upgrades and improvements.

Water Resources and Conservation

The LVVWD's primary water sources include Colorado River water and groundwater aquifers within the Las Vegas Valley. Colorado River water is purchased from the SNWA, which diverts and treats water from Lake Mead. In 2016, the LVVWD's water deliveries from these combined sources totaled approximately 108 billion gallons.

Water conservation efforts continue to yield savings for the community. In calendar year 2016, the LVVWD issued 6,062 water waste letters and completed 5,911 water waste orders, resulting in \$51,000 in assessed fees. The LVVWD's average monthly water use for residential single services has declined by 38 percent over the past 14 years, from approximately 17,900 gallons per month in

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fiscal year 2000-01 to 11,100 gallons per month in fiscal year 2015-16.

Springs Preserve

In 2017, the Springs Preserve celebrates its 10th birthday. It continues to serve as a hub for sustainable education and initiatives in the community. In conjunction with its milestone anniversary, a number of permanent exhibits are opening to the public in 2017.

In February 2017, "Boomtown 1905" opened. Re-creating a historical streetscape, this exhibit transports visitors to Las Vegas' humble beginnings between 1905 and 1920. The streetscape was funded primarily through the Southern Nevada Public Lands Management Act.

The WaterWorks exhibit, scheduled to open in the near future, will offer visitors an in-depth look at the treatment and delivery process that takes place before water comes out of the tap. This exhibit was funded primarily by the One Drop Foundation, with support from the Royal Bank of Canada.

The children's playground is currently undergoing a redesign with help from students at UNLV and conceptual input from a large group of children ranging from five to ten years old. The redesigned playground is scheduled for a Fall 2017 opening.

Development of a teaching garden for local students, teachers, and visitors is currently underway. The garden will provide an opportunity to receive hands-on gardening tips as well as lessons in Science, Technology, Engineering and Math (STEM). The Roger's Foundation has generously donated \$100,000 to the Springs Preserve to develop and equip the garden.

Due to new and changing exhibits such as these, exciting programming and engaging community events, membership and admission at the Springs Preserve continue to increase. Youth and family attendance has risen by 9 percent and third party event business has grown by 15 percent. Facility staff is continuing efforts to add even more value with many new permanent exhibits coming online thanks to successful fundraising efforts.

Additionally, a Springs Preserve mobile app was launched in August 2016, offering guests tools to help them navigate the property, purchase tickets or memberships and receive information about current and upcoming events, exhibits and classes.

Financial Summary

The table on the following page contains a summary of the LVVWD's fiscal years 2015-16, 2016-17 and 2017-18.

Las Vegas Valley Water District
Operating and Capital Budget
General Manager's Information Report
Fiscal Year Ending June 30, 2018



Budget Summary
(\$ Millions)

	Actual 2015-16	Budget 2016-17	Budget 2017-18	Budget-to-Budget Variance	
				\$	%
Sources					
Tiered Consumption	\$ 251.0	\$ 255.9	\$ 267.4	\$ 11.5	5%
Service Charge	62.8	62.5	67.0	4.5	7%
Backflow Charge	9.0	8.9	10.6	1.7	19%
Reclaimed Water	6.8	7.2	7.7	0.5	7%
Other Water Bill Charges	5.2	5.5	5.3	(0.1)	-3%
Facilities Connection Charge	13.2	17.8	15.6	(2.2)	-12%
Application & Inspection Fees	2.4	3.6	3.0	(0.7)	-18%
Investment Income	2.8	1.5	2.7	1.1	73%
Springs Preserve	2.6	2.5	3.0	0.5	21%
Subtotal	\$ 355.9	\$ 365.5	\$ 382.4	\$ 16.9	5%
Debt Issuance Proceeds	2.4	18.4	122.1	103.7	
LVVWD Sources	\$ 358.3	\$ 383.9	\$ 504.5	\$ 120.6	31%
Uses					
Purchased Water	\$ 87.1	\$ 87.5	\$ 89.8	\$ 2.3	3%
Energy	9.8	11.8	11.2	(0.6)	-5%
Payroll & Related	120.0	120.6	128.8	8.2	7%
Operating Expenses	35.2	49.6	47.9	(1.7)	-3%
Capital Expenditures	32.2	54.1	85.9	31.8	59%
Debt Service	58.8	59.7	65.4	5.7	10%
LVVWD Uses	\$ 343.1	\$ 383.2	\$ 429.0	\$ 45.8	12%
LVVWD Net Surplus/(Deficit)	\$ 15.2	\$ 0.7	\$ 75.5		
SNWA Charges					
Infrastructure Charge	\$ 75.9	\$ 109.0	\$ 106.2	\$ (2.8)	-3%
Commodity Charge	40.8	45.7	49.4	3.7	8%
Connection Charge	42.7	47.6	44.5	(3.1)	-6%
Reliability Surcharge	3.7	4.0	3.9	(0.1)	-3%
SNWA Charges	\$ 163.2	\$ 206.3	\$ 204.0	\$ (2.3)	-1%
Total Sources	\$ 521.5	\$ 590.2	\$ 708.5	\$ 118.3	20%
Total Uses	506.3	589.5	633.0	43.5	7%
Total Net Surplus/(Deficit)	\$ 15.2	\$ 0.7	\$ 75.5		

Sources.

The 2017-18 Budget Plan's total sources of funds are projected to be \$708.5 million, or a 20 percent increase compared to the 2016-17 Adopted Budget Plan. The increase is due to

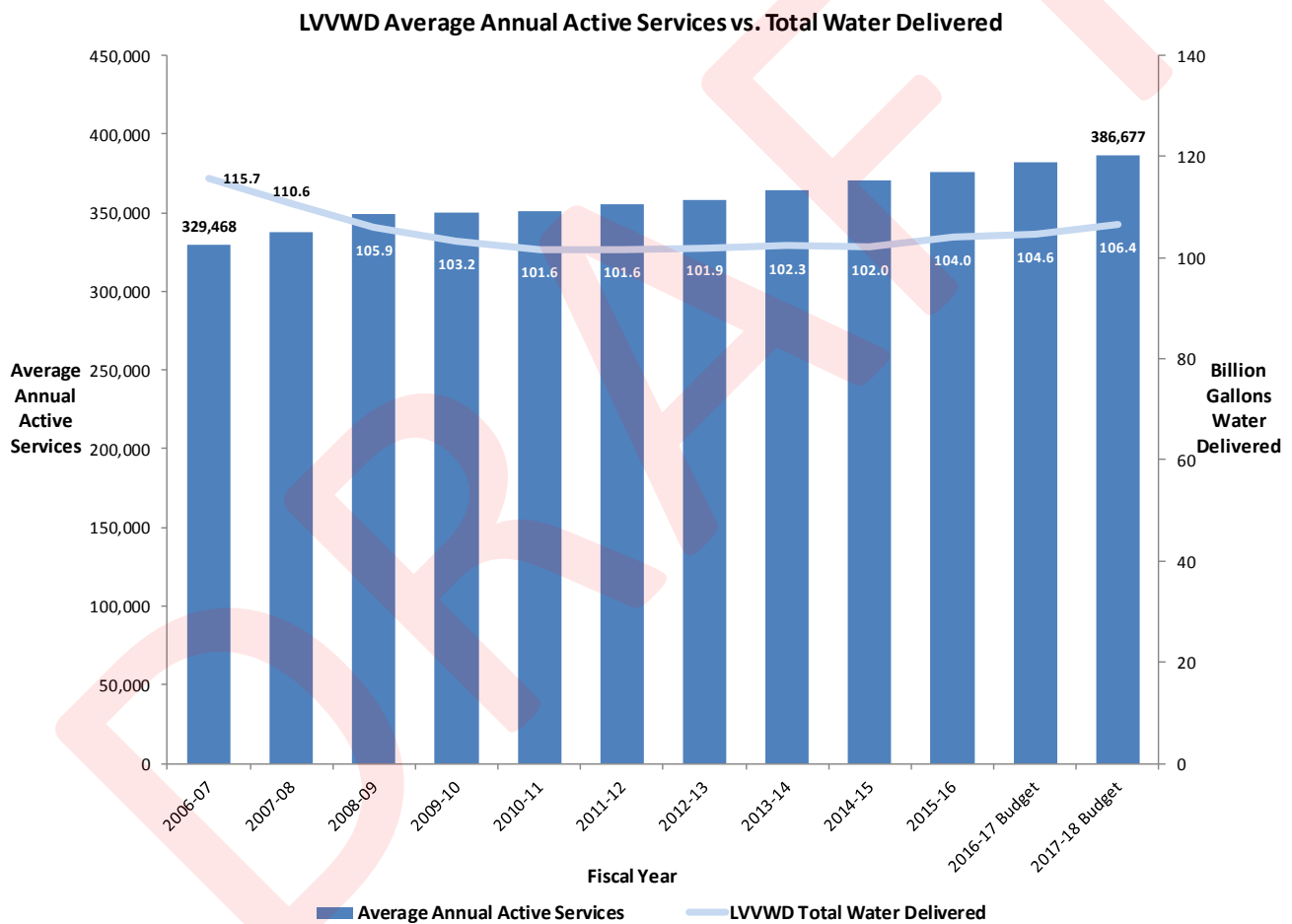
proceeds from projected debt issuances, \$100 million in municipal bonds and \$22.1 million in SRF. The LVVWD revenue-based sources of funds are increasing \$120.6 million, or 31 percent. Tiered consumption charges are increasing \$11.5 million, or 5 percent, and the

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service charge by \$4.5 million, or 7 percent. Both tier consumption and service charge revenues are rising based on water rate increases adopted by the Board in January 2017. Also, increasing these elements is a projected 1.5 percent growth in the number of active services. This continues a recent pattern of growth, however the 1.5 percent estimate is below Clark County's population growth projection of 1.8 percent from UNLV's

Center for Business and Economic Research (CBER), reflection the trend of the LVVWD's account growth's tendency to lag slightly behind CBER's population growth forecasts.

While growth in accounts continues, water deliveries (sales) have been relatively flat over the last number of years, as illustrated in the chart below.



The Backflow Charge, collected on services with a backflow device, is expected to rise by \$1.7 million, or 19 percent. The expected increase is due to a greater quantity of customers incurring the backflow charge. Facilities Connection Charges are expected to decline by \$2.2 million, or 12 percent, due to

the recent pace of new service connections moderating. The Springs Preserve's revenue is also expected to rise, continuing its trend of steady growth.

The 2017-18 budget includes a \$100 million debt issuance to fund capital improvements

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as the LVVWD embarks on its 10-year CIP. Proceeds from the SRF loan are also included in this budget. The SRF loan from the Nevada State Board for Financing Water Projects contains favorable interest rate terms, and is facilitating water system infrastructure improvements. In fiscal year 2017-18, \$22.1 million is projected to be reimbursed through the SRF.

Uses.

The 2017-18 Budget Plan's total uses of funds are projected to be \$633.0 million, or a 7 percent increase compared to the 2016-17 Adopted Budget Plan. The increase is largely due to the rise in capital expenditures, which are expected to rise by \$31.8 million, or 59 percent. This increase is attributable to the \$616 million 10-year CIP adopted by the Board in January 2017.

Cumulatively, purchased water and energy costs are projected to rise a combined 2 percent. Payroll costs are anticipated to increase by \$8.2 million, or 7 percent, compared to the 2016-17 Adopted Budget Plan. The full time equivalent (FTE) employee count is projected to increase to support demands and the CIP.

Non-payroll operating expenses are projected to decrease \$1.7 million, or 3 percent. The LVVWD continues to take advantage of efficiencies to reduce these expenses. Debt service is anticipated to increase by \$5.7 million, due to the projected issuance of new debt described earlier.

Summary.

The financial summary table projects a 2017-18 surplus of \$75.5 million. The LVVWD's fiscal

year 2017-18 Budget Plan presents a stable outlook.

Approval

The public hearing for the 2017-18 Budget Plan is scheduled for 9:45 a.m., Monday, May 15, 2017, in the Clark County Commission Chambers of the Clark County Government Center at 500 South Grand Central Parkway, Las Vegas, Nevada.


John J. Entsminger, General Manager

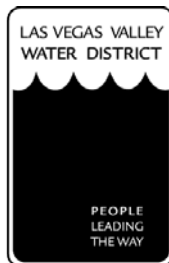
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SECTION 2

INTRODUCTION AND STRATEGIC PLAN

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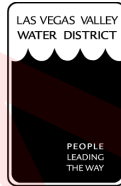


LAS VEGAS VALLEY WATER DISTRICT

FISCAL YEAR 2017-18

OPERATING AND CAPITAL BUDGET

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Operating and Capital Budget
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Introduction

Purposes and Powers.

The Las Vegas Valley Water District (LVVWD) was created under a special act of the State of Nevada's legislature in 1947 for the purpose of obtaining and distributing water primarily in the Las Vegas Valley, including Blue Diamond, Jean and Searchlight, Nevada. The LVVWD also manages the water districts of Kyle Canyon, Searchlight, Coyote Springs and Big Bend under contracts with Clark County. The map on the following page shows the areas served by the LVVWD in relation to Clark County, Nevada.

The LVVWD has been granted certain powers to achieve its purpose, including the right of eminent domain, the right to cause taxes to be levied, the right to create assessment districts, the responsibility to operate and maintain the Southern Nevada Water Authority's (SNWA) regional treatment and transmission system and the right to incur indebtedness.

The LVVWD is governed by a seven-member Board of Directors (LVVWD Board), all of whom are elected Clark County Commissioners. The LVVWD Board has the sole power to set rates and charges for water, and charges cannot be put into effect until the conclusion of a public hearing process. The Las Vegas Valley Water District Act and applicable Bond Covenants provide that rates and charges should be sufficient to provide for operation and maintenance costs, general expenses of the LVVWD, and principal and interest payments on outstanding debt. Although the LVVWD Board may levy a tax on all taxable property within the LVVWD service

area, such a tax never has been levied. The daily operations of the LVVWD are overseen by the General Manager, appointed by the LVVWD Board.

Intergovernmental Relationships.

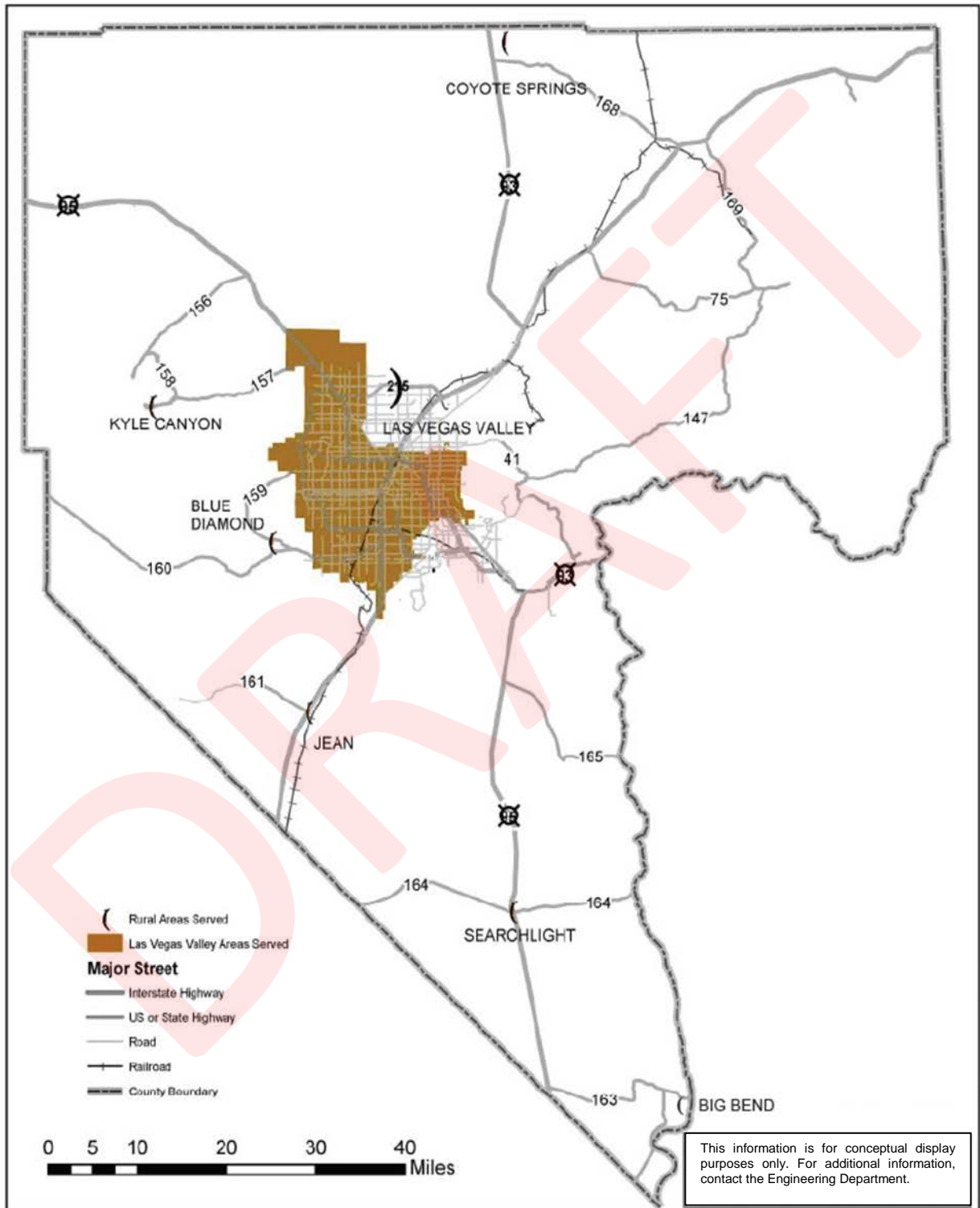
The LVVWD plays a vital role in the management of water resources in Southern Nevada. To fulfill this role, the LVVWD must work effectively and cooperate with state and federal governments, numerous local jurisdictions and other local water purveyors. These relationships play a vital role in shaping not only the demands on the LVVWD, but also the fiscal year 2017-18 Budget Plan. The following describes these intergovernmental relationships.

Las Vegas Valley Water District. The LVVWD serves potable water to customers in the City of Las Vegas and unincorporated urban areas of Clark County, Nevada. As the largest water purveyor in Southern Nevada, the LVVWD has taken a leadership role in conservation and regional water issues. The LVVWD provides the operating staff for the SNWA. The General Manager of the LVVWD serves as the General Manager of the SNWA.

Southern Nevada Water Authority. In 1991, the cities of Las Vegas, North Las Vegas, Henderson, and Boulder City, and the Big Bend Water District, Clark County Water Reclamation District and the LVVWD formed the SNWA to develop additional water resources and to address water issues on a regional basis. The Board of Directors of the SNWA (SNWA Board) consists of one member selected from each of the member agencies.

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Areas Currently Served



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Southern Nevada Water System (SNWS). The SNWS is the regional system consisting of water treatment plants, pumping and distribution facilities supplying water to the water purveyors in Southern Nevada. Prior to 1996, the SNWS was owned by the Colorado River Commission and operated by the LVVWD. In accordance with legislation passed by the Nevada State Legislature during its 1995 session, the SNWS was transferred to the SNWA in January 1996. The LVVWD continues to operate the SNWS.

Major Water Purveyors. The major water purveyors and the percentages of Colorado River water distributed in the Las Vegas area for the fiscal year ended June 30, 2016, are as follows: Boulder City (2.5 percent), Henderson (15.8 percent), North Las Vegas (12 percent), the LVVWD (69.5 percent) and others (0.2 percent).

Wastewater Treatment Agencies. The wastewater treatment agencies are as follows: City of Henderson, City of Las Vegas, City of North Las Vegas and the Clark County Water Reclamation District.

Colorado River Commission (CRC). The CRC is a Nevada State agency created in the mid-1930's to acquire and protect Nevada's

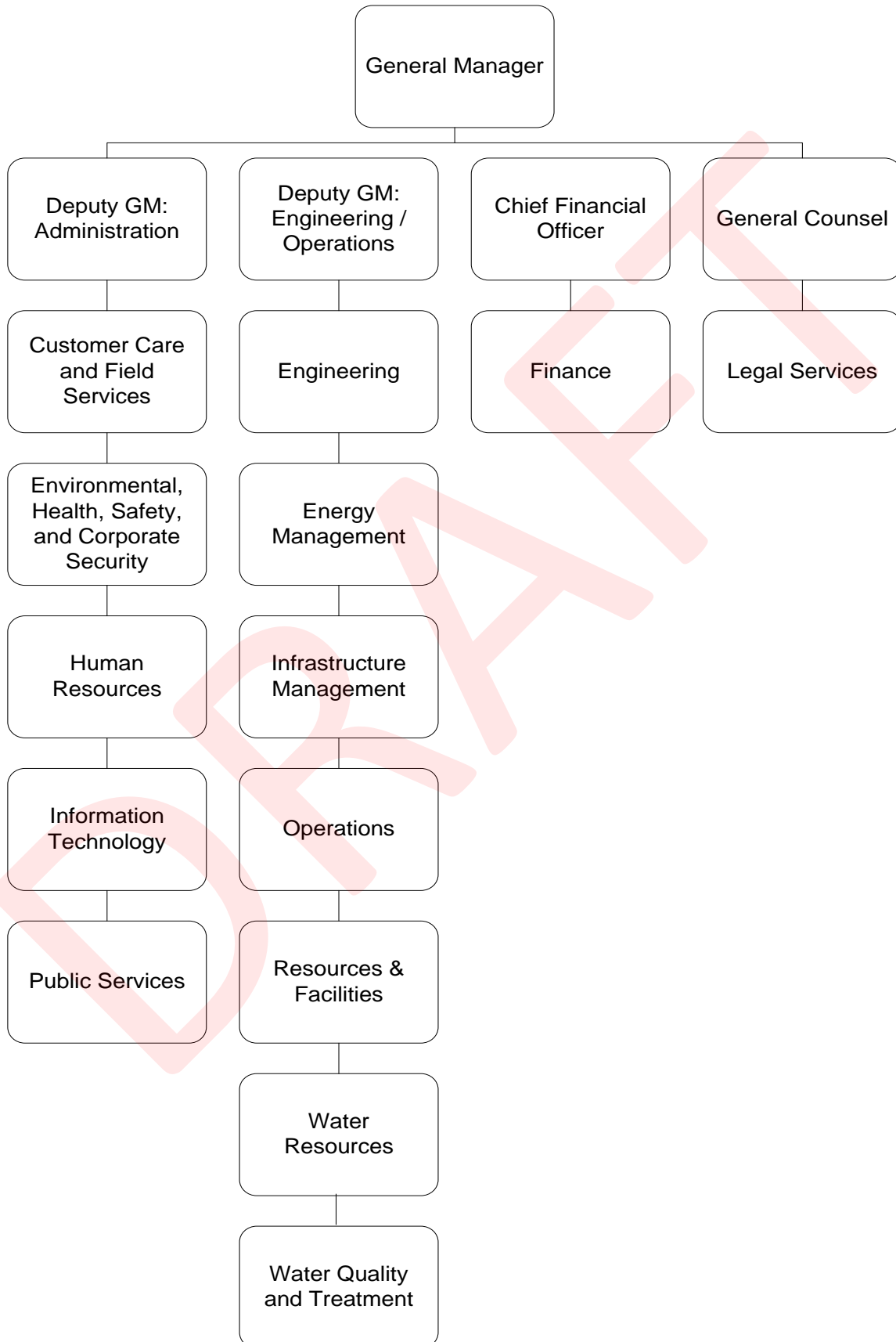
right to water and power resources from the Colorado River. Colorado River water is apportioned among the seven Colorado River basin states and Mexico. The seven-member CRC consists of four members appointed by the Governor (including the Chairperson) and three SNWA Board members.

Bureau of Reclamation (BOR). The Bureau of Reclamation, within the U.S. Department of the Interior, is responsible for managing the Colorado River to benefit the users with Colorado River water rights. Any changes to the laws governing the Colorado River benefiting Nevada require the cooperation and approval of the federal government and all seven of the basin states.

Organizational Structure.

The LVVWD's organizational structure has evolved to meet the demands of major water facility expansions, conservation, customer service initiatives, and special projects. During the past two years, the LVVWD's departments and divisions went through extensive restructuring to provide more cost efficiencies and a better customer service experience. The organization chart on the following page reflects the LVVWD's current organizational structure.

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Financial Structure and Controls.

The LVVWD's financial reporting structure is fund based. A fund is defined as a separate, self-balancing set of accounts used to account for resources segregated for specific purposes in accordance with special regulations, restrictions, and/or limitations. The LVVWD maintains two funds, a proprietary enterprise fund and a fiduciary pension trust fund. Both funds utilize full-accrual accounting.

Proprietary Fund Type - Enterprise Fund. The Enterprise Fund is used to account for the LVVWD's operations in a manner similar to private business enterprises. The intent of the LVVWD is to establish water user rates and charges sufficient to provide for payment of general operation and maintenance expenses, capital improvements and annual debt service. Revenues are recognized when they are earned, and expenses (including depreciation) are recognized when they are incurred.

Fiduciary Fund Type - Pension Trust Fund. The Pension Trust Fund is used to report the assets and liabilities of the LVVWD's defined benefit pension plan and the additions and deductions during the fiscal reporting period. The resources of the Pension Trust Fund are held in trust for the members and beneficiaries of the plan.

Capital and Debt Service Accounting. Capital and debt service finances are accounted for separately within the overall structure of the Enterprise Fund. Bond issuance resolutions require that bond proceeds be maintained in restricted acquisition and construction accounts until they are expended. Assets restricted for specific

purposes (e.g. additions to plant or repayment of bonds) and liabilities payable from such assets are accounted for separately until disposition. Earnings on these assets also are considered restricted. Fund equity is restricted for assets, less related liabilities, which are restricted by law or other externally imposed regulations, such as bond covenants.

Internal Controls. In developing and evaluating the LVVWD's accounting system, consideration is given to the adequacy of internal accounting controls. These controls are designed to provide reasonable, but not absolute, assurance regarding the safeguarding of assets against loss from unauthorized use or disposition; and the reliability of financial records for preparing financial statements and maintaining accountability for assets. The concept of reasonable assurance recognizes the cost of a control should not exceed the benefits likely to be derived and the evaluation of costs and benefits requires estimates and judgments by management. All internal control evaluations occur within the above framework. The LVVWD's internal accounting controls safeguard assets and provide reasonable assurance of proper recording of financial transactions. On an ongoing basis, the LVVWD evaluates its internal controls and implements changes in response to dynamic operations.

Debt Administration. It is the general intent of the LVVWD that rates and charges are adequate to provide for all costs, and reliance on taxes is to be avoided. Ad valorem taxes have never been required to support the LVVWD's operations or debt service. As of July 1, 2017, the LVVWD has \$799 million in outstanding general debt. All applicable bond covenants, such as ratios of net income to

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debt service, sinking funds and insurance coverage have been met or exceeded. The LVVWD does not have a statutory debt limit. Currently, Standard and Poor's Corporation rating for the LVVWD's general obligation bond issues is "AA", while Moody's Investor Service, Inc. rating for outstanding LVVWD general obligation bonds is "Aa1".

Cash Management. During the year, available operating funds are invested in obligations of the United States agencies and in commercial paper with credit ratings of A-1, P-1 or its equivalent, or better. Investments are purchased through recognized and regulated brokers dealing in government securities. Investments are made with the objective of obtaining a market rate of return appropriate in relation to the prevailing budgetary and economic environment. Investments of the LVVWD are independently reviewed by an external auditor, and are reported in the LVVWD's annual financial report. All investments are held by a bank's trust department in the LVVWD's name.

Risk Management. The LVVWD employs a multifaceted approach to risk management, which includes the transfer, elimination, avoidance, reduction and/or assumption of risk of loss. The LVVWD also purchases risk insurance (including terrorism insurance) from the commercial insurance market on real and personal property, including earthquake and flood, with common policy restrictions, covering direct physical loss of or damage to buildings, fixtures, equipment, boilers, machinery and supplies. The blanket limit of liability under the property insurance program is \$500 million per occurrence with a deductible of \$1 million per occurrence. The program also includes earthquake coverage (\$100 million limit) and flood coverage (\$50

million limit) each having a \$100,000 deductible. The LVVWD self-insures the first \$1 million for its automobile and general liability exposure and purchases \$30 million of excess liability insurance. The LVVWD self-insures its workers' compensation exposure up to \$500,000 per claim and purchases excess workers' compensation insurance, which provides statutory limits over the self-insured limit.

In contracts, the LVVWD obtains indemnification and hold-harmless agreements, and requires contractors name the LVVWD as an additional insured under the indemnitor's insurance coverage, usually \$1 million to \$10 million, for commercial general and auto liability insurance. The LVVWD provides builders risk insurance for all construction projects with a blanket limit of \$100 million per contract, or higher as needed, with a \$50,000 deductible per claim, except earthquake and flood, where the deductible is \$500,000 per claim.

Budget Controls and Process.

Budget Controls. By state statutes, the LVVWD's budget is approved annually, following a public hearing process, by the LVVWD Board. The LVVWD annually prepares a budget on a modified cash basis. The LVVWD also prepares and submits a budget to the Nevada State Department of Taxation in accordance with statutory laws based on a full accrual basis. Budgetary controls are established at the levels of total estimated operating and non-operating expenses. A utility or other enterprise is a self-supporting operation of a commercial nature, and the demand for service largely determines the appropriate level of revenues and expenditures. Depending upon the timing and

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level of the demand for services, revenues and expenditures will vary.

Budgetary controls are established at various levels to have effective control over the necessary expenditures. These levels always include departments and divisions and, in some instances, sections. Most disbursements are made through the issuance of purchase orders. The purchasing division in the Finance department administers purchases of new furniture, vehicles, and communication equipment. Computer equipment purchases are administered under the authority of the Director of the Information Technology department. The Finance department prepares and distributes monthly budget variance reports, and division managers can electronically access their budget information using the Oracle Financial System. Division managers are accountable for variances between the budgeted and actual expenditures. The LVVWD's staffing is controlled by the Human Resources department.

Budget Process. The LVVWD's budget process starts in December of each year, and proceeds with a series of meetings involving department directors and/or managers. Financial analysis is done to project the revenues under the projected water rate structure. The revenue projections are based on the estimated water the LVVWD is planning to deliver in the coming year. The budget reflects the strategies and goals adopted by the LVVWD.

The LVVWD's budget staff distributes current and historical information to managers to assist in the preparation of budgets within the budgeting guidelines. The budget process consists of three major phases. The first phase

includes preparing new requests for capital equipment, construction projects and staff positions for the new fiscal year. The second phase consists of preparing department-operating budgets, including payroll and related expenditures. Estimating payroll and related expenditures are based on current approved positions and factors based on historical adjustments throughout the year. The third phase involves department directors, managers and supervisors meeting with Executive Management to justify expenditure requests. After all the departments' budgets have been reviewed and approved by the Executive Management Office, the budget is consolidated for the entire LVVWD, and an initial proposed budget document is submitted to the Nevada State Department of Taxation by April 15. The state then reviews the proposed budget and issues a notice of compliance or noncompliance with the statutory laws of the State of Nevada.

The LVVWD, in late April or early May, conducts a working session with the LVVWD Board to review the proposed budget in detail. On the third Monday in May, the LVVWD Board conducts a public hearing to allow the public an opportunity to discuss the proposed budget, and after discussion and/or amendments, the proposed budget receives final approval from the LVVWD Board. The approved final budget document is filed with the State of Nevada. Once approved and filed, copies of their budgets are provided to departments. The approved budget is implemented on July 1, the first day of the new fiscal year.

Budget Augmentation. Nevada State law (NRS 354.493) defines budget augmentation as a procedure for increasing appropriations of a fund with the express intent of employing


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unbudgeted resources to carry out the purpose for the increased appropriations. To augment the budget, the LVVWD Board must adopt a resolution providing for an augmentation at a regular meeting of the LVVWD Board by majority vote of all members. Budget augmentation becomes


effective when an executed copy of the resolution for augmentation is delivered to the State of Nevada Department of Taxation.

DRAFT

FISCAL YEAR 2017-18 BUDGET CALENDAR

	All Departments	Financial Services	Executive Management	Human Resources
Dec	Tue Dec 13 – Wed Jan 18 Personnel related requests will be coordinated through each department's Director and Deputy General Manager	Tue Dec 13 Budget instructions and calendar sent to departments		Dec December organization charts distributed to departments. Adjustments to organization charts due to Human Resources by Wednesday, January 18, 2017
		Wed Dec 14 Operating expense files sent and departments assistance begins		Thu Dec 22 List of existing interns and summer hire positions distributed to departments. Updates, corrections and new requests due to Human Resources by Wednesday, January 18, 2017
		Wed Dec 14 Coordination of budget process and schedule begins		
Jan	Wed Jan 18 Adjustments to organization charts submitted to Human Resources	Thu Jan 19 Major data processing and equipment requests submitted to Information Technology and Fleet Services for review and coordination		Thu Jan 19 List of existing interns and summer hire position renewals sent to Financial Services
	Wed Jan 18 Final requests for interns and summer hire positions submitted to Human Resources	Mon Jan 23 Coordination with departments incurring intercompany and overtime payroll costs begins		
	Thu Jan 26 Final 2017-18 capital budget requests and operating expense budgets submitted to Financial Services			

FISCAL YEAR 2017-18 BUDGET CALENDAR

	All Departments	Financial Services	Executive Management	Human Resources
Feb	Mon Feb 6 Budget narrative instructions received	Mon Feb 6 Budget narrative instructions sent to departments		
		Mon Feb 27 Summaries and detail of operating expense & capital expenditure budgets sent to departments		
		Mon Feb 27 Assisting departments in preparation for the Senior Management Team (SMT) budget meeting presentations begins		
Mar		Tue Mar 7 Budget overview briefing with Executive Management (E-team)	Tue Mar 7 Budget overview briefing with Executive Management (E-team)	
	Tue Mar 14 Department proposed budget meetings with SMT	Tue Mar 14 Department proposed budget meetings with SMT	Tue Mar 14 Department proposed budget meetings with SMT	
	Mon Mar 20 Budget narratives submitted to Financial Services		Tue Mar 14 – Mon Mar 20 Final budget decisions made by Executive Management	
Apr		Thu Apr 6 Proposed draft budgets completed for Budget Workshops with Boards of Directors	Thu Apr 20 Board of Directors Budget Workshops for SNWA	
		Thu Apr 13 Preliminary Budgets filed with the Nevada State Department of Taxation	Mon Apr 24 Board of Directors Budget Workshops for LVVWD (including BBWD & Coyote Springs)	

FISCAL YEAR 2017-18 BUDGET CALENDAR



All Departments	Financial Services	Executive Management	Human Resources
May	Thu May 4 LVVWD, BBWD, and Coyote Springs Public hearing notice published in LVRJ	Mon May 15 LVVWD Board of Directors public hearings conducted on proposed budgets of LVVWD, Big Bend, and Coyote Springs for possible adoption	
	Tue May 9 SNWA Public hearing notice published in LVRJ		
	Thu May 25 Adopted budgets sent to the Nevada Department of Taxation	Thu May 18 SNWA Board of Directors public hearing conducted on the proposed budget for possible adoption	
	Thu Jun 22 LVVWD, SNWA, BBWD & Coyote Springs annual summary fiscal reports published in LVRJ		
Jun			
Jul	Thu Jul 27 Proof of publication of fiscal reports submitted to the Nevada State Department of Taxation		
Aug	Thu Aug 10 Budget Award Application submitted to the GFOA		

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Las Vegas Valley Water District Strategic Plan

Strategic Plan Background.

The LVVWD's Strategic Plan represents the latest iteration in the LVVWD's long-standing commitment to self-assessment, continuous improvement, and comprehensive planning. The Strategic Plan provides future direction for the LVVWD, both in its role as a local water purveyor and in its operational and management support of the SNWA.

To respond to a variety of rapidly changing factors impacting the LVVWD, senior management and employees of the LVVWD, with policy guidance from the LVVWD Board, completed a comprehensive Strategic Plan in 1993. The LVVWD's Strategic Plan identified forces influencing decision-making and formulated goals and strategies to guide the LVVWD in responding to the challenges, and evolve into a dynamic, responsive and effective organization. In 1997, the LVVWD revised its original plan to reflect its evolving role in supporting and managing the SNWA, as well as meeting demands as a local water purveyor. In fiscal year 2003-04, senior management and staff completed a review and updated the goals and strategies of the LVVWD's Strategic Plan, and a revised plan with new goals and strategies was presented to and adopted by the LVVWD Board. At the same time, staff initiated strategic planning meetings with the SNWA member agencies, resulting in the identification of goals to guide the future of the SNWA, and provide a foundation for common understanding between the LVVWD and the SNWA.

In fall 2012, the Senior Management Team

began meeting to develop a new strategic plan. This strategic planning process allows the LVVWD and the SNWA to continue to respond to current economic conditions, plan for future needs and implement changes to ensure efficient and effective operations. The revised strategic plan was finalized and the organization-wide implementation launched in 2013.

Strategic Plan and 2017-18 Budget Plan Preparation.

The LVVWD's Strategic Plan serves as a guide in the development of the LVVWD's annual Budget Plan. The Strategic Plan is used to guide and focus operational objectives and subsequently budget plan investments for the upcoming year. In section 5 of the 2017-18 Budget Plan, each department has established objectives for the upcoming year according to the relevant and existing Strategic Plan goal it is designed to address.

The LVVWD has a long-standing commitment to self-assessment, continuous improvement, customer service and comprehensive planning, and has undergone several strategic planning initiatives over the past several decades to ensure the organization has a framework for action and is prepared to address dynamic environmental and economic challenges. The Strategic Plan developed in 2013 addresses the current economic climate, organizational realignment and operational needs.

For the past decade, Southern Nevada has weathered unprecedented drought conditions on the Colorado River and, more recently, has survived the effects of the recent economic downturn. The recession impacts included a change in the community's

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business environment, a decrease in water sales and sales tax revenue, and a significant decrease in the SNWA connection charges. During this period of economic uncertainty, organizational structure and budgetary issues have been closely evaluated to ensure the organization's focus meets current community needs. The strategic plan represents a roadmap for the next three to five years which realigns the organization's focus on enhancing service levels, improving asset management, providing rate stability and streamlining the organization to meet current and future community needs.

The strategic planning process developed a "blueprint" to increase communication, emphasize accountability, and continue to cut costs and eliminate duplication in a manner representative of the organization's commitment to internal efficiency and exemplary customer service. The plan also establishes goals to facilitate these objectives.

The strategic planning process involved management and employees in all departments through a comprehensive exercise to: assess the organizations and their current environment; review and clarify the organizational vision, mission and values; and develop goals and strategies to support these objectives. By involving all levels of employees in the development of measures, milestones and standards of excellence, and incorporating their input into the strategic plan, the entire workforce has had the opportunity to engage in the implementation of the new Strategic Plan. Additionally, each workgroup has the ability to monitor its own progress through an online administrative tool.

As a result of this strategic planning process, a

new vision, mission and goals were developed:

VISION

**To be a global leader in service,
innovation and stewardship**

MISSION

**Provide world class water service in a
sustainable, adaptive and responsible
manner to our customers through
reliable, cost-effective systems**

GOALS

- Assure quality water through reliable and highly efficient systems.
- Deliver an outstanding customer service experience.
- Anticipate and adapt to changing climatic conditions while demonstrating stewardship of our environment.
- Develop innovative and sustainable solutions through research and technology.
- Ensure organizational efficiency and manage financial resources to provide maximum customer value.
- Strengthen and uphold a culture of service, excellence and accountability.

Strategic Plan Strategies.

In order to implement the goals of the Strategic Plan, the LVVWD prepared the following strategies:

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Assure quality water through reliable and highly efficient systems.

- Provide a high quality drinking water supply and delivery system that is sustainable and promotes the vitality and prosperity of the community.
- Maintain high levels of reliability through application of a sufficiently funded asset management program.
- Sustain operational continuity with a sufficiently staffed, well-trained and skilled workforce.
- Continually improve operating efficiencies by benchmarking to leading industry standards.
- Ensure a high quality of local and regional water resources through comprehensive water quality and watershed management.

Deliver an outstanding customer service experience.

- Assess customer satisfaction, establish benchmarks and determine where improvements are required.
- Continuously improve service processes and practices based on customer assessments.
- Utilize appropriate technology to simplify and improve the customer experience.
- Provide necessary training and development to ensure a quality customer service experience.
- Communicate with and receive continuous feedback from employees on organizational policy changes and improvements.
- Monitor other organizations/industries to identify

innovations, best practices and ways to improve the customer experience.

Anticipate and adapt to changing climatic conditions while demonstrating stewardship of our environment.

- Enhance understanding of climate change impacts among ourselves and our stakeholders.
- Develop and implement adaptation plans to reduce or mitigate impacts of climate change on water and environmental resources.
- Conduct long-term water resources and facilities planning to ensure adequate resources are available when needed.
- Develop and implement proactive stewardship for environmental resources to ensure access to current and future water supplies.
- Champion innovative water efficiency initiatives to maximize beneficial use of resources.
- Incorporate sustainable best practices into organization initiatives and inspire positive change.

Develop innovative and sustainable solutions through research and technology.

- Identify, prioritize and implement sustainable and cost-effective solutions to organizational challenges.
- Promote a culture that is innovative and creative, and makes effective use of technology.
- Allocate the resources necessary to advance research, technology and other innovations.
- Develop and strengthen partnerships

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on a global basis to leverage resources and advance innovation.

performance to enhance collaboration, accountability and excellence.

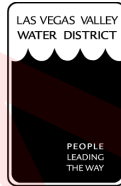
Ensure organizational efficiency and manage financial resources to provide maximum customer value.

- Increase customer communication so there is a better understanding of the value of our products and services.
- Ensure predictable rates that are aligned with community expectations.
- Seek out and deploy worldwide best practices to minimize costs.
- Establish and utilize benchmarks to explore new opportunities for improved efficiencies.
- Formulate risk assessments and develop alternatives for expenditure decisions.

Strengthen and uphold a culture of service, excellence and accountability.

- Improve the consistency and openness of communication to ensure employees are engaged and well informed.
- Increase the effectiveness of professional development by providing additional diverse learning opportunities.
- Hold ourselves accountable for delivering quality products and services to our customers, each other and the environment.
- Identify, monitor and measure key performance areas of the organization, openly sharing results and taking appropriate action.
- Provide and seek timely feedback on individual, team and departmental

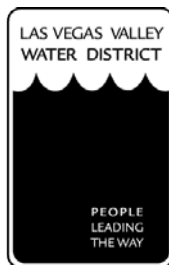
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SECTION 3

OPERATING AND CAPITAL BUDGET PLAN

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LAS VEGAS VALLEY WATER DISTRICT

FISCAL YEAR 2017-18

OPERATING AND CAPITAL BUDGET

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Las Vegas Valley Water District
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The fiscal year 2017-18 Budget Plan reflects the continued commitment of the Las Vegas Valley Water District (LVVWD) to provide water resources and services to meet the demands of Southern Nevada. The LVVWD utilizes its Strategic Plan as a guide in shaping its annual Budget Plan. The fiscal year 2017-18 Budget Plan's total sources of funds are projected to be \$708.5 million, or a 20 percent

increase compared to the fiscal year 2016-17 Adopted Budget Plan. The fiscal year 2017-18 Budget Plan's total uses of funds are projected to be \$633.0 million, or a 7 percent increase compared to the fiscal year 2016-17 Adopted Budget Plan. The table below shows the Sources and Uses Summary for the 2015-16, 2016-17, and 2017-18 fiscal years.



Budget Summary

	Actual 2015-16	Budget 2016-17	Budget 2017-18	Budget-to-Budget Variance	
				\$	%
Sources					
Tiered Consumption	\$ 251,025,077	\$ 255,890,147	\$ 267,429,244	\$ 11,539,097	5%
Service Charge	62,793,248	62,517,823	67,033,028	4,515,205	7%
Backflow Charge	8,994,140	8,927,435	10,643,537	1,716,102	19%
Reclaimed Water	6,821,196	7,159,659	7,684,175	524,515	7%
Other Water Bill Charges	5,204,561	5,476,852	5,339,627	(137,225)	-3%
Facilities Connection Charge	13,239,500	17,834,027	15,620,696	(2,213,330)	-12%
Application & Inspection Fees	2,443,875	3,648,690	2,992,749	(655,941)	-18%
Investment Income	2,779,289	1,529,036	2,652,683	1,123,646	73%
Springs Preserve	2,643,382	2,467,496	2,997,596	530,100	21%
Subtotal	\$ 355,944,268	\$ 365,451,165	\$ 382,393,334	\$ 16,942,169	5%
Debt Issuance Proceeds	2,391,518	18,405,100	122,098,200	103,693,100	
LVVWD Sources	\$ 358,335,786	\$ 383,856,265	\$ 504,491,534	\$ 120,635,269	31%
Uses					
Purchased Water	\$ 87,093,101	\$ 87,458,203	\$ 89,765,896	\$ 2,307,692	3%
Energy	9,761,793	11,777,000	11,225,500	(551,500)	-5%
Payroll & Related	120,041,051	120,632,583	128,842,350	8,209,767	7%
Operating Expenses	35,224,542	49,601,387	47,914,785	(1,686,602)	-3%
Capital Expenditures	32,199,325	54,055,708	85,873,520	31,817,812	59%
Debt Service	58,809,008	59,678,956	65,376,847	5,697,891	10%
LVVWD Uses	\$ 343,128,821	\$ 383,203,838	\$ 428,998,898	\$ 45,795,059	12%
LVVWD Net Surplus/(Deficit)	\$ 15,206,966	\$ 652,426	\$ 75,492,636		
SNWA Charges					
Infrastructure Charge	\$ 75,898,495	\$ 109,022,736	\$ 106,191,818	(2,830,918)	-3%
Commodity Charge	40,842,592	45,710,334	49,439,360	3,729,027	8%
Connection Charge	42,728,316	47,598,064	44,513,446	(3,084,619)	-6%
Reliability Surcharge	3,737,316	4,008,588	3,888,655	(119,933)	-3%
SNWA Charges	\$ 163,206,720	\$ 206,339,722	\$ 204,033,279	\$ (2,306,443)	-1%
Total Sources	\$ 521,542,506	\$ 590,195,987	\$ 708,524,813	\$ 118,328,826	20%
Total Uses	506,335,540	589,543,561	633,032,177	43,488,616	7%
Total Net Surplus/(Deficit)	\$ 15,206,966	\$ 652,426	\$ 75,492,636		

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Sources

The fiscal year 2017-18 Budget Plan's total sources of funds are projected to be \$708.5 million, which is a 20 percent increase compared to the 2016-17 Adopted Budget Plan. This increase is largely due to proceeds of \$122.1 million from projected debt issuances.

Another reason for the increase in sources of funds are the implementation of the Board adopted water rate adjustments, which were a result of the LVVWD's citizen's advisory committee (CAC) process.

The CAC met nine times between February and October 2016 and evaluated equity within the Service Rules, the need to invest in infrastructure maintenance, financing capital expenditures, maintaining revenue stability and other water-related issues. After careful deliberation, the committee presented 11 recommendations to the Board, which included modest tier consumption rate and service charge increases of 3% each in 2017 and 2018, and annual increases tied to the Consumer Price Index in the years following. In January 2017, the Board adopted the recommendations, as well as a \$616 million (in 2016 dollars) 10-year Capital Improvement Plan (CIP) that will guide decisions related to asset management, necessary water system expansion and water quality compliance activities.

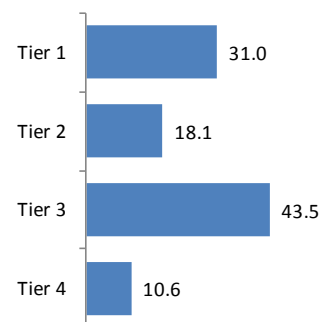
Tiered Consumption.

The LVVWD service rules have consumption rates of four tiers with thresholds for each tier varying by meter size and customer class. In establishing water rates, the LVVWD strives to

set reasonable rates and considerations for the equitable allocation and recovery of costs of providing facilities and delivery of water service are made, except that the rates may be established in such a way as to encourage the conservation of water. Construction water and reclaimed water are sold at flat rates. The historical 10-year average mix of actual water deliveries between the consumptive tiers is as follows:

- Tier 1 – 27%
- Tier 2 – 17%
- Tier 3 – 45%
- Tier 4 – 11%

**2017-18 Water
Deliveries by Tier
(Billion Gallons)**



Tier 1. Tier 1 rates have typically been considered the rate for “lifeline” water, i.e. the amount of water a small residence needs to satisfy typical indoor water uses such as bathing, washing clothes, toilets, etc. The tier 1 consumption rate is currently set at \$1.19 per 1,000 gallons.

Tier 2. Tier 2 rates allow a typical small residence with very limited outdoor water use to avoid the 3rd tier. In addition, tier 2

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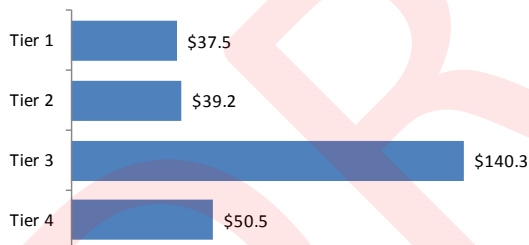
thresholds have been compressed for residential services with a meter size of $\frac{3}{4}$ " or above in order to encourage conservation. The tier 2 consumption rate is currently set at \$2.14 per 1,000 gallons.

Tier 3. Tier 3 typically delivers around 40 percent of water. The tier 3 consumption rate is currently set at \$3.18 per 1,000 gallons.

Tier 4. Tier 4 rates are designed to encourage conservation. The tier 4 consumption rate is currently set at \$4.72 per 1,000 gallons.

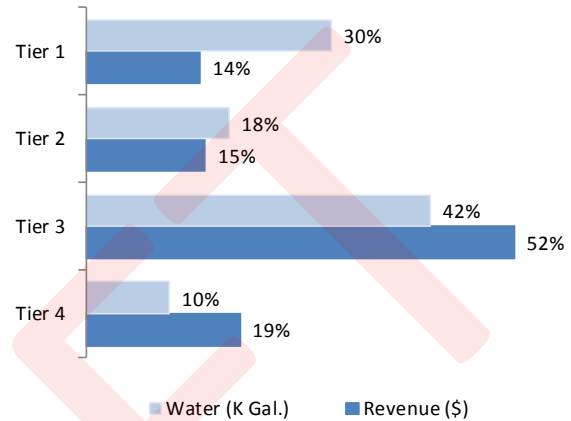
Construction Water. Construction water is sold at a flat rate equal to the tier 3 rate. This water is typically delivered through a fire hydrant and is often used for dust suppression at construction sites.

2017-18 Revenue by Tier
(\$ Millions)



The following chart shows the percent of budgeted water deliveries and revenue by tier for the fiscal year 2017-18. This chart illustrates the revenue impact on the water flowing through the tiers. In Tiers 1 and 2, the percentage revenue impact is less than the percent of water delivered, and the reverse is true in Tiers 3 and 4. While conservation is important, from a revenue perspective, it is financially beneficial to the LVVWD to deliver water in the upper tiers.

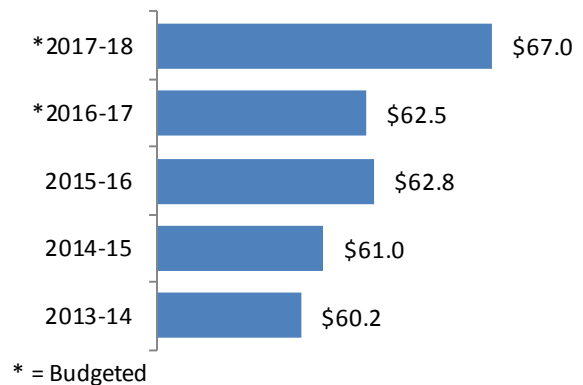
Percent Budgeted Water Deliveries & Revenue by Tier



Service Charge.

The daily service charge is a fixed charge designed to cover the costs of servicing an account, regardless of the amount of water consumed. For example, costs like meter reading, meter maintenance, preparing the bill, postage, and remittance processing are approximately the same regardless of the amount of water consumed, and almost regardless of the size of the service.

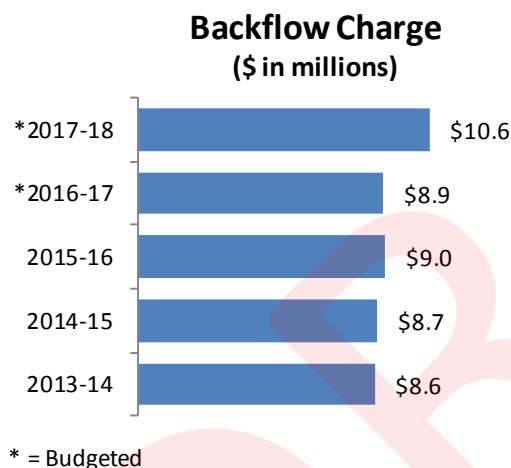
Service Charge
(\$ in millions)



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Backflow Charge.

The backflow charge is a fixed charge applied to customers with a backflow device. In the event of negative water pressure (a rare occurrence), a backflow device prevents water from flowing from pipes on the customer's premises back into the potable water system and thereby potentially contaminating the potable water system. The backflow charge is designed to cover the cost of maintaining those devices and is expected to increase due to a greater quantity of customers incurring the backflow charge.



Reclaimed Water.

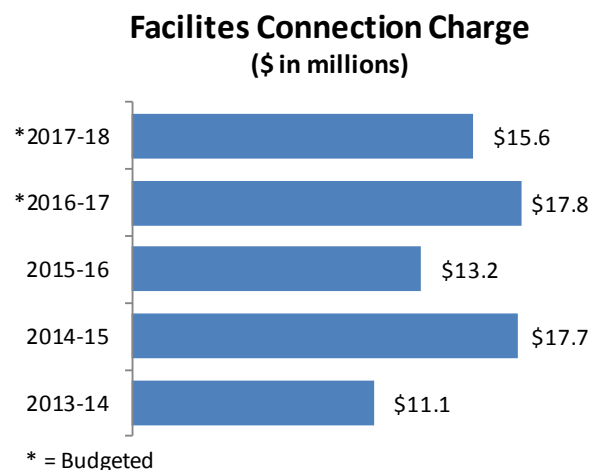
Reclaimed water is treated effluent from water reclamation centers, typically blended with potable water, and delivered to golf courses. The flat rate for reclaimed, or non-potable, water is \$2.33 per 1,000 gallons. Reclaimed water services are not subject to the Daily Service Charge or the SNWA Commodity Charge or the SNWA Reliability Surcharge, but they are subject to the SNWA Infrastructure Charge. For the fiscal year 2017-18 Budget Plan, reclaimed water revenues are estimated to be \$7.7 million.

Other Water Bill Charges.

The water bill may contain various other charges which appear on customer's water bills, such as turn on charges, late fees, delinquent processing charges, lockout fees, returned check charges, etc. For the fiscal year 2017-18 Budget Plan, other water bill charges are anticipated to be \$5.3 million.

Facilities Connection Charge.

The facilities connection charge is based on meter size and are designed to offset costs of providing and/or expanding the LVVWD's water facilities. For the fiscal year 2017-18 Budget Plan, connection charges are anticipated to be \$15.6 million, which represents a \$2.2 million, or 12 percent, decrease compared to the fiscal year 2016-17 Adopted Budget Plan. Similar to the water rates, the Board adopted increases to the facilities connection charge in 2017, 2018, and beyond. However, due the recent pace of new service connections has moderated, therefore the estimate is below 2016-17.



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Application & Inspection Fees.

The Application and Inspection fees are developer fees charged at the time a customer applies to connect to the water system or applies for changes in water service connection. These fees cover the costs associated with handling the application, setting up the service and reviewing plans. Inspection fees are those developer fees charged for the inspection of all new water facility installations and water services constructed by private contractors. In the fiscal year 2017-18 Budget Plan, application and inspection fees total \$3.0 million, a decrease of \$0.7 million, or 18 percent compared to the fiscal year 2016-17 Adopted Budget Plan. This reflects the recent pace of growth and development moderating in the LVVWD's Service Area.

Investment Income.

Investment income is revenue earned from earnings on accumulated reserve balances. For the fiscal year 2017-18, interest earnings are anticipated to be \$2.7 million, a \$1.1 million increase compared to the fiscal year 2016-17 Adopted Budget Plan estimate. This increase is the result of larger reserve balances and higher returns on those reserves.

Springs Preserve.

In 1998, the LVVWD entered into a partnership with the Las Vegas Springs Preserve Foundation (the Foundation), a tax-exempt charitable organization founded to provide funding for the Springs Preserve. The Springs Preserve is a cultural and historic attraction located on the LVVWD property. The 180-acre national historic site is widely

known as the "birthplace" of Las Vegas. The presence of an abundant water supply at the site was the original catalyst for the growth, development, and the resulting economic prosperity of the Las Vegas area. The Springs Preserve opened in June 2007.

For the fiscal year 2017-18 Budget Plan, revenues for the Springs Preserve are anticipated to total \$3.0 million, a \$0.5 million increase compared to the fiscal year 2016-17 Adopted Budget Plan.

Debt Issuance Proceeds.

Municipal Bond Proceeds. The 2017-18 Budget Plan includes a projected \$100 million debt issuance to fund capital improvements as the LVVWD embarks on its 10-year CIP.

Nevada State Revolving Fund (SRF) Loan Proceeds. In December 2014, the LVVWD entered into an agreement with the State of Nevada Department of Conservation and Natural Resources to receive a loan from the SRF to finance construction of water infrastructure. The LVVWD will ultimately receive \$50 million in SRF financing, but the first loan was for \$20 million. The second loan of \$15 million was part of the 2015-16 Adopted Budget Plan. The final \$15 million was included in the 2016-17 Budget Plan.

The SRF loan is secured by general obligation bonds the LVVWD provided to the State of Nevada as collateral for the loan. The SRF loan is funded on a reimbursement basis, i.e. the LVVWD must first fund the construction expenditures with its own assets and then be reimbursed through the SRF loan. After the full principal has been drawn, or three years from the closing date, whichever occurs first, the LVVWD is obligated to make roughly equal

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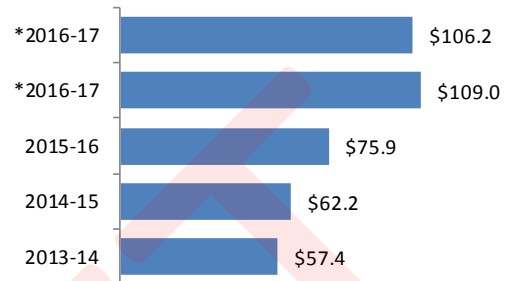
semiannual payments of principal and interest over the remaining term of the loan. Until then, the LVVWD is obligated to pay interest only on the outstanding amount of the loan. For the fiscal year 2017-18, the LVVWD projects to spend approximately \$22.1 million, which is expected to be reimbursed through the SRF loans.

SNWA Infrastructure Charge.

In October 2011, the SNWA Board of Directors (SNWA Board) authorized an extensive rate study and a public outreach process to study various alternative rate structures to service the SNWA's outstanding debt. Debt has been issued to fund capital projects and additional debt was issued to fund ongoing capital needs. After the completion of a rate study and a public outreach process, the SNWA Board on February 29, 2012, unanimously approved an Infrastructure Charge to help offset declines in other sources of revenue. Subsequently, on March 6, 2012, the SNWA Infrastructure Charge was unanimously approved by the LVVWD's Board.

This new source of revenue for the SNWA, which went into effect beginning May 2012, is projected to generate \$106.2 million from the LVVWD customers, which represents a decrease of \$2.8 million, or 3 percent, for the SNWA in the fiscal year 2017-18 Budget Plan when compared to the fiscal year 2016-17 Adopted Budget Plan. This charge is on the LVVWD customer's water bills and the funds pass directly to the SNWA. Similar to other SNWA charges, the Infrastructure Charge receipts will have no impact on the LVVWD's net surplus or deficit.

Infrastructure Charge
(\$ in millions)



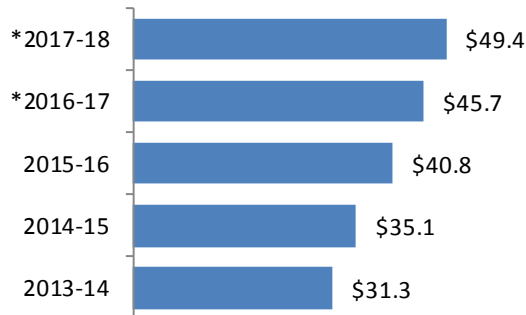
* = Budgeted

SNWA Commodity Charge.

The Commodity Charge was approved by the SNWA Board and the LVVWD Board in December 1995 and went into effect on purveyor water bills beginning in November 1996. This charge consists of a usage cost per 1,000 gallons sold by each of the SNWA's participating purveyor members to their customers. The charges are paid by the purveyors' customers based on the benefit they will accrue from the expansion of the SNWA's regional water treatment and transmission system. For fiscal year 2016-17, commodity charge revenues are anticipated to be around \$49.4 million, an increase of \$3.7 million, or 8 percent, compared to the fiscal year 2016-17 Adopted Budget Plan.

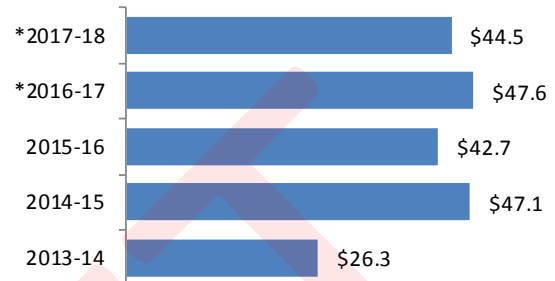
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Commodity Charge
(\$ in millions)



* = Budgeted

Connection Charge
(\$ in millions)



* = Budgeted

SNWA Reliability Surcharge.

SNWA Connection Charge.

The Connection Charge was approved by the SNWA Board and the LVVWD's Board in December of 1995 and became effective March 1, 1996. It was established to pay the majority of the costs of expanding the SNWA's regional water treatment and transmission system. It assesses new development to partially pay the costs of the system's current and future expansions. These revenues are passed directly from the LVVWD to the SNWA and are offset in the LVVWD's sources of funds with an equal amount of uses of funds. These revenues (as well as the SNWA Commodity and Reliability charges) are not used to support any of the LVVWD's ongoing operations or capital projects.

The Reliability Surcharge was approved by the SNWA Board and the LVVWD Board in November 1997 and went into effect on purveyor water bills beginning in April 1998. It is applied to the total dollar amount of customers' bills, excluding the SNWA Infrastructure Charge. Residential customers are charged 0.25 percent of their total bill, while all other customers are charged 2.5 percent. The reliability surcharge is an additional charge to be paid by the purveyors' customers based on the benefit they will accrue from the expansion of the SNWA's regional water treatment and transmission system. In the fiscal year 2017-18 Budget Plan, it is estimated this charge will total \$3.9 million.

The fiscal year 2017-18 Budget Plan anticipates the SNWA connection charge collections of \$44.5 million, a decrease of \$3.0 million, or 6 percent, compared to the fiscal year 2016-17 Adopted Budget Plan. As with other sources of development-based revenue, this decrease reflects the recent pace of growth and development moderating in the LVVWD's Service Area.

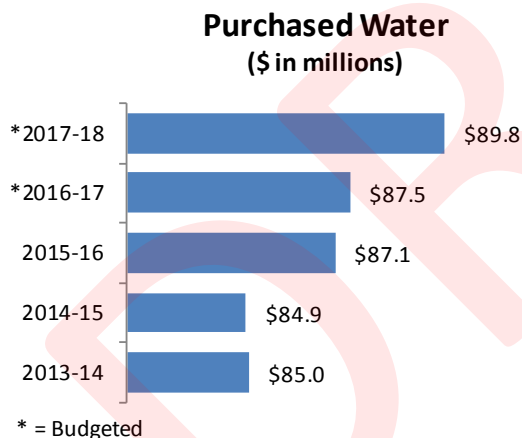
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Uses

The fiscal year 2017-18 Budget Plan's total uses of funds are projected to be \$633.0 million, which is a 7 percent increase compared to the 2016-17 budget. The increase is largely due to increases in capital expenditures attributable to the \$616 million 10-year Capital Improvement Plan (CIP) adopted by the Board in January 2017.

Purchased Water.

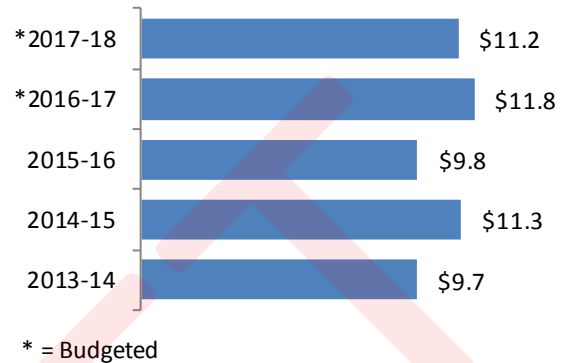
The LVVWD purchases nearly 90 percent of its water from the SNWA. For the fiscal year 2017-18 Budget Plan, water costs are projected to be \$89.8 million, which is a 3 percent increase compared to the fiscal year 2016-17 Adopted Budget Plan.



Energy.

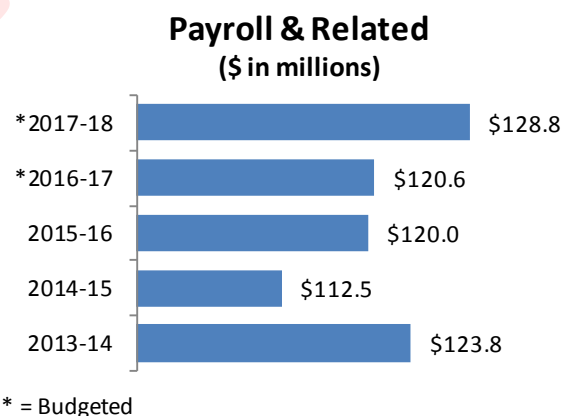
Compared to the 2016-17 Adopted Budget Plan, the cost of energy is expected to decrease by \$0.6 million, or 5 percent, for the fiscal year 2017-18 Budget Plan. This slight decrease is attributable to an expected decrease in power prices.

Energy (\$ in millions)



Payroll & Related.

Payroll costs include wages, salaries and benefits. For the fiscal year 2017-18 Budget Plan, payroll and related expenses are anticipated to be \$128.8 million. This represents an increase of \$8.2 million, or 7 percent, compared to the fiscal year 2016-17 Adopted Budget Plan.



Full-time equivalent (FTE) is a unit of measurement which represents the workload of one full-time employed person. The LVVWD's FTE count is expected to increase by approximately 4 employees over the fiscal year 2016-17 Adopted Budget Plan. Demands to continue providing safe and reliable water

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service under current operational conditions and the new CIP have resulted in increased staffing requirements for the LVVWD. The following chart summarizes the number of equivalent FTE positions by department charging time to the LVVWD.

FTE Summary

<u>Department</u>	<u>Actual 2015-16</u>	<u>Budget 2016-17</u>	<u>Budget 2017-18</u>
Executive Management	5.0	5.0	5.0
Legal Services	5.6	9.2	8.0
Finance	54.6	55.3	53.0
Information Technology	94.0	100.7	101.0
Human Resources	17.7	16.0	19.6
Public Services	56.2	65.9	65.8
Environmental, Health, Safety & Corporate Security	32.4	32.3	30.2
Customer Care & Field Services	172.9	178.0	171.1
Engineering	63.5	67.5	78.3
Resources & Facilities	73.5	64.7	64.8
Infrastructure Management	64.8	64.1	63.7
Water Resources	0.5	1.6	1.5
Energy Management	-	-	-
Operations	189.6	187.0	189.5
Water Quality & Treatment	2.2	1.0	1.0
Total	832.4	848.0	852.1

**Totals may be off slightly due to rounding*

Operating Expenses.

Operating expenses include materials and supplies, maintenance and repairs, rental and leases, other employee expenses, and other expenses, which are described in detail on the following table.

Operating Expense Detail

	<u>Actual 2015-16</u>	<u>Budget 2016-17</u>	<u>Budget 2017-18</u>
Operating Expenses			
Materials & Supplies	\$ 10.3	\$ 15.4	\$ 12.9
Maintenance & Repairs	16.4	18.6	19.2
Rental & Leases	2.7	0.9	1.1
Other Employee Expenses	1.3	2.1	2.3
Other Operating Expenses	4.6	12.7	12.3
Total	\$ 35.2	\$ 49.6	\$ 47.9

**Totals may be off slightly due to rounding*

Materials and Supplies. This classification includes, but is not limited to, pipe, asphalt, concrete, office supplies, and materials required for the normal operation of The LVVWD's facilities. The fiscal year 2017-18 Budget Plan anticipates total expenditures of \$12.9 million for this expense category. This represents a decrease of \$2.5 million, or 16 percent, compared to the fiscal year 2016-17 Adopted Budget Plan.

Maintenance and Repairs. This classification includes, but is not limited to, the outside purchase of services and goods associated with maintaining and repairing the water transmission system; buildings and grounds; and computer equipment. The fiscal year 2017-18 Budget Plan anticipates this expense will total \$19.2 million, an increase of \$0.6 million, or 3 percent compared to the fiscal year 2016-17 Adopted Budget Plan.

Rental and Leases. The fiscal year 2017-18 Budget Plan anticipates expenses of \$1.1 million, which includes rent/lease for communication equipment and outside storage facilities. This expense increased by \$0.2 million when compared to the fiscal year 2016-17 Adopted Budget Plan.

Other Employee Expense. This classification includes such items as safety equipment, dues, travel and training, and tuition reimbursement. The Budget Plan anticipates a total of \$2.3 million spent within this category. This amount represents an increase of \$0.2 million when compared to the fiscal year 2016-17 Adopted Budget Plan.

Other Operating Expense. This classification includes, but is not limited to postage, legal fees and professional services. For the fiscal year 2017-18 Budget Plan, other operating

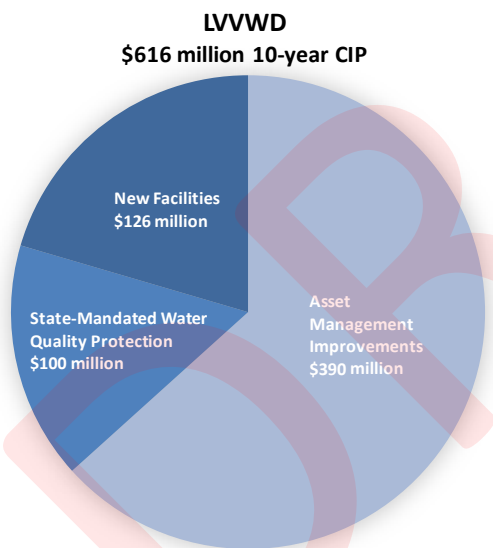
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expenses are anticipated to total \$12.3 million, a decrease of \$0.4 million, or 3 percent, compared to the fiscal year 2016-17 Adopted Budget Plan.

Capital Expenditures.

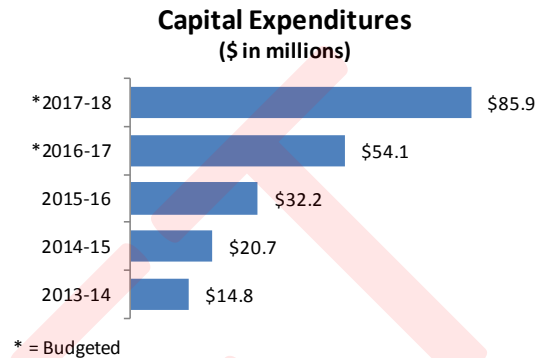
Capital expenditures are primarily driven by the need to expand and maintain the LVVWD's water storage, pumping, distribution system and expand and maintain the LVVWD's facilities and equipment.

As mentioned earlier, the Board adopted the \$616 million (in 2016 dollars) 10-year Capital Improvement Plan (CIP) with the major components shown in the chart below.



For the fiscal year 2017-18 Budget Plan, the CIP and continued focus on asset management efforts to replace and maintain the LVVWD's essential equipment and water distribution facilities resulted in an increase in capital equipment and construction expenditures. For the fiscal year 2017-18 Budget Plan, total equipment and construction expenditures are budgeted at \$85.9 million, or an increase of 59 percent,

compared to the fiscal year 2016-17 Adopted Budget Plan.



Capital Equipment and Vehicles. For the fiscal year 2016-17 Budget Plan, equipment purchases are anticipated to total \$8.4 million, an increase of \$0.6 million, or 8 percent, compared to the fiscal year 2016-17 Adopted Budget Plan. This increase is the result of various capital equipment acquisitions and new vehicle purchases.

Capital Projects. For the fiscal year 2017-18 Budget Plan, the newly adopted CIP enhanced the emphasis in capital projects, along with asset management, maintenance, and improvement of the LVVWD's water distribution system. In the fiscal year 2017-18 budget, the LVVWD projects to spend \$77.5 million for capital projects, an increase of \$31.2 million, or 67 percent, compared to the fiscal year 2016-17 Adopted Budget Plan. The increases are prudent and necessary to fund a number of large water distribution system maintenance projects which were deferred in prior years. Both in the fiscal year 2017-18 Budget Plan, and in the fiscal year 2016-17 Adopted Budget Plan, expenditure increases for included projects are considered to be crucial for the continued operation of the water distribution system and include

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reservoir, well, pump, vault, pipe, motor and valve renovation and replacement projects.

\$2.3 million, or 1 percent, when compared to the fiscal year 2016-17 Adopted Budget Plan.

Debt Service.

This classification includes bond payments made for debt that the LVVWD has issued, or expects to issue, for funding capital projects as well as ongoing capital needs. For the fiscal year 2017-18 Budget Plan, total bond payments are expected to total \$65.4 million, which is a 10% increase compared to the fiscal year 2016-17 Adopted Budget Plan. The increase is attributable to a new municipal bond projected debt issuance of \$100 million to fund the CIP, as well as additional utilization of the SRF.

SNWA Charges.

As described in the sources section above, the overall SNWA Charges for the fiscal year 2017-18 Budget Plan are expected to be \$204.0 million. This amount represents a decrease of

Summary of Sources and Uses of Funds and Changes in Net Assets

An enterprise fund's year-end balance differs dramatically from other government agencies' fund balances. The enterprise net asset balance closely approximates a private corporation's retained earnings section. As such, net assets are affected by operating items as presented in this document as well as other financial resources and expenditures. The LVVWD accounts for its Net Assets in accordance with GASB Statement 33. The following table summarizes the estimated sources and uses of funds and changes in net assets for the fiscal year 2017-18 Budget Plan.

Estimated Net Assets Detail							
Fiscal Year 2017-18 Budget							
	Invested in Capital Assets Net of Related Debt	Restricted for Debt Service	Restricted for Capital Projects	Unrestricted Net Assets	Total Proprietary Fund Net Position	Pension Trust Fund	Total Net Assets
Estimated Equity June 30, 2017	\$ 850,293,216	\$ 23,779,853	\$ 147,013	\$ 143,080,146	\$ 1,017,300,228	\$ 373,780,880	\$ 1,391,081,108
Capital Acquisitions	(85,873,520)				(85,873,520)		(85,873,520)
Bond Payments							
Principal	31,616,115	(31,616,115)					-
Interest		(33,760,733)			(33,760,733)		(33,760,733)
Transfer for Debt Service		65,376,847		(65,376,847)			-
Operating Revenues				364,119,955	364,119,955	53,989,317	418,109,272
Operating Expenses				277,748,530	277,748,530	(16,400,000)	261,348,530
Non Operating Revenue				18,273,379	18,273,379		18,273,379
Estimated Equity June 30, 2018	\$ 796,035,811	\$ 23,779,853	\$ 147,013	\$ 737,845,162	\$ 1,557,807,839	\$ 411,370,197	\$ 1,969,178,036

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Invested in Capital Assets, Net of Related Debt. This classification is composed of Donated Capital. Cash is received from the Facilities Connection Charge. Property and other non-cash items represent mains and services constructed to the LVVWD's standards by developers and then donated to the LVVWD.

Restricted for Debt Service. Assets from this classification are transferred from Unrestricted Assets to the Debt Service classification on a monthly basis. Total transfers (\$65.4 million) are used to pay current portions of general obligation bonds.

Unrestricted Net Assets. Many different classifications make up this category including:

- **Transfer to Debt Service** - Described in preceding section.
- **Operating Revenue** - This represents the cumulative financial results of operations. Operating Revenue consists of water revenue, application and inspection fees, other revenues (backflow and hydrant service charges; delinquent charges, late charges and returned-check charges), and Springs Preserve revenues. For the fiscal year 2017-18, these revenues are anticipated to total over \$364.1 million.
- **Operating Expense** - Operating Expenses include all categories in the Use of Funds, excluding pension expense, which is listed separately in preceding table, bond payments, capital equipment, major construction expenditures, and the SNWA charges (Regional Connection, Commodity, Reliability Surcharge and the

Infrastructure Charge). For the fiscal year 2017-18 these expenses are anticipated to total over \$277.7 million.

- **Pension Expense** - For the fiscal year 2017-18, this expense has been separated from the Payroll Expense listed in the Uses of Funds, and is shown as a separate operating expense in the preceding table in order to clarify and better track the transfer of this expense from the LVVWD's Proprietary Fund to the Pension Trust Fund.
- **Non-operating Revenues (net)** - Non-operating revenue consists of interest income.

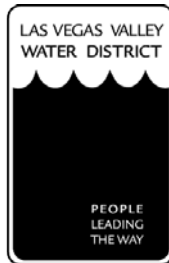
Pension Trust Fund. This is cumulative activity in the LVVWD's pension plan. The plan is a single-employer pension trust fund, established to provide pension benefits for the LVVWD's employees. Anticipated operating revenues shown for this fund include contributions from the operating revenues discussed above and are expensed within the operating expenses discussed above as part of overall payroll expenses. For the purpose of estimating the impact of the LVVWD's operations on the Pension Trust Fund, the pension expense included as part of the LVVWD's operations is shown.

SECTION 4

STATE OF NEVADA

BUDGET DOCUMENTS

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Schedule A-2: Proprietary Funds	4-4
Schedule F-1: Enterprise Fund - Revenues, Expenses and Net Position	4-5
Schedule F-1: Pension Trust Fund - Revenues, Expenses and Net Position	4-6
Schedule F-2: Enterprise Fund - Statement of Cash Flows	4-7
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Schedule 31: Schedule of Existing Contracts	4-9
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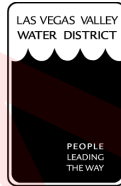


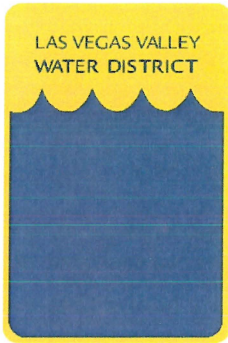
LAS VEGAS VALLEY WATER DISTRICT

FISCAL YEAR 2017-18

OPERATING AND CAPITAL BUDGET

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Nevada Department of Taxation
1550 College Parkway, Suite 115
Carson City, NV 89706-7937

Las Vegas Valley Water District herewith submits the (TENTATIVE) (FINAL) budget for the
fiscal year ending June 30, 2018

This budget contains 0 funds, including Debt Service, requiring property tax revenues totaling \$ 0

The property tax rates computed herein are based on preliminary data. If the final state computed revenue limitation permits,
the tax rate will be increased by an amount not to exceed 0 If the final computation requires, the tax rate will be
lowered.

This budget contains 0 governmental fund types with estimated expenditures of \$ 0 and
1 proprietary funds with estimated expenses of \$ 590,930,523

Copies of this budget have been filed for public record and inspection in the offices enumerated in NRS 354.596 (Local
Government Budget and Finance Act).

CERTIFICATION

I Brian Thomas
(Print Name)
Acting Chief Financial Officer
(Title)

certify that all applicable funds and financial
operations of this Local Government are
listed herein

Signed

Dated:

4/13/17

APPROVED BY THE GOVERNING BOARD

Mary Beth Scow, President

Steve Sisolak, Vice President

Susan Brager

Lawrence L. Brown III

Chris Giunchigliani

Marilyn Kirkpatrick

Lawrence Weekly

SCHEDULED PUBLIC HEARING:

Date and Time Monday, May 15, 2017 at 9:45 AM

Publication Date 4-May-17

Place: Clark County Government Center, Grand Central Parkway, Las Vegas, NV

**LAS VEGAS VALLEY WATER DISTRICT
BUDGET DOCUMENT INDEX**

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V	SERVICE CONTRACTS	
	1 Schedule 31 - Schedule of Existing Contracts	9
	2 Schedule 32 - Schedule of Privatization Contracts	10

FULL TIME EQUIVALENT EMPLOYEES BY FUNCTION

	ACTUAL PRIOR YEAR ENDING 06/30/16	ESTIMATED CURRENT YEAR ENDING 06/30/17	BUDGET YEAR ENDING 06/30/18
General Government			
Judicial			
Public Safety			
Public Works			
Sanitation			
Health			
Welfare			
Culture and Recreation			
Community Support			
TOTAL GENERAL GOVERNMENT			
Utilities	832.4	848.0	852.1
Hospitals			
Transit Systems			
Airports			
Other			
TOTAL			

POPULATION (AS OF JULY 1)	2,193,000	2,233,000	2,278,000
SOURCE OF POPULATION ESTIMATE*	Center for Business & Economic Res. UNLV	Center for Business & Economic Res. UNLV	Center for Business & Economic Res. UNLV
Assessed Valuation (Secured and Unsecured Only)			
Net Proceeds of Mines			
TOTAL ASSESSED VALUE			
TAX RATE			
General Fund			
Special Revenue Funds			
Capital Projects Funds			
Debt Service Funds			
Enterprise Fund			
Other			
TOTAL TAX RATE			

*** Use the population certified by the state in March each year. Small districts may use a number developed per the instructions (page 6) or the best information available.**

Las Vegas Valley Water District
(Local Government)

SCHEDULE S-2 - STATISTICAL DATA

Budget Summary for Las Vegas Valley Water District
(Local Government)

FUND NAME	*	OPERATING REVENUES (1)	OPERATING EXPENSES (2) **	NONOPERATING REVENUES (3)	NONOPERATING EXPENSES (4)	<u>OPERATING TRANSFERS</u>		NET INCOME (7)
						IN (5)	OUT(6)	
Las Vegas Valley Water District	E	568,153,234	558,169,790	37,652,683	32,760,733	-	-	14,875,394
TOTAL								

Page: 4
SCHEDULE A-2

**** Include Depreciation**

PROPRIETARY FUND	(1)	(2)	(3) (4) BUDGET YEAR ENDING 06/30/18	
	ACTUAL PRIOR YEAR ENDING 6/30/2016	ESTIMATED CURRENT YEAR ENDING 6/30/2017	TENTATIVE APPROVED	FINAL APPROVED
OPERATING REVENUE				
Water Sales	334,838,222	339,971,916	358,129,610	
Application & Inspection Fees	2,443,875	3,648,690	2,992,749	
Springs Preserve	2,643,382	2,467,496	2,997,596	
Other	60,910	-	-	
SNWA Infrastructure Charge	75,898,495	109,022,736	106,191,818	
SNWA Commodity Charge	40,842,592	45,710,334	49,439,360	
SNWA Connection Charge	42,728,316	47,598,064	44,513,446	
SNWA Reliability Charge	3,737,316	4,008,588	3,888,655	
Total Operating Revenue	503,193,109	552,427,824	568,153,234	-
OPERATING EXPENSE				
Purchased Water	87,093,101	87,458,203	89,765,896	
Energy	9,761,793	11,777,000	11,225,500	
Payroll & Related	111,233,385	111,987,583	120,230,330	
Materials & Supplies	10,283,438	15,395,021	12,940,853	
Maintenance & Repairs	16,367,065	18,593,616	19,233,275	
Rent/Lease	2,739,728	868,400	1,115,500	
Other Employee Expense	1,276,315	2,059,411	2,286,331	
Other Operating Expense	4,557,997	12,684,939	12,338,826	
SNWA Infrastructure Charge	75,898,495	109,022,736	106,191,818	
SNWA Commodity Charge	40,842,592	45,710,334	49,439,360	
SNWA Connection Charge	42,728,316	47,598,064	44,513,446	
SNWA Reliability Charge	3,737,316	4,008,588	3,888,655	
Depreciation/Amortization	81,861,319	85,000,000	85,000,000	
Total Operating Expense	488,380,860	552,163,896	558,169,790	-
Operating Income or (Loss)	14,812,248	263,928	9,983,444	-
NONOPERATING REVENUES				
Capital Contributions	35,847,446	20,000,000	35,000,000	
Investment Income - Unrestricted Funds	2,577,164	1,279,036	2,402,683	
Investment Income - Restricted Funds	202,125	250,000	250,000	
Other	702,547	-	-	
Total Nonoperating Revenues	39,329,282	21,529,036	37,652,683	-
NONOPERATING EXPENSES				
Interest Expense	28,545,553	31,870,956	32,760,733	
Total Nonoperating Expenses	28,545,553	31,870,956	32,760,733	-
Net Income before Operating Transfers	25,595,977	(10,077,992)	14,875,394	-
Transfers (Schedule T)				
In				
Out				
Net Operating Transfers				
CHANGE IN NET POSITION	\$ 25,595,977	\$ (10,077,992)	\$ 14,875,394	\$ -

Las Vegas Valley Water District
(Local Government)

SCHEDULE F-1 REVENUES, EXPENSES AND NET POSITION

FUND _____ ENTERPRISE _____

PROPRIETARY FUND	(1)	(2)	(3)	(4)
	ACTUAL PRIOR YEAR ENDING 6/30/2016	ESTIMATED CURRENT YEAR ENDING 6/30/2017	BUDGET YEAR ENDING 06/30/18	
			TENTATIVE APPROVED	FINAL APPROVED
OPERATING REVENUE				
Contributions - Employer	29,414,230	30,000,000	37,118,152	
Contributions - Employee	217,031	250,000	150,000	
Investment Earnings	3,903,193	5,000,000	16,721,165	
Total Operating Revenue	33,534,454	35,250,000	53,989,317	
OPERATING EXPENSE				
Administrative & General Expenses	370,847	200,000	400,000	
Benefits Paid	11,626,003	10,000,000	16,000,000	
Total Operating Expense	11,996,850	10,200,000	16,400,000	
Operating Income or (Loss)	21,537,604	25,050,000	37,589,317	
NONOPERATING REVENUES				
Interest Earned	195,317	200,000	200,000	
Total Nonoperating Revenues	195,317	200,000	200,000	
NONOPERATING EXPENSES				
Investment Expense	114,938	100,000	125,000	
Total Nonoperating Expenses	114,938	100,000	125,000	
Net Income before Operating Transfers	21,617,983	25,150,000	37,664,317	
Transfers (Schedule T)				
In				
Out				
Net Operating Transfers				
CHANGE IN NET POSITION	\$ 21,617,983	\$ 25,150,000	\$ 37,664,317	

Las Vegas Valley Water District
(Local Government)

SCHEDULE F-1 REVENUES, EXPENSES AND NET POSITION

FUND _____ PENSION TRUST _____

PROPRIETARY FUND	(1)	(2)	(3) (4) BUDGET YEAR ENDING 06/30/18	
	ACTUAL PRIOR YEAR ENDING 6/30/2016	ESTIMATED CURRENT YEAR ENDING 6/30/2017	TENTATIVE APPROVED	FINAL APPROVED
A. CASH FLOWS FROM OPERATING ACTIVITIES:				
Cash Received from Customers	338,822,158	346,088,102	\$ 364,119,955	
Cash Payments to Suppliers for Goods and Services	(122,153,288)	(148,836,590)	(148,906,180)	
Cash Payments for Salaries and Benefits	(112,002,882)	(111,987,583)	(120,230,330)	
Other Cash Receipts	552,235	-	-	
Other Cash Payments	(6,291)	-	-	
a. Net cash provided by (or used for) operating activities	105,211,932	85,263,929	94,983,444	-
B. CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES:				
b. Net cash provided by (or used for) noncapital financing activities	-	-	-	-
C. CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:				
Acquisition and Construction of Capital Assets	(60,578,210)	(54,055,708)	(94,485,540)	
Capital Contributed for Construction	19,170,690	20,000,000	35,000,000	
Proceeds from Sale of Prop. and Equipment	400,529	150,000	-	
Proceeds from Sale of Bonds	124,215	-	100,000,000	
Proceeds from State Revolving Fund Loan	2,391,518	30,000,000	22,098,200	
Bond Issue Costs	(108,437)	-	-	
Principal Paid on Bonds	(27,918,000)	(27,808,000)	(31,616,115)	
Interest Paid	(32,304,925)	(31,870,956)	(33,760,733)	
Interest Rebate	1,413,917	-	-	
Construction Deposits	(409,793)	-	-	
c. Net cash provided by (or used for) capital and related financing activities	(97,818,496)	(63,584,664)	(2,764,187)	-
D. CASH FLOWS FROM INVESTING ACTIVITIES:				
Purchase of Investment Securities	(165,420,385)	(150,000,000)	(238,617,600)	
Proceeds from Maturities of Investment Securities	162,530,166	125,000,000	138,051,400	
Investment Income	2,419,252	1,529,036	2,652,683	
d. Net cash provided by (or used in) investing activities	(470,967)	(23,470,964)	(97,913,517)	-
NET INCREASE (DECREASE) in cash and cash equivalents (a+b+c+d)	6,922,469	(1,791,699)	(5,694,260)	-
CASH AND CASH EQUIVALENTS AT JULY 1, 20xx	70,883,664	77,806,133	76,014,434	-
CASH AND CASH EQUIVALENTS AT JUNE 30, 20xx	\$ 77,806,133	\$ 76,014,434	\$ 70,320,174	\$ -

Las Vegas Valley Water District
(Local Government)

SCHEDULE F-2 STATEMENT OF CASH FLOWS

FUND ENTERPRISE

ALL EXISTING OR PROPOSED
GENERAL OBLIGATION BONDS, REVENUE BONDS,
MEDIUM-TERM FINANCING, CAPITAL LEASES AND
SPECIAL ASSESSMENT BONDS

* - Type
1 - General Obligation Bonds
2 - G.O. Revenue Supported Bonds
3 - G.O. Special Assessment Bonds
4 - Revenue Bonds
5 - Medium-Term Financing

6 - Medium-Term Financing - Lease Purchase
7 - Capital Leases
8 - Special Assessment Bonds
9 - Mortgages
10 - Other (Specify Type)
11 - Proposed (Specify Type)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) REQUIREMENTS FOR FISCAL YEAR ENDING 06/30/18		(10)	(11)
NAME OF BOND OR LOAN List and Subtotal By Fund	*	TERM	ORIGINAL AMOUNT OF ISSUE	ISSUE DATE	FINAL PAYMENT DATE	INTEREST RATE	BEGINNING OUTSTANDING BALANCE 7/1/2017	INTEREST PAYABLE	PRINCIPAL PAYABLE	(9)+(10)	TOTAL
FUND											
LVVWD 2008A	2	30 Years	\$ 190,760,000	2/19/2008	2/1/2018	5.00%	\$ 3,990,000	\$ 199,500	\$ 3,990,000	\$	4,189,500
LVVWD 2008 Clean Energy	2	14 Years	2,520,000	7/15/2008	12/15/2022	1.30%	1,008,000	12,012	168,000		180,012
LVVWD 2010A BABS	2	30 Years	75,995,000	6/15/2010	3/1/2040	5.60%-5.70%	75,995,000	4,311,398	-		4,311,398
LVVWD 2010B	2	28 Years	31,075,000	6/15/2010	3/1/2038	2.00%-4.625%	27,900,000	1,209,140	860,000		2,069,140
LVVWD 2011D	2	16 Years	78,680,000	10/19/2011	6/1/2027	2.00%-5.25%	58,010,000	2,898,850	4,650,000		7,548,850
LVVWD 2012A	2	20 Years	39,310,000	9/5/2012	6/1/2032	5%	39,310,000	1,965,500	-		1,965,500
LVVWD 2015 \$20 Million SRF	10	20 Years	20,000,000	12/1/2014	6/30/2036	2.57%	20,000,000	475,450	472,775		948,225
LVVWD 2015A	2	11 Years	172,430,000	6/1/2015	6/1/2027	2-5%	148,620,000	7,305,650	12,535,000		19,840,650
LVVWD 2016B	2	20 Years	108,220,000	4/6/2016	6/1/2036	2.5-5%	105,530,000	5,056,850	3,620,000		8,676,850
LVVWD 2016D	2	20 Years	125,650,000	7/18/2016	6/1/2036	2%	121,830,000	2,436,600	3,990,000		6,426,600
LVVWD 2016 \$15 Million SRF	10	20 Years	15,000,000	9/15/2016	2037	1.78%	15,000,000	80,100	-		80,100
LVVWD 2017 \$15 Million SRF	10	20 Years	15,000,000	5/3/2017	2037	2.41%	15,000,000	38,986	-		38,986
LVVWD 2017A	2	21 Years	130,105,000	3/14/2017	2/1/2038	4-5%	130,105,000	5,270,697	595,000		5,865,697
LVVWD 2018	11	30 Years	100,000,000	6/1/2018	6/1/2048	3-5%	-	2,500,000	735,340		3,235,340
TOTAL ALL DEBT SERVICE							\$ 762,298,000	\$ 33,760,733	\$ 31,616,115	\$	65,376,847

Las Vegas Valley Water District
(Local Government)

Budget Fiscal Year 2017-2018

SCHEDULE C-1 - INDEBTEDNESS

SCHEDULE OF EXISTING CONTRACTS

Budget Year 2017 - 2018

Local Government: Las Vegas Valley Water District
Contact: Brian Thomas
E-mail Address: brian.thomas@lvvwd.com
Daytime Telephone: (702) 822-8810

Total Number of Existing Contracts: _____ 197 _____

Line	Vendor	Effective Date of Contract	Termination Date of Contract	Proposed Expenditure FY 2017-18	Proposed Expenditure FY 2018-19	Reason or need for contract:
1	A Company Inc	09/03/15	09/02/21	\$ 15,000	\$ 15,000	Septic tanks services
2	Abbott Trophies	07/22/15	07/21/21	2,800	1,400	SP Name Badges for Staff and Volunteers
3	ABC Fire Extinguisher Company	07/01/15	06/30/20	14,300	14,300	Fire Sprinkler Wet Systems and Pre-action/Dry Systems Inspection and Testing
4	ABC Tire & Cylinder	08/25/15	08/24/20	8,598	8,598	Special Hazard Fire Suppression Systems
5	Access	02/01/13	01/31/18	25,000	25,000	Records Management
6	Acme Underground Inc	03/26/15	03/26/20	216,776	216,776	Cathodic protection
7	Aerotech Mapping	04/07/15	04/06/20	20,000	20,000	Ad Hoc Aerial Imagery and Data Services
8	Allen & Associates	3/18/2014	Upon notice	1,200	1,200	Services for outplacement support
9	Amy Ayoub	01/01/15	12/31/20	98,500	98,500	Springs Preserve fundraising assistance
10	ARC	08/01/13	07/31/18	40,000	40,000	Printing of Construction Related Contracts
11	Argus Engineering	07/01/15	06/30/20	70,000	70,000	Support & enhancement of the SCADA system.
12	Aztec Technical Services	01/19/11	upon notice	50,000	50,000	Subsurface engineering services
13	BancTec, Inc.	05/06/14	05/06/19	205,696	181,000	Remittance processing
14	Blackbaud Inc	11/12/15	11/11/24	240,000	240,000	Point of sale software and assistance with implementation.
15	Blue Locker Commercial Diving	10/18/14	10/17/20	40,000	40,000	Diver Inspection/Cleaning Services
16	Boot Barn	02/14/15	02/14/18	3,000	3,000	Shoe replacement services
17	CDW Government (CDWG) LLC	02/01/16	01/31/21	500,000	500,000	Personal computer hardware, software & maintenance services.
18	Celebrate Kids	07/01/14	06/30/19	4,000	4,000	Deputy Drip services for Public Information
19	Center for Occupational Health & Well.	09/01/13	08/31/20	15,000	15,000	Pre-employment Drug Screens
20	Center for Progressive Policy & Practice	08/28/15	08/27/21	24,000	24,000	Grant proposal and award nominating writing services in support of Public Affairs
21	CH2M Hill	03/12/14	03/14/19	80,000	80,000	Control systems engineering services
22	Challenger Gray and Christmas, Inc.	3/1/2014	Upon notice	2,400	2,400	Services for outplacement support
23	Commercial Fire Protection	07/02/15	06/30/20	14,300	14,300	Fire Sprinkler Wet Systems and Pre-action Dry Systems Inspection and Testing Services
24	Computer Technical Services	12/01/15	11/30/20	50,000	50,000	Personal computer repair services
25	Corrpro Companies	11/06/12	11/06/18	100,000	100,000	Erosion engineering services
26	Curtis Steel	12/30/14	12/29/20	3,000	3,000	Steel services for the gardens at the Springs Preserve
27	Digital Mapping Inc.	04/07/15	04/06/20	20,000	20,000	Aerial Imagery and Data services
28	Drew Asphalt Paving Inc.	02/03/15	02/02/18	840,788	1,681,582	Pavement replacement services
29	Electric Power Systems	02/18/15	02/18/20	157,500	157,500	Multisite testing of power systems
30	Epiq eDiscovery Solutions, Inc.	08/19/15	08/18/22	99,639	80,000	Records Mgmt & Info Governance services
31	Experian Information Solutions, Inc.	11/01/11	10/31/17	32,000	-	Prof. services for Risk Credit Assessment
32	Fairway Chevrolet Company	11/25/14	07/31/19	79,800	79,800	Automotive body work and service
33	Faiss Foley Warren	04/01/15	03/31/21	96,000	80,000	Community & stakeholder education services
34	Fiserv	03/16/10	12/31/18	1,000,000	1,000,000	Electronic bill presentation and payment services
35	Fisher & Phillips LLP	03/18/15	03/17/22	15,000	15,000	Legal services
36	Fleetwash Inc.	09/15/15	09/14/20	38,922	38,922	On-site vehicle washing services
37	Garda Cash Logistics	06/01/14	06/30/20	7,000	7,000	Armored car transportation
38	Grove Madsen Industries	06/13/14	05/31/19	500,000	500,000	Electrical Parts & Supplies
39	Harber Company, Inc.	06/01/12	11/27/17	52,083		Leak Detection and Repair Services
40	Heatherington Consulting Group	01/27/14	upon notice	70,000	70,000	Employee training
41	Heidi Culver	03/05/15	03/04/18	49,920	49,920	Springs Preserve events consultant
42	Henderson Electric Motors, Inc.	05/21/14	05/20/19	325,000	325,000	Repair of electric motors
43	Highlights	10/01/14	03/04/18	49,920	15,000	Springs Preserve Special Events Consultant
44	Hobbs, Ong and Associates	05/01/12	upon notice	150,000	150,000	Financial advisory services
45	HTML.fx	10/15/15	06/30/20	7,000	7,000	WSNA Handyman Services
46	HTML.fx	09/01/15	12/31/17	2,500		Services to assist in obtaining requirements for Content Management System (CMS)
47	Imagine Exhibitions Inc.	09/01/15	01/10/17	32,083		Science Fiction, Science Future traveling exhibit
48	Industrial Scientific Corp	01/01/16	12/31/19	34,374	240,626	Gas detection equipment, repair & maintenance services.
49	Infor (US) Inc	05/14/15	05/14/20	147,622	147,622	Lawson Software Suite support and services
50	Institute for Executive Development	08/21/13	08/20/20	90,000	90,000	Consulting services for strategic planning
51	Institute for Executive Development	11/6/2012	10/9/2019	99,000	45,000	Services for executive/leadership development & training
52	It'll Gro Inc.	11/01/13	10/31/18	26,000	26,000	Pickup of compost and recycling green waste at the Springs Preserve
53	JT Fasteners	03/01/15	02/29/20	35,000	35,000	Bi-weekly bin stocking service
54	Klarquist Sparkman LLP	06/10/15	06/09/22	30,000	30,000	Professional Services Patent law
55	La Nevada dba G & G Systems	10/12/15	10/11/17	200		Semi-annual Fire Suppression Systems tests
56	Las Vegas Plumbing	11/13/14	10/31/20	20,000	20,000	Meter repair change out plumbing repair services
57	Lavonne C. Ritter	10/5/2015	Upon notice	4,000	4,000	Services to provide specialized employee training

SCHEDULE OF EXISTING CONTRACTS
Budget Year 2017 - 2018

Local Government: Las Vegas Valley Water District
Contact: Brian Thomas
E-mail Address: brian.thomas@lvvwd.com
Daytime Telephone: (702) 822-8810

Total Number of Existing Contracts: _____ 197 _____

Line	Vendor	Effective Date of Contract	Termination Date of Contract	Proposed Expenditure FY 2017-18	Proposed Expenditure FY 2018-19	Reason or need for contract:
58	Link Tech, LLC	02/14/07	upon notice	13,619	13,619	Software development services
59	Lucidity Consult. Group LP an Emtec Co.	05/19/15	05/19/18	61,880	61,880	Technical services to assist with Oracle Customer Care & Billing software upgrade
60	Manpower Inc. of So NV	12/01/15	11/30/21	800,000	800,000	Temporary Employment Services
61	Manuel Garduono DBA The Car Beautician	03/14/13	03/13/19	1,000	1,000	Cleaning and detailing services for the Springs Preserve train
62	Marcus Faust	10/18/05	upon notice	60,000	60,000	Water Rights lobbyists
63	Market Decisions Corporation	03/04/13	02/28/18	100,000	100,000	Data Collection Services
64	Market Decisions Corporation	04/05/11	07/31/19	65,000	65,000	Data collection services
65	Marsh USA Inc.	05/01/15	04/30/20	1,112,766	1,112,766	Property & Casualty Insurance & Brokerage Services.
66	MHC Companies	06/23/15	06/22/20	80,000	80,000	Technical services for employee self service applications
67	Mike's Drain & Plumbing	11/13/14	10/31/21	15,000	15,000	On Call Plumbing Services
68	Mike's Drain and Plumbing	06/11/14	06/10/18	10,000	10,000	On Call Plumbing Services for Distribution
69	Mines and Associates Inc	10/07/15	11/30/20	60,000	60,000	Employee Assistance Program services
70	MoreDirect Inc.	01/13/16	01/31/21	500,000	500,000	Continuation of purchases of personal computer hardware, software, and maintenance
71	MoreDirect Inc.CDW Government (CDWG) LLC	01/01/11	01/31/21	500,000	500,000	Continuation of purchases of personal computer hardware, software, and maintenance
72	MoreDirect, Inc.	02/01/16	01/31/21	500,000	500,000	Computer hardware, software & maintenance services
73	Newco Speciality	12/10/12	12/09/18	2,500	2,500	Order/delivery of Zoo Speciality Item foods
74	Nice Systems Inc	09/29/15	09/30/20	100,000	100,000	Support services for customer service and workforce
75	NPL Construction	05/01/14	04/30/20	7,500	7,500	Traffic plate milling service
76	Omniticket	08/01/15	07/31/21	20,000	10,000	Services related to Internet Ticket Sales
77	Opportunity Village	05/01/13	08/03/19	485,000	485,000	Janitorial service for Springs Preserve
78	Opportunity Village	04/01/14	03/31/20	15,000	15,000	Shredding Services
79	Oracle Support Services	03/30/14	03/29/19	809,500	809,500	Software maintenance and support services
80	Pacific Studio, Inc.	10/06/15	on completion	1,250,000	1,250,000	Design, fabricate & install new exhibits
81	Park Landscape	09/15/15	09/27/21	239,167	239,167	Grounds maintenance service
82	Pathfinder Communication Solutions LLC	06/03/15	06/02/24	500,000	500,000	Avaya hardware, software, maintenance, and technical services
83	Patricia Montgomery	06/23/14	06/30/19	75,000	75,000	Social media development services
84	Phycotech, Inc.	08/01/14	07/31/19	70,000	70,000	Analysis of phytoplankton samples in Lake Mead
85	Precision Plumbing	12/01/15	11/30/22	10,000	10,000	Plumbing services
86	Public Financial Management, Inc.	06/23/14	06/23/18	100,000	100,000	Financial strategic data analysis
87	Quantum Spatial	04/07/15	04/06/20	25,000	25,000	Aerial Imagery and Data services
88	Quest Diagnostics	09/26/13	09/30/20	5,000	5,000	Drug Testing
89	Reward Strategy Group	11/01/14	10/31/21	95,000	95,000	HR consulting
90	Safety-Kleen Corporation	06/15/15	12/31/18	500,000	500,000	Recycling & disposal of AMR components
91	Safety-Kleen Corporation	06/15/15	12/31/17	250,000	250,000	Recycling & disposal of AMR components
92	Santoro Whitmire LTD	09/24/15	05/31/23	100,000	100,000	Legal representation and services
93	Sectran Security Inc.	04/13/15	04/12/22	22,500	22,500	Armored Car Services
94	Sherman & Howard, LLC	07/30/15	07/29/23	100,000	75,000	Misc. bond & financing-related svcs, inc. audits & other matters.
95	Stanford University	08/03/15	08/01/17	30,000		Research services
96	Statewide Fire Protection Inc	07/02/15	06/30/20	2,625	2,625	Fire Hydrant Inspection and Testing
97	Switch Communications Group, LLC	09/10/14	09/09/19	555,100	555,100	Colocation and Internet access services
98	TalentWise	9/4/2015	Upon notice	10,500	12,500	Services for pre-employment screening/background checks
99	Tand Inc.	07/03/12	07/31/17	83,333		On-Call Maintenance Services
100	The Vaccine Center	8/31/2015	Upon notice	8,100	9,720	Services for pre-employment physicals or testing
101	Total Safety Inc.	07/01/15	06/30/20	9,933	9,933	Fire Extinguisher Inspection and Service
102	Trench Shoring Company	03/20/14	03/19/19	30,000	30,000	Trench plate shoring and rental services
103	Unifirst	08/01/11	07/31/21	100,000	100,000	Uniform rental and laundry services
104	Vertice Communication Corporation	06/16/14	06/30/20	90,000	90,000	Spanish Language advertising and marketing services for the Springs Preserve
105	Veterinarian Aquarium Group	04/14/14	04/14/21	85,000	85,000	Veterinarian services
106	Wells Cargo Inc.	06/05/13	06/30/18	150,000	150,000	Virgin Aggregate II and Spoils Disposal for Distribution
107	Wilson, Elser, Moskowitz, Edleman & Dicker LLP	10/06/15	10/05/23	100,000	100,000	Legal services
108	Air filter Sales & Serv Co Inc	06/20/16	6/19/2017	20,000		90-day filter change at LVVWD Main Campus, Springs Preserve, and various off-site locations.
109	Altour	05/01/13	06/30/18	25,000	-	Travel service arrangements

SCHEDULE OF EXISTING CONTRACTS

Budget Year 2017 - 2018

Local Government: Las Vegas Valley Water District
Contact: Brian Thomas
E-mail Address: brian.thomas@lvvwd.com
Daytime Telephone: (702) 822-8810

Total Number of Existing Contracts: _____ 197 _____

Line	Vendor	Effective Date of Contract	Termination Date of Contract	Proposed Expenditure FY 2017-18	Proposed Expenditure FY 2018-19	Reason or need for contract:
110	American Medical Response	08/01/14	07/31/19	7,000	7,000	SP Emergency On-Site Medical Services for events
111	Audio Visual Advisors	10/01/16	09/30/17	7,500	-	Audio visual services for Springs Preserve events
112	Automic Software, Inc. (fmly UC4)	12/01/16	11/30/21	70,000	70,000	Professional services for batch processor software
113	Avisight LLC	08/22/16	08/21/17	8,000	-	Ad Hoc Aerial Imagery and Data Services
114	BESST Inc.	07/27/16	07/26/17	4,829	-	Chromium VI Profiling Services - Searchlight Wells
115	Bugs-R-Us Pest Control	03/02/16	03/02/21	39,795	39,795	Pest Control Services
116	Capital Project Law Group	03/16/15	03/15/22	50,000	50,000	Legal services for the Low Lake Pumping Station Project.
117	Capitol North American	01/01/17	12/31/21	152,101	169,550	Installation of systems furniture
118	Capitol North American	10/13/16	10/12/22	20,000	20,000	Exhibit Transport
119	Catalyst Consulting Team	10/26/16	10/31/22	75,000	75,000	Consulting Services for SMT
120	Celebrate Kids	02/03/16	02/02/19	15,000	12,000	Performances at Springs Preserve
121	CH2M Hill Engineers, Inc.	10/04/16	04/04/18	62,204	106,343	Professional Engineering Services
122	Clark County Collection Service	04/01/16	03/31/22	100,000	100,000	Debt Collection Services
123	Codale Electric Supply	03/04/14	03/03/19	750,000	750,000	PLC controllogix equipment, training and field service.
124	Consumer Opinion Services LV	08/27/12	08/31/18	25,000	4,000	Consumer survey services
125	Cox Business Services	07/01/13	06/30/18	80,000	85,000	Internet and Ethernet services
126	Criterion 508 Solutions Inc	09/13/16	09/12/17	4,000	-	Professional services
127	D.R. Backflow Services	04/01/17	03/31/18	234,000	234,000	Backflow Assembly testing
128	Divdat	03/10/14	06/30/18	50,000	55,000	Payment kiosk services
129	Double Vision Art & Design	04/01/16	03/31/21	97,000	97,000	Design Services and Web Support
130	Digital Guardian	12/29/16	12/28/21	137,374	137,374	Data loss prevention services
131	Electrical Power Systems International	02/19/15	02/18/20	119,765	125,753	Electrical Testing Services
132	EMS Software	01/30/17	12/28/17	15,000	-	Meeting Scheduling Software Implementation
133	Epic Systems	01/08/14	01/07/18	53,985	-	Legal Services
134	Epiq Systems	09/01/16	08/31/23	32,488	32,488	Email preservation service for Legal
135	Epic Systems	03/08/16	03/07/22	98,604	98,604	Contract Management Software and service
136	Epiq Systems	01/30/17	06/30/17	83,440	-	Legal hold software implementation
137	ESRI	07/01/16	06/30/21	268,701	295,572	Software Maintenance - GIS System
138	Exelis Visual Information Sol Inc	11/17/11	11/16/17	15,000	15,000	ENVI Software for the Analysis and Visualization of Scientific Data And Imagery.
139	Experian Information Solutions, Inc.	11/01/11	10/31/17	50,000	-	Prof. services for Risk Credit Assessment
140	Experis IT Services US, LLC	07/05/05	Upon notice	-	-	Software development services
141	First Date Government Solutions LP	05/19/15	05/18/16	77,760	-	Development & implementation of a calling system
142	First Choice Tree Service	09/01/16	08/31/17	16,000	-	Holiday Lights Installations at Springs Preserve
143	First Data Resources, LLC	07/01/14	06/30/23	880,000	900,000	Water bill printing, mailing, and IVR services
144	Fleet Management Solutions Inc.	11/30/15	06/30/18	25,000	-	Monthly Use of District's Vehicle Tracking System Devices
145	GCW, INC	12/6/2016	Upon Notice	857,378	-	Design of the replacement of potable water pipelines & services.
146	Geophex Surveys LTD	08/22/16	08/21/17	8,000	-	Ad Hoc Aerial Imagery and Data Services
147	Gutic Enterprises Inc	09/15/16	09/14/22	35,000	35,000	Professional Services
148	Hispana Comunicacion Integral	04/06/16	04/05/22	83,000	83,000	Spanish-language Marketing, Social Media and Advertising
149	Hobbs, Ong and Associates	07/05/16	07/05/21	200,000	200,000	Financial advisory services
150	Holland and Hart	09/23/08	upon notice	1,500,000	1,500,000	Legal Services
151	HOTT	02/07/17	02/06/18	57,750	-	
152	Imagine Exhibitions Inc.	06/14/16	10/17/17	200,000	-	Traveling exhibition "Astronaut" at the Springs Preserve
153	Imgeospatial Intelligent Modelling	02/08/17	02/07/18	5,000	-	Satellite imagery sevices
154	IZ Design Studio	08/10/16	08/09/17	1,978	-	Architectural services for East Wing remodel
155	IZ Design Studio	11/28/16	11/27/17	6,010	-	Architectural services for West Wing remodel
156	J & J Enterprises Services	01/23/17	01/22/22	25,000	25,000	Asphalt milling services
157	Jeff Rosenthal	08/30/16	08/31/23	90,000	90,000	SMT Professional Development
158	Jena Anotchuk	04/01/16	03/31/21	99,000	99,000	Outreach Communication Services
159	Jose M. Carranza - V Productions	09/13/16	09/12/17	3,000	-	Prop design, installation and removal services
160	Katarina Hradliek dba Double Vision Art & Design	04/01/16	03/31/21	97,000	97,000	Graphics & design services
161	Labor Ready Southwest	10/12/16	10/11/20	15,000	15,000	Professional Services-Staffing
162	Las Vegas Plumbing	03/30/14	03/29/17	3,500	10,000	On Call Plumbing Services
163	Las Vegas Review Journal	01/16/13	01/15/19	6,000	6,000	Advertising services
164	Milliman, Inc.	12/06/16	12/05/21	8,000	8,000	Actuarial services
165	Ogletree Deakins	06/06/16	05/31/23	100,000	100,000	Legal Services

SCHEDULE OF EXISTING CONTRACTS
Budget Year 2017 - 2018

Local Government: Las Vegas Valley Water District
Contact: Brian Thomas
E-mail Address: brian.thomas@lvvwd.com
Daytime Telephone: (702) 822-8810

Total Number of Existing Contracts: _____ 197 _____

Line	Vendor	Effective Date of Contract	Termination Date of Contract	Proposed Expenditure FY 2017-18	Proposed Expenditure FY 2018-19	Reason or need for contract:
166	Ontario Refrigeration	01/27/17	01/26/18	7,632		Chiller Inspections.
167	Oracle America Inc.	11/10/15	12/31/17	198,000	-	Technical engineering services for Customer Care and Billing software
168	Patricia Maxwell	03/01/15	03/01/17	75,000	75,000	HR consulting
169	PFM Financial Advisors	01/11/17	07/14/17	100,000		CFO services
170	Piercy Bowler Taylor & Kern	08/10/16	06/30/21	100,000	100,000	Auditing Services
171	Platinum Edge, LLC	02/09/17	02/08/22	100,000	100,000	"Scrum" training services
172	QUIVX Discovery & Document Solutions	06/18/15	06/17/20	10,000	15,000	Data collection assistance services for legal holds and public records requests
173	R&R Partners, Inc.	3/1/2016	6/30/2022	2,000,000	2,200,000	Integrated marketing, communications & public outreach services.
174	Rafael Construction	04/23/14	04/22/19	387,200	387,200	Catholic Protection Services
175	Reward Strategy Group	07/01/16	06/30/23	50,000	50,000	HR Consulting services
176	Richard Stearns Designers Studio	07/01/16	06/30/19	55,000	18,315	Consultant for the Springs Preserve Gift Shop
177	Robin Rockey	07/01/16	06/30/19	90,000	29,970	Professional Services
178	S & S Concrete and Materials	08/03/16	08/02/19	25,000	25,000	Type II Material and Waste Disposal Services
179	Safe Electronics	11/1/2015	10/31/2017	12,000	-	Fire systems maintenance
180	Safety Kleen Corporation	03/01/17	02/28/18	50,000	50,000	Waste products service
181	Safety-Kleen Corporation	06/15/15	12/31/18	185,000	-	Recycling & disposal of AMR components
182	Science North	3/9/2016	6/30/2017	215,000		SP Exhibition "The Science of Ripley's Believe It or Not"
183	Sierra-Cedar Inc	10/04/16	06/30/18	1,200,000	-	Professional services for configuration and deployment of Workday, Inc.
184	Southwick Landscap Architects	03/17/16	06/30/17	44,900		Remodel of Springs Preserve Playground
185	Splash Business Intelligence	05/18/16	05/17/22	47,708	47,708	Ad Hoc Reporting Software and Services
186	Stanka Consulting	01/01/13	12/31/17	98,000	-	Professional Services, water rights assessments
187	Ssunbelt Controls	07/01/16	06/30/17	12,996		Service for the Automated Logic Energy Management System
188	Swendseid and Stern	04/19/12	upon notice	unknown	unknown	Bond Counsel
189	Technology West Group	06/20/16	06/19/17	77,148		Audio-Video Equipment Svcs.
190	Telvent USA, LLC	04/26/16	04/25/22	100,000	100,000	Professional services for SCADA software
191	Telvent USA LLC	03/13/17	03/12/18	343,844	-	Services - SCADA System Upgrade Project, Stage 2
192	Topnotch Services Inc.	07/13/16	07/09/22	65,403	65,403	Street Sweeping Services
193	Trident Landscape Management LLC	04/26/16	04/25/21	10,000	10,000	Irrigation Mapping Services
194	US Captioning Company	08/01/16	07/31/21	12,000	12,000	Closed Captioning services
195	Utilis Israel LTD	04/25/16	05/01/18	48,000	-	Professional services for satellite leak detection
196	V Productions	09/13/16	09/12/17	9,300		Professional Services
197	Western Elite	10/12/16	10/11/20	5,000	5,000	SP Dumpster Services
	Total Proposed Expenditures			\$ 28,774,235	\$ 25,290,829	

Additional Explanations (Reference Line Number and Vendor):

SCHEDULE OF PRIVATIZATION CONTRACTS

Budget Year 2017 - 2018

Local Government: Las Vegas Valley Water District

Contact: Brian Thomas

E-mail Address: brian.thomas@lvvwd.com

Daytime Telephone: (702) 822-8810

Total Number of Privatization Contracts: NONE

Line	Vendor	Effective Date of Contract	Termination Date of Contract	Duration (Months/ Years)	Proposed Expenditure FY 2017-18	Proposed Expenditure FY 2018-19	Position Class or Grade	Number of FTEs employed by Position Class or Grade	Equivalent hourly wage of FTEs by Position Class or Grade	Reason or need for contract:
1	NONE									
2										
3										
4										
5										
6										
7										
8	Total									

Attach additional sheets if necessary.

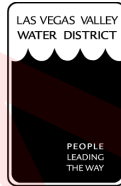
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Schedule 32

Place holder for
affidavit of
publication

Department of Taxation Letter Place Holder

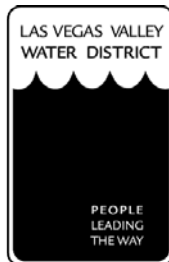
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SECTION 5

DEPARTMENT BUDGETS

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LAS VEGAS VALLEY WATER DISTRICT

FISCAL YEAR 2017-18

OPERATING AND CAPITAL BUDGET

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Las Vegas Valley Water District
Operating and Capital Budget
Department Budgets
Fiscal Year Ending June 30, 2018

Department Budgets

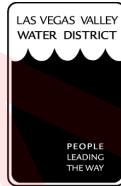
This section contains summaries of budgets for each of the Las Vegas Valley Water District's (LVVWD) departments. Each department's budget narrative contains detailed budget information and other

highlights of the 2017-18 Budget Plan. The following table presents the 2015-16 actual, 2016-17 Adopted Budget and 2017-18 Budget Plan for each of the departments.

LVVWD Summary of Department Expenditures

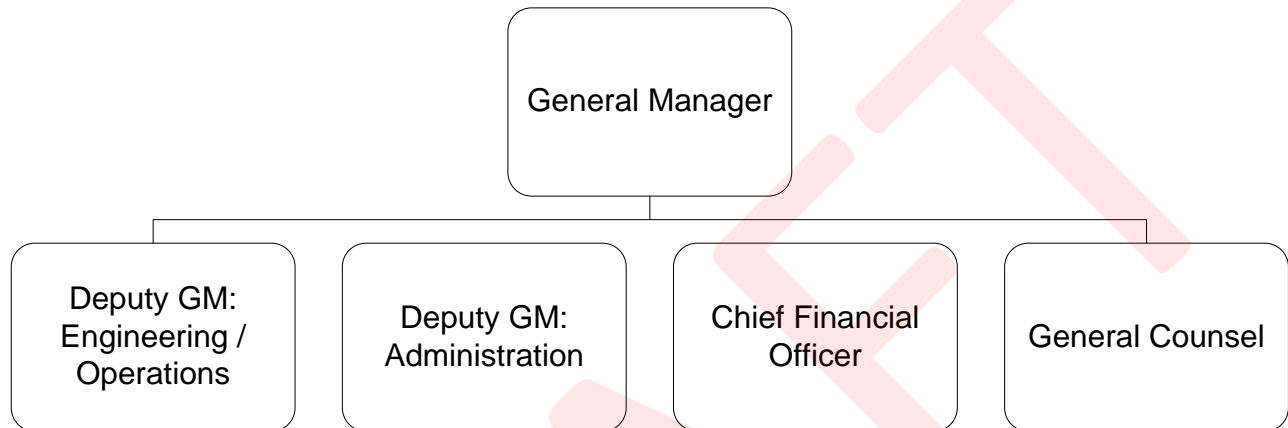
Departments	2015-16 Actual	2016-17 Budget	2017-18 Budget	Budget-to-Budget Variance
Executive Management	\$ 1,315,108	\$ 1,296,993	\$ 1,404,378	\$ 107,385
Legal Services	2,954,258	4,898,598	4,436,258	(462,341)
Finance	251,245,988	300,207,343	300,042,048	(165,295)
Information Technology	32,186,982	33,191,614	39,807,404	6,615,790
Human Resources	4,580,379	4,142,802	4,979,977	837,175
Public Services	11,862,575	15,243,974	15,582,648	338,674
Environmental Health Safety & Corporate Security	5,736,410	6,154,761	6,083,933	(70,828)
Customer Care & Field Services	28,590,235	27,747,430	26,466,077	(1,281,353)
Engineering	39,021,370	31,049,355	65,625,692	34,576,337
Resources & Facilities	13,957,197	21,086,288	22,485,671	1,399,383
Infrastructure Management	13,373,243	36,946,900	30,924,259	(6,022,641)
Water Resources	77,445	425,025	450,470	25,445
Energy Management	(3,708)	-	-	-
Operations	42,107,678	47,231,044	48,660,077	1,429,033
Water Quality & Treatment	521,372	242,478	706,439	463,961
Total Department Expenditures	\$ 447,526,533	\$ 529,864,604	\$ 567,655,330	\$ 37,790,726
Debt Service	\$ 58,809,008	\$ 59,678,956	\$ 65,376,847	\$ 5,697,891
Total Uses of Funds	\$ 506,335,541	\$ 589,543,560	\$ 633,032,177	\$ 43,488,617

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EXECUTIVE MANAGEMENT

Level: 1000



Mission

Provide world class water service in a sustainable, adaptive and responsible manner to our customers through reliable, cost effective systems.

Department Description

The Executive Management Team is responsible for strategic planning, general administration and operational oversight of the Las Vegas Valley Water District (LVVWD) and the Southern Nevada Water Authority (SNWA). The function is staffed by a General Manager, who has responsibility for managing the two organizations. Two Deputy General Managers, a Chief Financial Officer and a

General Counsel also oversee administrative and operational activities.

The Executive Management Team implements policy as established by the LVVWD and SNWA Boards of Directors. The team is responsible for anticipating organizational needs and implementing appropriate strategies to ensure these needs are met. To fulfill the LVVWD and SNWA missions, the Executive Management Team petitions the respective boards for direction and approval of funding and other support, and directs staff accordingly. It also interacts with other local, national and international entities in developing strategies to meet demands and responsibly manage resources.

Las Vegas Valley Water District
Operating and Capital Budget
Department Budgets
Executive Management
Fiscal Year Ending June 30, 2018

Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ 6,615	\$ 9,500	\$ 15,600
Maintenance & Repairs	165	-	-
Other Employee Expenses	46,070	77,150	85,100
Other Expenses	154,228	168,600	169,180
Total Operating Expenses	\$ 207,078	\$ 255,250	\$ 269,880
Capital Costs	\$ -	\$ -	\$ -
Payroll Costs	\$ 1,108,030	\$ 1,041,743	\$ 1,134,498
Total Department Expenditures	\$ 1,315,108	\$ 1,296,993	\$ 1,404,378
FTE Positions	5.0	5.0	5.0

Department Performance

Over the past year, the Executive Management Team has directed a wide range of initiatives to ensure reliable water delivery to Southern Nevada by implementing multiple strategies and approaches to drought, conservation and identifying present and future infrastructure and resource needs. Significant initiatives over the past year include:

- Continued construction of a new Low Lake Level Pumping Station (L3PS), which is expected to be complete by

2020.

- Completion of a citizen's advisory committee process for the LVVWD rates and Service Rules, and implementation of the resulting recommendations.
- Development and approval of the LVVWD's 10-year Capital Improvement Plan.
- Participation in the 2017 Legislative Session.
- Infrastructure design for the Garnet Valley water system.
- Continued collaboration with Colorado River partners on conservation programs that will

Las Vegas Valley Water District
Operating and Capital Budget
Department Budgets
Executive Management
Fiscal Year Ending June 30, 2018

- protect Lake Mead water elevations.
- Continued leadership and involvement in Colorado River issues and initiatives.
- Completion and grand opening of the Boomtown 1905 exhibit at the Springs Preserve.

Low Lake Level Pumping Station

Following a recommendation from the Integrated Resources Planning Advisory Committee Process in 2015, the SNWA began design and construction on a new low lake level pumping station (L3PS) at Lake Mead. To date, construction crews have completed 27 well shafts and continue with the multi-phased drilling process on seven more. These 34 shafts will accommodate submersible pumps, each capable of pumping 30 million gallons of water per day. Adjacent to the well shafts, workers are finished excavating a 26-foot diameter access shaft to the top of the future fore bay at elevation 766 feet, which is 494 feet below the surface. Crews are now working at the existing surge shaft on the north end of the site to excavate it to the same elevation. Once the well shafts are complete, crews will excavate the underground storage area, known as a fore bay.

L3PS construction remains on schedule and is expected to be operational by 2020. When completed, L3PS will allow the SNWA to pump water from an elevation as low as 875 feet and work with Intake No. 3 to provide the community continued access to Colorado River supplies.

Service Rules and Rates Process.

In February 2016, the LVVWD Board of Directors appointed nine people to serve on a

citizens advisory committee tasked with evaluating how to fund the agency's capital needs and make changes to the LVVWD Service Rules.

After nine meetings between February and October 2016, the committee presented 11 recommendations to the Board, including a modest rate increase in 2017 and 2018, and an indexed increase in the years following. Ultimately, these recommendations will fund the LVVWD's capital needs over the next 10 years and meet the reserve targets set forth in the Board-adopted Reserve Policy.

Capital Improvement Plan

In January 2017, the LVVWD Board of Directors approved a 10-year Capital Improvement Plan that will guide decisions related to asset management, necessary water system expansion and water quality compliance activities. The plan represents an investment of approximately \$616 million over a 10-year planning horizon to make improvements to key system components and ensure a reliable water system for the LVVWD customers.

System Conservation Pilot Program

The SNWA continues to partner with the U.S. Bureau of Reclamation and water users in the Upper and Lower Colorado River Basins on the System Conservation Pilot program. Over the past three years, the SNWA and its partners have helped fund 10 projects in the Lower Colorado River Basin and more than 25 projects in the Upper Basin. There continues to be broad interest in this voluntary program from water users in both basins and

Las Vegas Valley Water District
Operating and Capital Budget
Department Budgets
Executive Management
Fiscal Year Ending June 30, 2018

preliminary findings indicate that substantial water conservation can be achieved through this type of program.

Garnet Valley Water System

Following a special Legislative Session in December 2015, the SNWA was tasked with designing and constructing a water system to meet the needs of the proposed developments in the Apex area of North Las Vegas. The SNWA worked quickly to complete design of the water system on time and under budget by December 2016.

Groundwater Development Project

As recommended by IRPAC, the SNWA continues to maintain the Clark, Lincoln and White Pine Counties Groundwater Development Project as part of its long-term water resource plan. The project will help meet the community's long-term demands and provide a water supply separate from the Colorado River. Although the project is unlikely to be needed in the short-term, the SNWA continues permitting activities, including legal review.

Strategic Plan Objectives and Accomplishments

The Executive Management Team oversees and manages the implementation of the strategic plan goals identified by the LVVWD and the SNWA.

Strategic Plan Goal - Assure quality water through reliable and highly efficient systems

2017-18 Performance Objectives

- Develop and maintain existing state, federal and international partnerships to advance and promote water-related technical development and innovative water-resource solutions.
- Continue to identify opportunities for increased efficiency and enhanced customer service.
- Continue to work with federal, state and local agencies to develop and operate joint facilities that provide regional solutions to water quality, water supply and environmental issues on the Colorado River.
- Continue construction progress on L3PS.
- Demonstrate national and international leadership in water research, conservation and water quality efforts.
- Implement the LVVWD and SNWA Capital Plans.

2016-17 Major Accomplishments

- Adoption and implementation of LVVWD's 10-year Capital Improvement Plan, which will guide decisions related to asset management, necessary water system expansion and water quality compliance activities.
- L3PS construction remains on-schedule with completion of all pump well shafts and continuation of the multi-phased drilling process.
- Continued implementation of the Colorado River System Conservation Pilot Program.

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- The LVVWD's average monthly water use for residential single services has declined by 38.5 percent over the past 14 years.
- Commenced filter replacement process at the Alfred Merritt Smith Water Treatment Facility, which will result in increased system efficiency.

Strategic Plan Goal - Deliver an outstanding customer service experience.

2017-18 Performance Objectives

- Identify and implement further operational and management practices to maintain service levels with greater efficiency.
- Continue implementation and increase use of analytics software to detect potential leaks and notify customers.

2016-17 Major Accomplishments

- The LVVWD delivered approximately 108 billion gallons of water to customers throughout its service area.
- Installed Itron Analytics software, enabling staff to conduct hourly meter reads and advise customers of possible leaks with increased efficiency.
- Completed construction and held a grand opening for the Springs Preserve Boomtown 1905 exhibit.
- Launched the Springs Preserve mobile app, which offers guests tools to help them navigate the property, purchase tickets or memberships and receive information about current and upcoming attractions, exhibits and classes.

- Recently implemented live closed captioning of all respective board meetings and social media videos to accommodate the Americans with Disabilities Act as well as social media users who prefer to read captions rather than use headphones.

Strategic Plan Goal - Anticipate and adapt to changing climatic conditions while demonstrating stewardship of our environment.

2017-18 Performance Objectives

- Continue leadership on Colorado River issues to ensure Southern Nevada's needs are addressed.
- Participate in national and industry discussions and planning on climate change, including active membership in the Water Utility Climate Alliance.
- Continue effective management of the Spring Valley ranching properties.
- Continue conservation education and incentive programs to maximize available water supplies.

2016-17 Major Accomplishments

- The SNWA is currently serving as Chair for the Water Utility Climate Alliance, which recently led a survey of drinking water utilities across the nation to assess how utilities are addressing the risk of climate change and its impact to drinking water.
- Initiated a study with the University of California San Diego in 2016 to evaluate the most appropriate climate models for use in Clark County. This effort is anticipated to support various

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planning and development activities by the SNWA related to climate change.

- Ranked 15th place in the 2016 Green Fleet Awards, which recognizes 100 best fleets in North America. The LVVWD has been ranked in the top 25 green fleets for eight consecutive years.
- Commenced work on the Tropicana Weir – one of the last of the 21 weirs planned and constructed at the Las Vegas Wash. The Wash remains an important component to Southern Nevada's watershed by carrying the valley's excess water through wetlands, which serves as critical habitats to birds and plants, but a crucial cleansing point for the runoff.
- Continued monitoring the Moapa dace population, which has been stable since 2014 at approximately 1,800 fish.

Strategic Plan Goal - Develop innovative and sustainable solutions through research and technology.

2017-18 Performance Objectives

- Continued implementation of IRPAC recommendations, including the construction of L3PS.
- Continue to lead the implementation of the Las Vegas Wash Comprehensive Adaptive Management Plan.
- Continue development and implementation of a long-term Operations and Maintenance Plan with associated costs and funding options.

2016-17 Major Accomplishments

- Recently deployed PipeMinder technology, which monitors underground pipelines and provides real-time hydraulic data about the behavioral flow of water within the pipelines.
- Partnered with Echologics and AT&T to install acoustic monitoring equipment along Las Vegas Boulevard to acoustically monitor and detect leaks or other infrastructure issues before they become emergency situations.
- Continued to support environmental management efforts at the SNWA Northern Resource Properties by putting primary groundwater rights to beneficial use. Ranch staff maintains critical assets and provides services to technical staff conducting research and monitoring activities.

Strategic Plan Goal - Ensure organizational efficiency and manage financial resources to provide maximum customer value.

2017-18 Performance Objectives

- Plan and develop opportunities to increase the LVVWD and SNWA investments in alternative and renewable energy supplies.
- Continue to implement the recommendations made by the Rates and Service Rules Citizens Advisory Committee process and monitor results.

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2016-17 Major Accomplishments

- In 2015 and 2016, the LVVWD saved \$52.2 million and the SNWA saved \$187.4 million refunding bonds.
- Implementation of 11 recommendations, including a modest rate increase in 2017 and 2018, from a citizen's advisory committee to support long-term water system reliability.
- In Fiscal Year 2015-16, Springs Preserve overall revenue increased by approximately 4 percent and third party business events grew by 15 percent over the previous year.

Strategic Plan Goal - Strengthen and uphold a culture of service, excellence and accountability.

2017-18 Performance Objectives

- Ensure continual security and safety of the LVVWD's and SNWA's facilities, and promote an organizational climate and culture of safety and security for employees, customers and the community.
- Identify opportunities to strengthen a culture of accountability and efficiency throughout the organization.

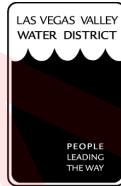
2016-17 Major Accomplishments

- The American Water Works Association awarded the River Mountains and Alfred Merritt Smith water treatment plants the Partnership for Safe Water Presidents

Award for their dedication in optimizing water treatment operation.

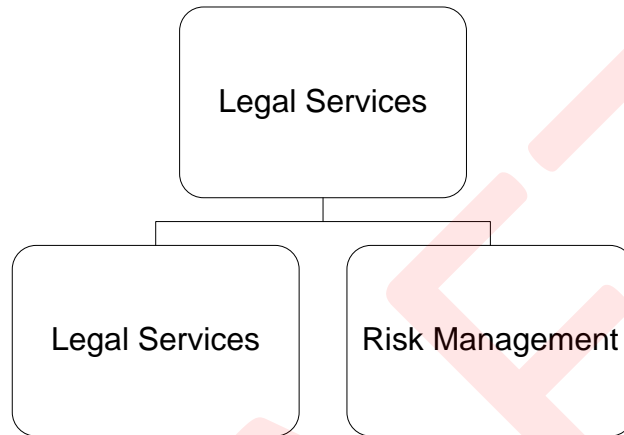
- The Springs Preserve—where video is heavily used to promote activities and programs— has had more than 800,000 views on its YouTube videos over the course of the channel's existence.
- The Springs Preserve social media campaign and *Springs Elemental* television program each received Pinnacle Awards from the Public Relations Society of America, recognizing excellence in public-relations strategies and tactics employed by communicators throughout the metropolitan area.
- In 2016, the SNWA assisted eleven well users to connect to a municipal water supply, in compliance with the SNWA's financial assistance guidelines for the Groundwater Management Program as established by the Nevada Legislature. Through the Sub-meter Assistance Program, seven sub-meters have been distributed to well owners, four rebates have been issued for the installation of those sub-meters, and eight wells have been plugged and abandoned.

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LEGAL SERVICES

Level: 1200



Mission

To provide expert legal counsel in support of the organization's mission, policies, goals and strategies.

and continues to advise on electrical power issues.

Department Description

Legal Services acts as corporate counsel to the organization, providing legal review of policies and procedures to ensure compliance with applicable laws and regulations. The department represents the organization in court proceedings and before administrative boards and hearing panels in a variety of natural resource, property, personnel and other litigation matters. The department reviews contract documents and provides services for land and natural resource acquisitions associated with capital development programs. Legal Services coordinates and monitors efforts of outside counsel who represent the organization. The department is involved in resource planning

The Risk Management division assesses risk and insurance needs on an organization-wide basis, procures appropriate coverage, and manages submitted claims. The department works closely with the General Manager and Deputy General Managers in providing legal advice and in the development and review of proposed legislation and regulations at the local, state, and federal levels.

Budget Objectives and Highlights

Attorneys in the department are performing a steadily increasing practice before Nevada courts, federal courts, and state and federal administrative agencies. The 2017-18 budget contains continuing funding to support these efforts and for outside counsel who perform a variety of other legal services for the organization. Funds have also been retained in the budget to acquire a contract management software solution.

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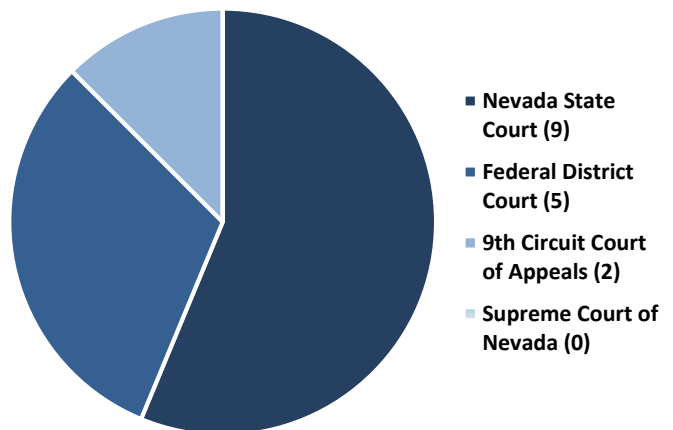
Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ 11,762	\$ 129,500	\$ 29,200
Rental & Leases	220	-	-
Other Employee Expenses	46,993	59,500	61,000
Other Expenses	1,679,224	3,078,229	2,655,214
Total Operating Expenses	\$ 1,738,199	\$ 3,267,229	\$ 2,745,414
Capital Costs	\$ -	\$ -	\$ -
Payroll Costs	\$ 1,216,059	\$ 1,631,369	\$ 1,690,844
Total Department Expenditures	\$ 2,954,258	\$ 4,898,598	\$ 4,436,258
FTE Positions	5.6	9.2	8.0

Department Performance

Representing the organization in litigation is only a small part of what Legal Services does. In addition to litigation, department attorneys support the organization by giving advice and counsel on transactional matters and on sensitive personnel issues.

Pending Litigation Matters Number of Cases: Federal, State, or Administrative Forum



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**Strategic Plan Objectives and
Accomplishments**

***Deliver an Outstanding Customer Service
Experience***

The department will continue to focus on client satisfaction to ensure our internal clients receive highly responsive, clear and accurate legal opinions.

***Strengthen and Uphold a Culture of Service,
Excellence and Accountability***

Legal Services and Risk Management have provided and will continue to provide training sessions to organization staff to develop internal capacity and strengthen the culture of excellence.

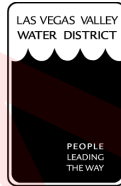
2016-17 Major Accomplishments

- Negotiated water and power resource positions and agreements, as well as renewable resource agreements.
- Kept construction on schedule without costly delays due to litigation and arbitration.
- Prevailed in adversarial proceedings.
- Minimized the need for any construction project condemnations.

2017-18 Performance Objectives

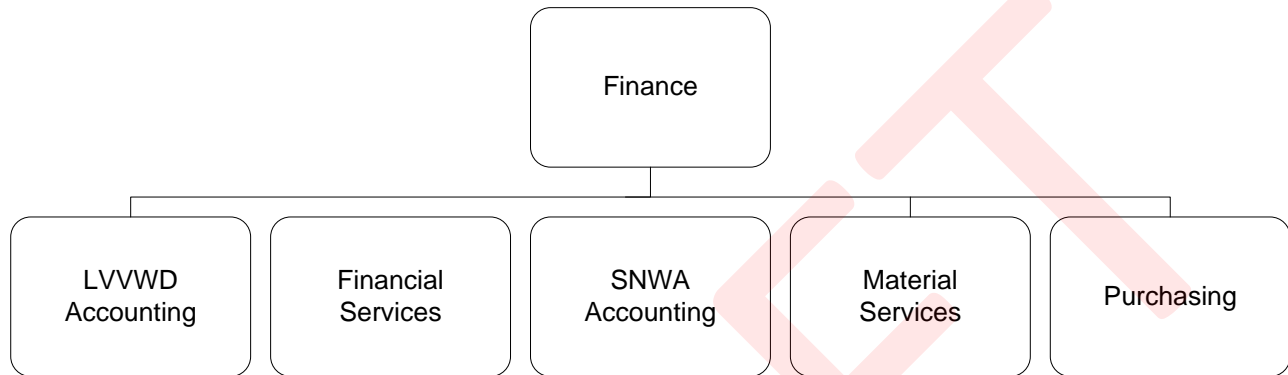
- To be highly responsive to the needs of our clients and provide concise, clear and accurate legal opinions.
- To increase communication between Legal Services and organization staff in a coordinated response to legal issues.
- To provide proactive contract reviews to minimize the threat of extended and costly litigation.
- To take an active role regarding resource acquisition and management with regard to legal issues and strategy concerning water and power.
- To support the organization's Information Governance initiative.

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FINANCE
Level: 2100



Mission

To provide leadership in finance, accounting, budgeting and debt management, ensuring the financial integrity and safeguarding assets of the Las Vegas Valley Water District (LVVWD) and the Southern Nevada Water Authority (SNWA).

Department Description

The Finance department is responsible for day-to-day accounting, financial reporting, financial planning, debt and treasury management, budgeting, and all aspects of financial operations of the LVVWD and the SNWA. Following the principles of governmental accounting, the department maintains, on an accrual basis, an Enterprise Fund for the LVVWD and the SNWA and a Pension Trust Fund. In the Enterprise Funds, financial activities are recorded in a manner similar to that of a private business. The Pension Trust Fund is used to account for the

investments, earnings, contributions, expenses, and projected pension benefits of the LVVWD Pension Plan. The department also coordinates the LVVWD and the SNWA's budget processes in compliance with Nevada State Law. Internal accounting controls, as required under generally accepted accounting principles (GAAP), are strictly enforced for safeguarding property and in preparing financial statements.

The Finance department budget also includes the LVVWD's costs for water supply and charges that are made on behalf of the SNWA (pass-through costs).

Budget Objectives and Highlights

The 2017-18 Finance department budget contains funding to maintain the necessary functions the LVVWD and the SNWA require to provide quality services to both internal and external customers.

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Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Water	\$ 87,074,256	\$ 87,409,203	\$ 89,716,896
Materials & Supplies	819,714	763,350	801,025
Maintenance & Repairs	3,851,473	4,101,000	3,924,200
Rental & Leases	24,337	22,000	24,300
Other Employee Expenses	128,032	198,800	331,675
Other Expenses*	153,318,152	199,844,272	197,711,879
Total Operating Expenses	\$ 245,215,963	\$ 292,338,625	\$ 292,509,975
Capital Costs	\$ -	\$ -	\$ -
Payroll Costs	\$ 6,030,025	\$ 7,868,717	\$ 7,532,073
Total Department Expenditures	\$ 251,245,988	\$ 300,207,343	\$ 300,042,048
FTE Positions	54.6	55.3	53.0

*Includes SNWA Pass-Throughs and Allocations

Department Performance

LVVWD Accounting. The Accounting division is responsible for accounting, financial reporting, accounts payable and payroll activities, as well as supporting cashing activities at the Springs Preserve. The division ensures adequate controls over all revenues, expenditures, assets and liabilities, and prepares the LVVWD Comprehensive Annual Financial Report (CAFR), which has received the Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association (GFOA) for the last thirty-eight (38) consecutive years. The

division provides accounting and payroll services for the LVVWD, the SNWA, Big Bend Water District (BBWD), Kyle Canyon, Coyote Springs, and three rural systems that are part of the LVVWD. The division also provides accounting services for the Las Vegas Valley Water District Retirement Plan.

Accounting functions include: ensuring financial statements and reports are accurate, complete and consistent; maintaining the general ledger, inventory, fixed asset and other system records; cash management and the accounting and reporting of investments of the LVVWD's funds; reconciling bank statements with thousands of disbursements;

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processing payroll for approximately 1,250 employees; processing accounts payable for approximately 42,000 payments annually, which earned more than \$275,000 discounts in fiscal year 2015-16 including an annual credit card rebate of \$125,000; accounting for the Springs Preserve; and accounts receivable, which includes federal and state agency grant accounting that require preparing and submitting reports to obtain reimbursements.

In October 2014, the LVVWD began outsourcing its mail payment processing. The Accounting division researches and resolves mail payment exceptions, records and reconciles payments received by direct debit, electronic funds transfer, credit card payments by phone, internet payments, recurring credit card transactions and payments received from over 150 satellite pay station locations throughout the Las Vegas valley.

The Accounting division is also responsible for monitoring and supporting all cashier functions at the Springs Preserve, including; managing the cash vault, daily preparation, distribution and reconciliation of cashier banks and bank deposits. In addition, Accounting coordinates and processes group sales and vendor payments for special events as well as providing revenue based reports and analysis for organizational departments.

Financial Services. A broad range of financial services are provided by this division, including preparing and monitoring the annual operating and capital budgets of the LVVWD and the SNWA; designing, analyzing, and recommending water rates; providing short and long-term financial plans.

Financial Services is responsible for preparing an annual line item operating and capital budget. This includes budget development, implementation and monitoring for the LVVWD, SNWA, and BBWD. Financial Services prepares variance reports by department, and directors are accountable for expenditures over and under budget. The division also performs a variety of strategic and long-range financial forecasting, financial and water rate scenario analyses and develops water rate, connection and other fee recommendations for the LVVWD and SNWA departments, projects and programs. On an annual basis, the division conducts a survey of water rates from over 60 cities located in the western United States, closely monitors water production and consumption data, and prepares Annual Statistical Reports.

SNWA Accounting. The SNWA Accounting division supports the strategic objectives of the Finance department by providing accounting services, financial reporting, financial analysis, cash management, and coordination with the financial staffs of the SNWA purveyors and other agencies. The SNWA Accounting division is charged with the following responsibilities: the day-to-day accounting of the SNWA; the accounting and reporting associated with investment of the LVVWD and SNWA funds; reconciliation of receivables and payables between the LVVWD and the SNWA; the preparation and tracking of purveyor billings; the collection, tracking, and forecasting of regional connection charges, infrastructure charges, commodity charges, reliability surcharges, sales tax revenues, and other miscellaneous revenue sources; preparing and filing forms and narratives in connection with LVVWD and SNWA grant receipts; preparation of the

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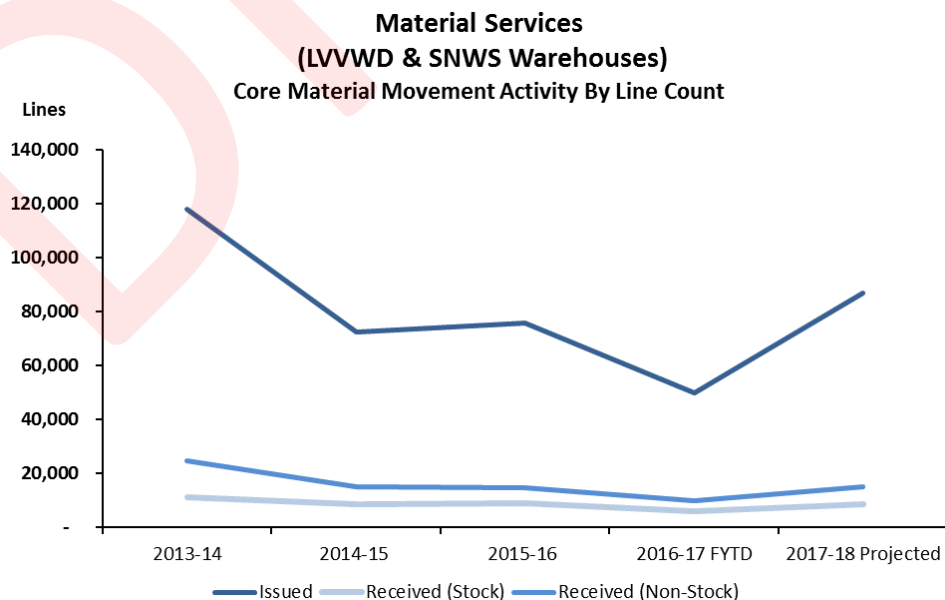
Fiscal Year Ending June 30, 2018

SNWA CAFR and other financial reports; fixed assets tracking; construction contract tracking; and cash management. The SNWA Accounting division also conducts numerous financial analyses such as: arbitrage calculations, cash requirements forecasts, and operating funds analyses.

Purchasing Services. The Purchasing division is responsible for the centralized purchasing activities of the District, the Authority and the Springs Preserve. These activities include: market analysis, developing new, expanded or alternative suppliers, systems contracting, formal and informal bidding processes, sustainable purchasing, disposal of company property, and the support of a diversified supplier program. Negotiations of terms and conditions of contracts, quality products and services, and cost savings are the division's priority.

Material Services. Material Services' primary role is to deliver reliable customer service by

providing quality products, material management, storage and retrieval services. To ensure customers material needs are met, Material Services administers \$33.2 million in blanket agreements to purchase inventory and relies heavily on their supplier partnerships. Material Services partners with their internal customers to identify, forecast, and schedule various Capital and O&M project material requirements. Materials are received, inspected, and processed at both the LVVWD and SNWS Main distribution warehouses for delivery to internal customers at the LVVWD, SNWS, and eleven satellite facilities. In March 2017, average inventory assets were valued at \$16.9 million consisting of 16,300 inventory items. Material Services also received, inspected, and processed non-inventory materials purchases by internal users. In fiscal year to date 2016-17, Material Services received and processed a monthly average of \$1.8 million or 1,946 lines combined for stock and non-stock receipts.



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Material Services supports sustainability through inactive inventory reduction, repurposed shipping materials, and administers, coordinates, and manages the investment recovery efforts for various recyclable and repurposed materials through the auction program and bid sales. Additional services include supply chain management; emergency job site deliveries; safety garment administration; coordination of semi-annual first-aid kit replenishment; Safety Data Sheet administration; courier services for organizational needs which includes lab samples; loanable tool support; FedEx and UPS shipping services.

Mail Services. Mail Services is the hub for processing incoming and outgoing intercompany and United States Postal Service (USPS) mail and has two locations, one at the LVVWD Valley View office and the other at the Molasky Corporate Center. Mail Services transports between the LVVWD, SNWA, SNWS and Springs Preserve offices and to all remote facilities throughout the LVVWD Service Area. Mail Services' also includes the delivery and posting of agenda public notices; administering the LVVWD's postage budget; desktop delivery of office supplies; and special communication campaign folding and envelope stuffing projects. Terrorism training certification is required annually by all Mail Services personnel.

Strategic Plan Objectives and Accomplishments

By the very nature of its activities, the Finance department either directly or indirectly impacts all of the Strategic Plan Goals through

the prudent and strategic funding of all of the various activities and services provided by the LVVWD and the SNWA.

Strategic Plan Goal - Assure quality water through reliable and highly efficient systems.

2017-18 Performance Objectives

- Identify and secure funding for critical infrastructure.
- Provide timely and accurate financial reporting for all capital programs.
- Provide timely and accurate support for the LVVWD, the SNWA and small water system rate proceedings.
- In support of the Emergency Response Plan, continue to develop the Logistics Chief Book Guidelines.

2016-17 Major Accomplishments

- Provided Emergency Response Plan logistical support in response to BBWD's boil water order by delivering 1,512 1-gallon containers of drinking water to local customers.

Strategic Plan Goal - Deliver an outstanding customer service experience.

2017-18 Performance Objectives

- Develop and Implement an electronic routing application for contract awards within General Manager's authority.

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- Continue to improve and streamline day-to-day accounting practices, specialized processes, and improved financial analyses, reporting, and information sharing for the departments.
- Provide the best possible equipment choices to the departments to assist them in meeting their goals efficiently and effectively.
- Provide material services to support the internal customer's goals and projects by planning, forecasting, scheduling, and coordinating their specific material requirements.

2016-17 Major Accomplishments

- Implemented an on-line bidding system in coordination with nine other Nevada local governments.
- Provided Maintenance Engineering forecasting and material management services for the wellsite communications upgrade program.
- Explored cost savings and service improvements by changing supply source providers for Material Services' Vendor Managed Inventory (VMI) strategic areas. This change resulted in a 55 percent O&M cost savings, improved service, and supply reliability for their internal customers.
- Provided Customer Care and Field Services (CC&FS) meter maintenance program material management, forecasting services and utilized just-in-time practices. In support of CC&FS' commercial meter maintenance program, Material Services issued various meters valued at \$1.6 million.

Provided forecasting and material management services to Maintenance Engineering's ControlLogix wellsite communications upgrade program.

Strategic Plan Goal - Anticipate and adapt to changing climatic conditions while demonstrating stewardship of our environment.

2017-18 Performance Objectives

- Increase purchases of recycled and environmentally friendly products.
- Provide weights and categories for all inventory items required for the computation of the District's carbon footprint.

Strategic Plan Goal - Develop innovative and sustainable solutions through research and technology.

2017-18 Performance Objectives

- Begin implementing improved report and automation technology for the upgraded general ledger and accounting system for more timely and useful reports, increased employee efficiency, better control of the approval/authorization process and to maximize vendor discounts. Increase training, evaluation and implementation of new functionality.
- Research and initiate policy changes and alternative payment methods resulting in a reduction in the number of paper customer refund payments issued.

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- Actively participate in CC&B and Workday software upgrades implementations.
- Encourage the purchase of sustainable products by facilitating meetings with suppliers and interested departments.

2016-17 Major Accomplishments

- Identified vendor for accounts payable automation software.
- Actively participated in Avantis and Altru ticketing software upgrades and implementations.
- Fully implemented Phases I and II for the utilization of wireless warehouse hand held devices and barcode technology for issues, item inquiry and location changes. Phase III and IV are scheduled for the 2nd and 4th quarter in 2016.
- Upgraded all LVVWD two-way radios from analog to digital technology in order to improve communications and enhance interoperability throughout the Las Vegas valley.
- Automated several manual payment processes to improve accuracy and efficiency.

Strategic Plan Goal - Ensure organizational efficiency and manage financial resources to provide maximum customer value.

2017-18 Performance Objectives

- Continue the Finance department's long-standing record of excellence in budgeting and financial reporting.
- Continue to enroll vendors and develop payment opportunities for

credit card program in order to increase the credit card rebate.

- Reduce the volume of manually processed payments through customer outreach efforts in coordination with Customer Care and Field Services.
- Implement wireless warehouse barcode software program and hand-held device utilization for core material movement activities.

2016-17 Major Accomplishments

- Issued the Clark County 2016B refunding bonds generating net present value savings of \$72 million.
- Issued the Clark County 2017 refunding bonds generating net present value savings of \$39 million.
- Issued the LVVWD 2017A & B refunding bonds generating net present value savings of \$20 million.
- Provided comprehensive financial planning and analytical support for the LVVWD's Citizens Advisory Committee.
- Secured two State Revolving Fund loans totaling \$30 million for the LVVWD capital infrastructure.
- Issued the LVVWD 2016B adjustable rate refunding bonds, which refunded LVVWD's outstanding 2006B and 2006C bonds.
- Mail Services successfully administered the desk top office supply delivery District- wide resulting in improved accountability and process efficiencies.

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Strategic Plan Goal - Strengthen and uphold a culture of service, excellence and accountability.

2017-18 Performance Objectives

- Submit the LVVWD and SNWA CAFR for the year June 30, 2017, to the GFOA and receive the Certificate of Excellence in Financial Reporting.
- Receive unmodified opinions from external auditors for the LVVWD, SNWA and BBWD fiscal year 2017 audits.
- Receive the Distinguished Budget Presentation Award from the GFOA for the LVVWD and SNWA Operating and Capital Budgets for the year ended June 30, 2018.
- Enforce regulatory and accounting requirements of inventory asset reporting and accountability.
- Assess Mail Services' office supply delivery process effectiveness and improvement.

2016-17 Major Accomplishments

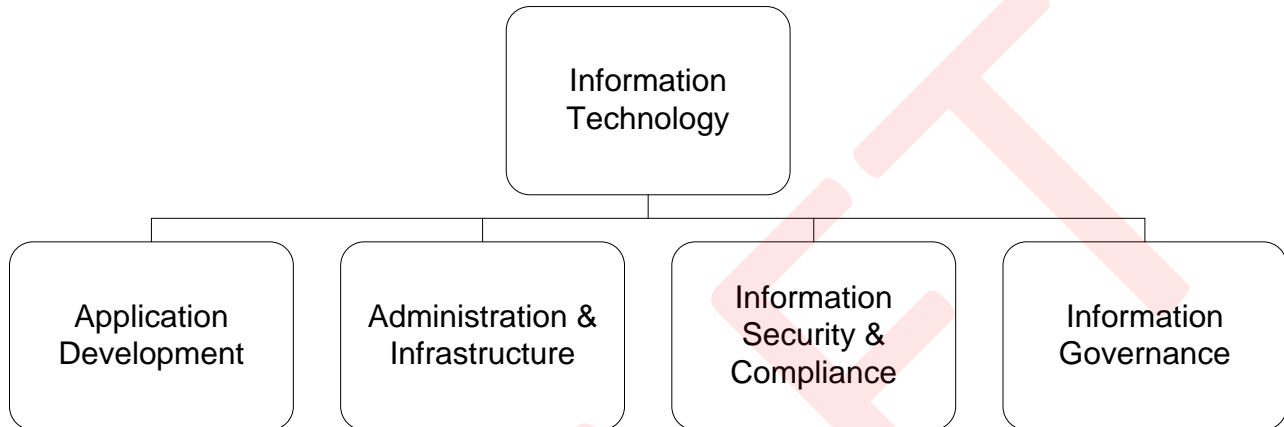
- Received the Certificate of Excellence in Financial Reporting from the GFOA of the United States and Canada for the thirty-eighth (38th) consecutive year for the LVVWD CAFR for the year ended June 30, 2016.
- Received the Certificate of Excellence in Financial Reporting from the GFOA for the twenty-first (21st) consecutive year for the SNWA CAFR for the year ended June 30, 2016.
- Received an unmodified opinion from external auditors for the LVVWD,

SNWA and BBWD fiscal year 2016 audits.

- Received the Distinguished Budget Presentation Award from the GFOA for the LVVWD and SNWA Operating and Capital Budgets for the year ended June 30, 2017.
- The LVVWD Material Services division achieved 22nd year and SNWS Material Services achieved 15th year without a lost-time accident.
- Received an unmodified opinion for a near-perfect inventory accuracy audit from external auditors, PBT&K, for the LVVWD and SNWS Material Services warehouses.
- Mail Services implemented a process improvement program to have On-Trac deliver all office supply orders direct to the Valley View office. This improvement enabled Mail Services to maximize resources without compromising service level to internal customers.

INFORMATION TECHNOLOGY

Level: 2300



Mission

Establish a leadership position by the use and support of leading information technologies while making customer service top priority.

County Imagery Project. Specific support activities are noted for each division herein.

Department Description

The Information Technology department is responsible for the Las Vegas Valley Water District's (LVVWD), Southern Nevada Water Authority's (SNWA), Springs Preserve's, and the Big Bend Water District's (BBWD) acquisition, administration, and maintenance of software products, installation and maintenance of all computer-related and office management hardware products, ongoing related support, cybersecurity, Geographic Information Systems (GIS), telecommunications and the organization's Information Governance Initiative. The department is also responsible for the acquisition and maintenance of spatial data in support of ongoing projects, such as the Clark

The Information Technology Steering Committee was established in 2015 and is comprised of customer representatives throughout the organization. The committee evaluates projects relative importance using an objective and quantifiable system that directs Information Technology initiatives to meet business needs.

Budget Objectives and Highlights

The 2017-18 Information Technology department budget contains funding to continue the development and implementation of technology projects and provide daily operational support to the LVVWD, SNWA, the Springs Preserve, and BBWD information technology systems.

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Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ 1,712,292	\$ 1,364,375	\$ 1,297,500
Maintenance & Repairs	8,433,520	7,306,300	7,550,235
Rental & Leases	940,175	540,000	691,800
Other Employee Expenses	91,895	247,488	295,384
Other Expenses	3,708,916	4,371,260	4,416,432
Total Operating Expenses	\$ 14,886,798	\$ 13,829,423	\$ 14,251,351
Capital Costs	\$ 245,597	\$ 1,423,000	\$ 6,733,800
Payroll Costs	\$ 17,054,587	\$ 17,939,191	\$ 18,822,253
Total Department Expenditures	\$ 32,186,982	\$ 33,191,614	\$ 39,807,404
FTE Positions	93.5	100.7	101.0

Department Performance

Information Technology completed a number of projects to improve business processes, functionality, system operations, and security, while reducing expenses and risk to the organization. Major projects during the year included beginning implementation of Workday Human Capital Management System, upgrade of network storage, upgrade of Customer Care & Billing (CC&B) system, migration to Office 365, implementation of new ticketing and point of sale system at the Springs Preserve, continuation of PC/monitor refresh program, development of new Conservation system to manage Water Smart Landscapes program, deployment of business intelligence system, and completion of the Las

Vegas Valley Light Detection and Ranging (LiDAR) Project and the 2016 Clark County Imagery Project.

Information Technology Application Development. This multi-division team performs software development, upgrades and version testing, and validation of key operational systems utilized throughout the organization.

Application Development is continuing to upgrade core enterprise systems, a multi-year process initiated in fiscal year 2014-15.

The organization's purchasing system will be re-engineered to consolidate all purchasing activity and provide additional capabilities

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and controls within the organization's existing financial system.

The implementation of Workday Human Capital Management System is on-going and will be completed next fiscal year. Workday will eliminate several disparate systems, reducing operational costs and provide much improved customer self-service, analytics and added capabilities for recruitment, performance management and compensation.

The organization's major customer facing web sites will be reengineered and designed to meet modern design and functionality standards and allow for seamless access to information and self-service features, regardless of device, including a full range of mobile platforms.

A risk management system will be implemented that centralizes claims, Occupational Safety and Health Administration (OSHA) reporting, incident processing, inspections and audits, insurance management, training and certifications. The system will eliminate a variety of custom and legacy software and address key needs of Risk Management and Environmental, Health, Safety & Corporate Security.

Migration and integration support will be provided to Infrastructure Management needed to implement RedEyeDMS, a cloud based system for managing engineering drawings. This system will facilitate drawing access and collaboration needed by Engineering and Asset Management. Ongoing support will continue to be provided to Operations and Water Quality staff through effective delivery of Supervisory Control and

Data Acquisition (SCADA) information required for compliance, metrics, and performance monitoring.

Application Development will be supporting other key Information Technology initiatives including major platform and operating system upgrades, bill payment and design services, meter management and analytics, and systems supporting engineering design, construction and capital projects.

Information Technology Administration and Infrastructure. This multi-division team is comprised of the Customer Support division, the Technical Services division, and the Spatial Technologies division.

The Customer Support Division is responsible for many diverse functions within the company. The Desktop Hardware support group provides remote and on-site support for over 4,000 computers, monitors, and printers. The Desktop Software support group researches, installs, and supports over 1,000 applications, on all company desktop and laptop devices.

The Technical Services division is responsible for the application administration of critical business systems utilized throughout the organization. It is also responsible for the architecture and administrative support for the corporate systems to include database infrastructure, server administration, enterprise storage, e-mail and mobile communication, web services, cybersecurity, network infrastructure, and the telecom group which manages wireless communications devices (cell phones, modems, and air cards) and the main telecom switch for all locations and campuses.

Las Vegas Valley Water District
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Department Budgets
Information Technology
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Additionally, this division is responsible for the maintenance of the SCADA systems for the LVVWD, SNWA, and BBWD. The division maintains and configures the Laboratory Information Management System (LIMS) which supports both the Water Quality and Applied Research Laboratories.

Enterprise application support focuses on providing uninterrupted application services to customers, while providing for planned and unplanned infrastructure outages. Efforts encompass design and implementation of off-site redundant configurations for critical applications, formalized change management processes, quality assurance testing procedures, and implementation of proactive monitoring and alerting tools.

Major on-going initiatives include the upgrade of the outdated LVVWD and SNWA SCADA systems to refresh hardware and software. This upgrade also includes replacement of outdated field communication technology.

The Spatial Technologies division is responsible for the acquisition and delivery of high-resolution imagery, GIS applications, GIS data management, and infrastructure to support GIS.

Ongoing initiatives include acquisition of very-high resolution imagery for the multi-agency Clark County Imagery Project, acquiring imagery of the Muddy and Virgin Rivers in concert with the Intentionally Created Surplus (ICS) project for the Bureau of Reclamation, continued upgrades for GIS infrastructure, upgrading existing GIS applications to newer programming, and mapping support for a wide range of projects important to the organization.

Security and Compliance. This team was formed in July of 2016 to ensure a strong and continued focus on cybersecurity and Payment Card Industry (PCI) compliance.

Major emphasis will continue to be on cybersecurity as world-wide security breaches increase at an alarming rate. Emphasis will continue to be directed toward providing an operationally stable and secure computer system infrastructure, as well as educating employees on cybersecurity topics.

Ongoing initiatives include continued work to provide off-site disaster recovery capability, allowing continuous service and business continuity, defense against cybersecurity threats and vulnerabilities, cybersecurity awareness briefings, system upgrades/replacements to critical infrastructure hardware reaching end of life, implementation of technology to meet required PCI standards, increasing network performance and efficient data storage capacity, ensuring high availability of applications and databases, support to mobile devices, as well as to develop and refine processes to support the infrastructure.

Security efforts include continual review and enhancement to security procedures, timely application of security patches, and audited/controlled system and data access. In addition, the division focuses on ensuring software technologies and business processes meet all required PCI standards.

Information Governance. This division was formed in July of 2016 and reports to both the Director of Information Technology and the Director of Legal Services. This team is

Las Vegas Valley Water District
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Department Budgets
Information Technology
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currently responsible for the administration of the organization's corporate records program.

During the upcoming fiscal year, focus will be placed on the implementation of an enterprise content management system. This system will be comprised of strategies, methods and tools used to manage information throughout its useful life cycle within the organization.

Strategic Plan Objectives and Accomplishments

Information Technology provides support to all departments to achieve Strategic Plan goals through the acquisition, development, administration, and maintenance of technology-related products and services.

Strategic Plan Goal – Ensure organizational efficiency and manage financial resources to provide maximum customer value.

2017-18 Performance Objectives

- Enhance corporate data security with emerging technology to identify threats and mitigate risk.
- Re-engineer the organization's major customer facing websites to meet modern design and functionality standards and allow for seamless access to information and self-service features, regardless of device, that includes a full range of mobile platforms.
- Replace Customer Care Communications and Contact Management infrastructure to provide a stable and reliable work

environment, introduce current and next generation multi-media technology, and improve the overall customer experience by providing additional automation and contact options.

- Replace corporate backup infrastructure to streamline backup policies, remove obsolete data stores, and provide enhanced disaster recovery options.
- Combine various GIS application development, data management, and mapping efforts into a single workgroup for maximum efficiency.

2016-17 Major Accomplishments

- Review of all projects and development of prioritization ranking of Information Technology initiatives and projects by the Information Technology Steering Committee.
- Completed a major upgrade of the CC&B system to stay current on vendor support and provide various business process improvements. CC&B manages all utility customer interactions, service support, and billing.
- Migration of corporate Oracle database infrastructure to the enhanced Super Cluster hardware platform, providing a faster, more fault tolerant, and more secured hardware infrastructure for the organization's primary data store.
- Implemented new ticketing, point of sale and membership management system for the Springs Preserve. The new system significantly improves

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- system reliability, efficiency, and customer relationship management.
- Completed 2016 Las Vegas Valley LiDAR Digital Elevation Data Project, vastly upgrading existing elevation models used within organization and by our partner agencies.

Strategic Plan Goal – Strengthen and uphold a culture of service, excellence and accountability.

2017-18 Performance Objectives

- Complete the implementation of the Workday Human Capital Management System to consolidate human resource systems, achieve further reduction in manual workload of Human Resources administrative duties, and add new capabilities for recruitment, performance management and compensation.
- Upgrade the organization's payment systems, including cashiering and automated payments, to be EMV (Europay, Mastercard, and Visa) or chip card compliant, a requirement of PCI Security Standards.
- Re-engineer the organization's purchasing system to consolidate all purchasing activity and provide additional capability and controls within the organization's financial system.
- Implement a risk management system that centralizes all claims, OSHA reporting, incident processing, inspections and audits, insurance management, training, and certifications.

- Make numerous enhancements to cybersecurity which include the implementation of additional threat monitoring tools and further data separation to achieve PCI compliance 3.2.

2016-17 Major Accomplishments

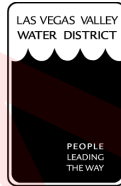
- Met the higher standards of PCI Data Security Standard (DSS) 3.1 for payment card processing infrastructure, implemented EMV and PCI compliant payment systems for cashiering, customer service agents, and interactive voice response systems. These systems will ensure the security of our customers electronic and credit card payments and ensure compliance with PCI standards.
- Developed a new Conservation System to manage the Water Smart Landscapes rebate incentive program. The new system, named CICADA, improves efficiency through streamlined work flows, automation of manual business processes, and a reduction of costs incurred with maintenance of aging technology of legacy systems.
- A business intelligence and reporting system, SplashBi, was deployed to support Finance's need for customized and adhoc reporting. They system replaced a legacy reporting application that reached end-of-life.
- Continued implementation of Agile methodology throughout Information Technology utilizing both Scrum and Kanban principles to enhance

Las Vegas Valley Water District
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interdepartmental collaboration and improve bidirectional customer communications.

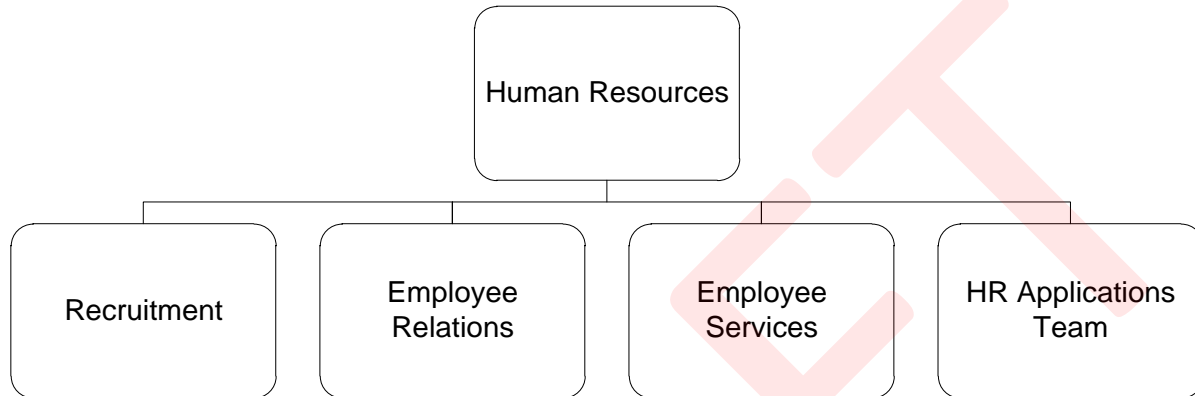
- Major improvements were made in Software Security Development Practices, including adoption of a formal security peer code review process that includes training, use of automated security analysis software, and formal review and acceptance before production release.

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HUMAN RESOURCES

Level: 2400



Mission

To recruit, develop and retain the best employees to accomplish the organization's vision, mission and goals in accordance with the organization's values and ethics.

Budget Objectives and Highlights

The Human Resources department continues to monitor budgetary expenditures, while still pursuing its efforts towards diversity, employee development, and productive employee relations.

Department Description

The Human Resources department is responsible for recruitment and selection; employee development; employee relations; benefit plans; compensation and classification plans for the Las Vegas Valley Water District (LVVWD) and the Southern Nevada Water Authority (SNWA). The department also administers fair employment policies and procedures, and negotiates all collective bargaining agreements. Presently, there are four service groups within the department: Recruitment, Employee Services, Employee Relations and the HR Applications Team.

Las Vegas Valley Water District
Operating and Capital Budget
Department Budgets
Human Resources
Fiscal Year Ending June 30, 2018

Expenditures			
LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ 64,949	\$ 326,000	\$ 331,000
Maintenance & Repairs	330	500	500
Other Employee Expenses	216,647	208,500	248,500
Other Expenses	1,255,733	1,331,100	1,331,100
Total Operating Expenses	\$ 1,537,659	\$ 1,866,100	\$ 1,911,100
Capital Costs	\$ -	\$ -	\$ -
Payroll Costs	\$ 3,042,720	\$ 2,276,702	\$ 3,068,877
Total Department Expenditures	\$ 4,580,379	\$ 4,142,802	\$ 4,979,977
FTE Positions	17.7	16.0	19.6

Department Performance

Recruitment. Provides recruitment and selection services; classification and salary assignment of jobs. This group develops and administers responsive recruitment and selection methods utilizing fair employment practices ensuring employees are properly classified. This group also recruits and staffs the volunteers for the Springs Preserve.

Employee Relations. Responsible for light duty and return to work program; administration of collective bargaining agreements; consultation regarding federal, state and local employment laws; and internal mediation services designed to improve communication and understanding between employees.

Employee Services. Responsible for the administration of various employee benefit plans and all employee personal records and payment data. Provides support for HR management programs, activities and processes.

HR Applications Team. Responsible for the administration and support of the Human Resources Information System (HRIS) for the organization. This team prepares data in response to requests for employee information; implements organizational changes; provides employee application training.

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Performance Indicators
Human Resources Department
(Fiscal Year Ending June 30)

Activity	2012	2013	2014	2015	2016
Total Hires	106	83	82	239	249
Job Notices	80	59	84	243	453
Written Exams	106	457	149	237	0
Interviews	693	527	420	107	1,029
Job Applications					
Accepted/Processed	1,905	3,021	2,373	5,981	6,947
Job Interest Forms	11,716	8,871	10,467	17,179	13,531
Recruitment				not	not
Letters Sent	6,053	8,513	5,577	available	available
Training Hours	9,111	9,705	8,288	2,070	5,107

Strategic Plan Objectives and Accomplishments

The Human Resources department provides a foundation for all departments to reach the goals of the Strategic Plan through appropriate hiring; employee development; and productive employee relations. The Human Resources department is dedicated to supporting work environments where employees are encouraged to perform at their highest potential.

Strategic Plan Goal – Strengthen and uphold a culture of service, excellence and accountability.

Strategic Plan Goal – Ensure organizational efficiency and manage financial resources to provide maximum customer value.

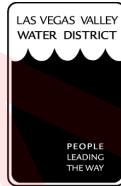
2017-18 Performance Objectives

- Coordinate implementation of Workday with a communication plan and training for employees in cooperation with Management Services.
- Implement Workday in September 2017 for Benefits, Compensation, Time Tracking, Payroll and Absence Management.

2016-17 Major Accomplishments

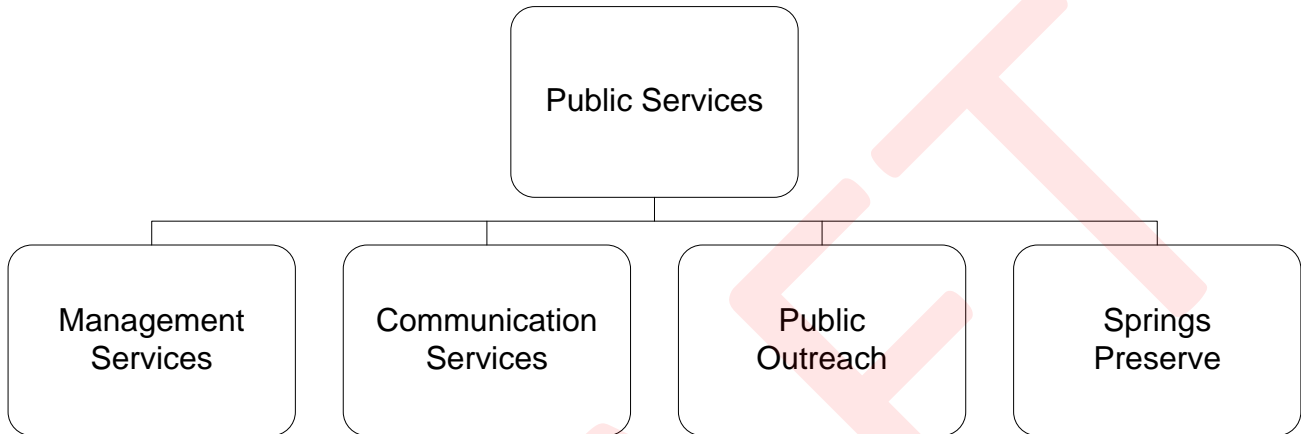
- Through an RFI process, selected the new Human Capital Management System (HCMS), Workday, to replace Lawson with Sierra Cedar as the vendor with a September 2017 implementation date.
- Implemented multi-pronged training to include group and individual web based instruction, including supervisor/manager training.

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PUBLIC SERVICES

Level: 2500



Mission

The Public Services Department is responsible for communicating the organization's goals and initiatives to the community and educating the public about water issues. This effort is accomplished through government relations, stakeholder and customer outreach, and operation of the Springs Preserve.

Department Description

The department is comprised of four divisions: Management Services; Communication Services; Media Relations and Public Outreach; and the Springs Preserve.

Together, the four divisions work together to provide exceptional customer service to the organization's internal and external customers, and communicate organizational initiatives to various audiences. The Management Services division oversees the organization's government affairs, agenda processes, public participation efforts and

provides expert analysis and support to senior management. Communication Services is responsible for communicating organizational messaging through the development and maintenance of websites, social media platforms, video production, and numerous printed materials such as bill inserts. The Media Relations and Public Outreach division is responsible for providing information to the media and customers. The division also executes special events, including those at the Springs Preserve and the WaterSmart Innovations conference.

The Springs Preserve aims to build community, inspire environmental stewardship, and celebrate the vibrant history of the Las Vegas Valley.

Budget Objectives and Highlights

The 2017-18 budget remains consistent with the organization's efforts to enhance efficiency and service to internal and external customers.

Las Vegas Valley Water District
Operating and Capital Budget
Department Budgets
Public Services
Fiscal Year Ending June 30, 2018

Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ 725,988	\$ 1,260,969	\$ 1,027,151
Maintenance & Repairs	562,374	532,966	570,840
Rental & Leases	18,020	24,000	27,000
Other Employee Expenses	112,799	270,913	206,982
Other Expenses	3,842,783	4,116,050	4,282,175
Total Operating Expenses	\$ 5,261,964	\$ 6,204,898	\$ 6,114,148
Capital Costs	\$ 16,053	\$ 1,313,000	\$ 1,422,000
Payroll Costs	\$ 6,584,558	\$ 7,726,076	\$ 8,046,500
Total Department Expenditures	\$ 11,862,575	\$ 15,243,974	\$ 15,582,648
FTE Positions	56.2	65.9	65.8

Department Performance

In fiscal year 2016-17, the Public Services Department continued efforts to provide outstanding service and support of organizational initiatives and priorities:

Management Services. Management Services is responsible for board administration, special events, tours, meeting monitoring, presentations, coordination of special processes and offering support to organizational initiatives through a wide variety of activities. Principal achievements over the past fiscal year include completion of the LVVWD Rates and Service Rules Citizens Advisory Committee process, and support

during the 79th Nevada State Legislative Session.

Communication Services. Communication Services is responsible for developing materials that reach customers through web, social media, television and print. Over the past fiscal year, the organization experienced continued growth in the organization's online presence. The Springs Preserve's Facebook page continued to gain popularity, with more than 52,000 followers and posts that often exceed a reach of 100,000 views. Additionally, LVVWD.com averages more than 1.8 million annual visits, more than 25 percent of which came from a mobile device in 2016. The

Las Vegas Valley Water District
Operating and Capital Budget
Department Budgets
Public Services
Fiscal Year Ending June 30, 2018

division also was recognized by the Public Relations Society of America (PRSA) Las Vegas Valley Chapter in 2016 for various Springs Preserve campaigns and the LVVWD's internal safety communications program.

Media Relations and Public Outreach. The Media Relations and Public Outreach Division is responsible for developing and implementing public awareness and education campaigns that support and advance organizational initiatives. Recent outreach efforts include the launch of multiple public education campaigns to support the LVVWD's infrastructure education initiatives and new exhibit openings at the Springs Preserve. Additionally, the division responded to more than 100 media inquiries from a variety of local, national and international media outlets and news organizations throughout the past year.

Spring Preserve. Springs Preserve staff are responsible for overall facility operations and developing programs and events that enhance the visitor experience and Southern Nevada as a community. In fiscal year 2016-17, the Springs Preserve was able to increase volunteer interest, with nearly 500 volunteers providing more than 30,000 hours of service. Also, there were approximately 30,000 students that attended the Preserve through school field trips. In 2016 the Preserve started to compost food waste onsite. Nearly 13,000 pounds of food waste, including Divine Café waste, have gone through this process.

Strategic Plan Objectives and Accomplishments

The Public Services Department is committed to accomplishing the goals and objectives set forth within the organization's Strategic Plan. While the department is not solely responsible for one goal, it works to support each goal through the coordination and administration of support functions.

Strategic Plan Goal – Assure quality water through reliable and highly efficient systems.

2017-18 Performance Objectives

- Provide a high quality water supply and delivery system that is safe, sustainable and promotes the vitality and prosperity of the community.
- Maintain high levels of reliability through the application of a sufficiently funded asset management program.
- Continually improve operating efficiencies by benchmarking to leading industry standards.
- Ensure a high quality of local and regional water resources through comprehensive water quality and watershed management.

2016-17 Major Accomplishments

- The American Water Works Association awarded the River Mountains and Alfred Merritt Smith water treatment plants the Partnership for Safe Water Presidents Award for their dedication in optimizing water treatment operation.
- Secured \$6,169,538 in grant funding to support water-related initiatives.

**Las Vegas Valley Water District
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Fiscal Year Ending June 30, 2018**

- Prepared a Capital Improvement Plan to identify capital projects over the next 10 years.
- Assisted 6 well users to connect to the municipal water supply and responded to approximately 501 phone inquiries on the Groundwater Information Line.

Strategic Plan Goal – Deliver an outstanding customer service experience.

2017-18 Performance Objectives

- Assess customer satisfaction, establish benchmarks and determine where improvements are required.
- Continuously improve service processes and practices based on customer assessments.
- Utilize appropriate technology to simplify and improve the customer experience.
- Monitor other organizations and industries to identify innovations, best practices and ways to improve the customer experience.

2016-17 Major Accomplishments

- In 2016, 25 percent of visitors to the LVVWD website accessed it through a mobile device.
- Public Services, in conjunction with Information Technologies, launched a new “Find Your Watering Group” online app in Spanish. “AjustaTuReloj.com” launched in September 2016 and provides watering group information in Spanish.

- The Springs Preserve launched a Spanish language social media campaign, which included a Facebook page.
- Made enhancements to the Springs Preserve mobile application, enabling visitors to navigate the property, purchase tickets and stay current on upcoming attractions and classes.

Strategic Plan Goal – Anticipate and adapt to changing climatic conditions while demonstrating stewardship of our environment.

2017-18 Performance Objectives

- Enhance understanding of climate change impacts among ourselves and our stakeholders.
- Conduct long-term water resources and facilities planning to ensure adequate resources are available when needed.
- Champion innovative water efficiency initiatives to maximize beneficial use of resources.
- Incorporate sustainable best practices into organizational initiatives and inspire positive change.

2016-17 Major Accomplishments

- Continued support of the Sustainability Cross-Departmental Team (CDT) to examine internal processes and develop sustainable practices within the organization.
- Updated the LVVWD Service Rules to reflect new conservation resolutions, specifically the prohibition of watering

**Las Vegas Valley Water District
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Public Services**
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on Sundays during the summer watering schedule.

Strategic Plan Goal – Ensure organizational efficiency and manage financial resources to provide maximum customer value.

2017-18 Performance Objectives

- Increase customer communication so there is a better understanding of the organization's products and services.
- Ensure predictable rates that are aligned with community expectations.
- Establish and utilize benchmarks to explore new opportunities for improved efficiencies.
- Formulate risk assessments and develop alternatives for expenditure decisions.

2016-17 Major Accomplishments

- Coordinated the LVVWD's Advisory Committee that recommended a comprehensive funding strategy to meet the LVVWD's capital needs and reserve targets set forth in the Reserve policy.
- Applied for and received a \$15 million loan from the Nevada State Revolving Fund loan to fund system improvements outlined in the LVVWD's Asset Management Plan.
- Successfully coordinated several Springs Preserve special events to sell-out crowds, including Ice Cream Festival, Brews & Blues, Grapes & Hops, Haunted Harvest, Día de Muertos, and Holiday Express.

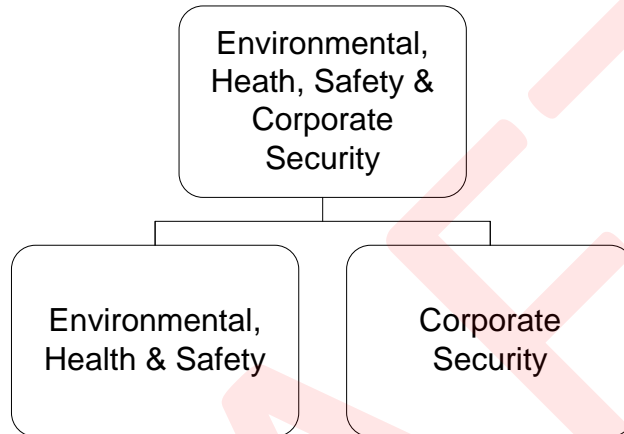
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Las Vegas Valley Water District
Operating and Capital Budget
Department Budgets
Environmental, Health, Safety & Corporate Security
Fiscal Year Ending June 30, 2018

ENVIRONMENTAL, HEALTH, SAFETY & CORPORATE SECURITY

Level: 2700



Mission Statement

To excel in providing a safe and secure environment for our employees, customers and the community.

Department Description

The Environmental, Health, Safety & Corporate Security (EHSCS) department works to ensure organizational compliance with all applicable statutes; maintain the safety and security of our employees, facilities and customers, as well as a high performance environmental, health and safety (EHS) culture; and develop strategies and programs to eliminate or mitigate risk and cost exposure.

Budget Objectives and Highlights

The 2017-18 EHSCS budget contains the funding necessary to support the safety and security of our organization's workforce, customers and facilities. Our departmental strategic planning efforts have allowed us to streamline processes to reduce costs.

Las Vegas Valley Water District
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Environmental, Health, Safety & Corporate Security
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Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ 167,181	\$ 205,000	\$ 211,000
Maintenance & Repairs	66,364	81,000	81,000
Other Employee Expenses	211,994	324,000	317,500
Other Expenses	838,527	1,439,150	1,216,150
Total Operating Expenses	\$ 1,284,066	\$ 2,049,150	\$ 1,825,650
Capital Costs	\$ -	\$ 42,000	\$ -
Payroll Costs	\$ 4,452,344	\$ 4,063,611	\$ 4,258,283
Total Department Expenditures	\$ 5,736,410	\$ 6,154,761	\$ 6,083,933
FTE Positions	32.4	32.3	30.2

Department Performance

Environmental, Health and Safety Division.

The EHS division is responsible for permitting and compliance with federal, state and local agency environmental regulations regarding pollution control (including air pollution, water pollution and land disturbances), and for environmental permitting and compliance reporting for operations and maintenance. Proactive development, implementation and administration of environmental management systems and process safety programs are also responsibilities of this team. The division develops and publishes safety procedures, ensuring compliance with Occupational Safety and Health Administration (OSHA) and state regulations, and employs an aggressive accident prevention program that includes

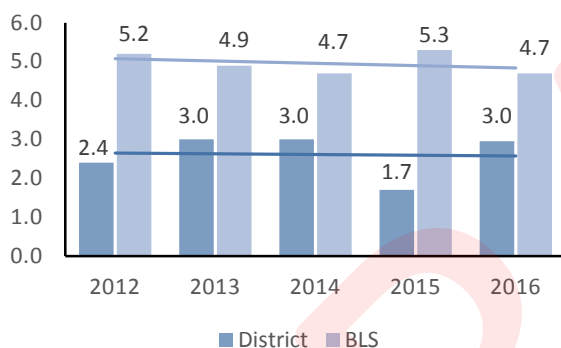
processes for hazard identification and abatement. Further, EHS team members investigate all on-the-job accidents and injuries and develop written investigation reports that include the root cause and corrective actions to mitigate recurrence. EHS manages an extensive education and training curriculum to ensure workers are trained in programs such as water discharges, chemical spill prevention, lockout/tagout, confined space entry, aerial lift and forklift operations, and Commercial Driver Licenses. The division conducts monthly meetings with the EHS Steering Committee, comprised of employees from various departments and labor management representatives. The health discipline manages the Radiation Safety Program as well as the Asbestos, Lead,

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Respiratory Protection and Hearing Conservation programs for the organization.

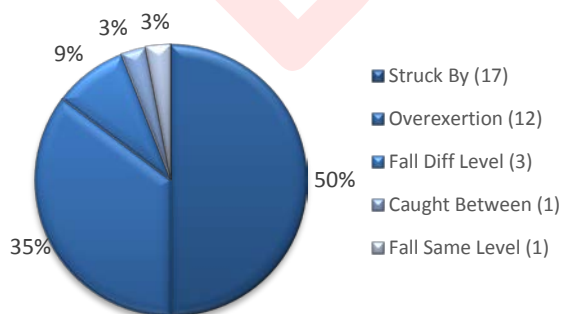
EHS tracks recordable injuries and illnesses annually and compares them to the Bureau of Labor Statistics (BLS) annual averages for similar industries. The incidence rate of injuries and illnesses is computed using the following formula: $(\# \text{ injuries/illnesses} \times 200,000) / \text{Employee hours worked} = \text{incidence rate}$.

Recordable Injury Rates



A total of 34 recordable injuries occurred in 2016. The 2016 severity rate is nearly half the 2015 rate: 12.44 vs. 24.74; thus, the recordable injuries sustained in 2016 were less severe than the previous year.

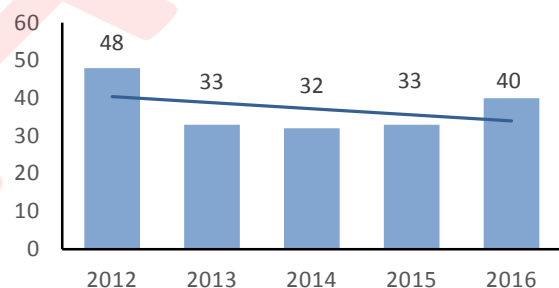
Recordable Injuries by Category



Of the 34 recordable injuries incurred in 2016, 17 are categorized as “struck by” and resulted from employees being hit by equipment and other objects while on the job. “Overexertion” comprises the next highest category of recordable injuries, with 12 reports stemming from employees pushing, pulling or lifting tools and equipment.

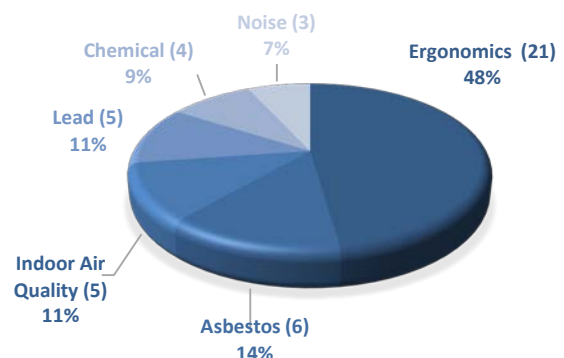
Overall, the District experienced 40 at-fault vehicle accidents in 2016. There was a decrease in Category II (>\$5,000) accidents in 2016, and a reduction of \$7,000 in repair costs, which indicates the accidents sustained were less severe than the previous year.

Vehicle Accidents



EHS staff conducted 44 health assessments in 2016, 28 of which were required by regulations and 16 (predominantly related to ergonomics issues) that were initiated by employees.

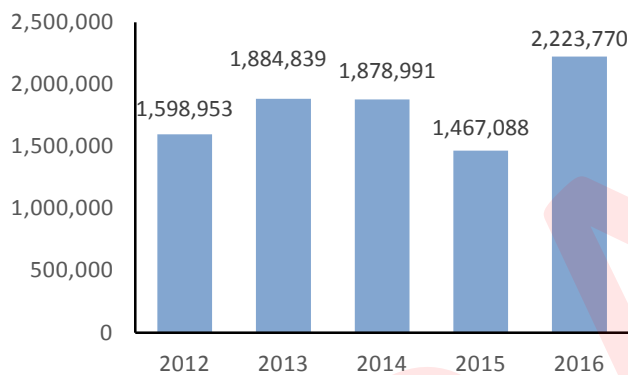
2016 Health Assessments



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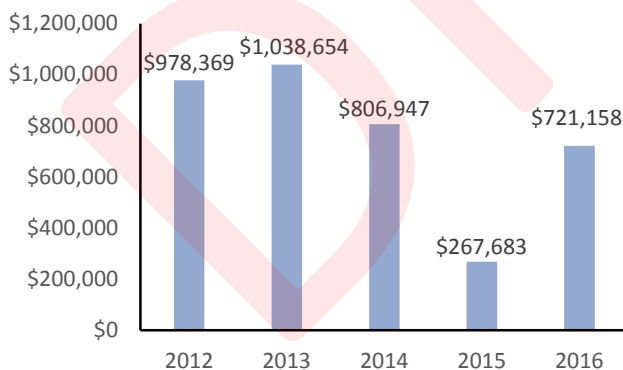
The District recycled a combined total of 2,223,770 pounds of materials in 2016. The increase in recycled materials can be attributed to the recycling of copper in 2016 and capturing the weights of vehicles sent to auction.

**Total Pounds Recycled
Year to Year**



The total revenue for 2016 was \$721,158 (scrap = \$207,659, auctions = \$19,784, vehicles = \$493,715).

Total Revenue Year to Year



Corporate Security Division. The mission of the Corporate Security division is to provide security services on a system-wide basis assuring the protection of people, property, facilities, water treatment and delivery systems. Corporate Security is responsible for the protection of the water supply,

employees, and customers 24 hours every day. Corporate Security staff and officers provide fire protection equipment inspections, assist with customer parking, escort customers and visitors to areas where they can conduct their business, provide information assistance, monitor access to restricted areas, and provide access to facilities and monitoring of vendors' visits during and after business hours. Security officers patrol and protect all LVVWD/SNWA properties by responding to intrusion alarms at outlying properties and patrolling reservoir and pumping station sites. Physical security networks and systems (e.g., electronic access control systems, security camera systems, alarms, and locking systems) are in place and monitored 24 hours daily by security officers. Corporate Security staffs and operates a 24/7 "Security Center" for central response to alarms, calls for assistance, accidents, video surveillance, and communication. Corporate Security also provides on-scene incident command services in emergency situations, and has formed partnerships with federal, state and local law enforcement authorities and other utilities/infrastructures in a collaborative effort to protect against malicious acts toward people, sites and systems.

Strategic Plan Objectives and Accomplishments

Strategic Plan Goal – Assure quality water through reliable and highly efficient systems.

2017-18 Performance Objectives

- Operate the Security Center, monitoring organizational security

Las Vegas Valley Water District
Operating and Capital Budget
Department Budgets
Environmental, Health, Safety & Corporate Security
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systems, and continue to implement automated security systems to improve the protection of facilities.

- Expand the use of security system technologies to enhance efficiency.
- Expand the use of card activated access control.
- Review maintenance and services contracts to ensure EHS operational compliance.
- Train key employees and conduct drills on the LVVWD/SNWA combined Emergency Response Plan (ERP).
- Explore new technologies and methods of utilizing the security surveillance system.
- Continue partnership with the Department of Homeland Security and the Southern Nevada Counter-Terrorism Center to prepare for potential threats to facilities or the water industry.
- Conduct weekend/after-hours spot audits of industrialized work activities supporting water treatment, water quality, water distribution or other activities.
- Complete four comprehensive audits of departments involved in high-hazard activities to measure regulatory compliance.
- Review and update the EHS Manual and all internal EHS procedures.
- Maintain a formalized training schedule for all EHS instructor-led courses.
- Benchmark accident/injury standards to comparable industries via BLS rates.
- Obtain all required operational water pollution control permits and continually monitor water discharge

parameters to reduce pollutants discharged.

2016-17 Major Accomplishments

- Continued supporting and promoting the Department of Homeland Security's national "If You See Something, Say Something™" campaign.
- Developed a security system utilizing motion detection and camera analytics to help protect new facilities at the Springs Preserve.
- Converted Fayle Reservoir to the new P2000 card reader system.
- Installed an electronic access control system in the HR file room.
- Implemented a new locking system pilot program at remote locations.
- Continued testing a solar-powered camera program for remote facilities.
- Instituted the LobbyGuard visitor badge system for improved accountability and tracking of visitors.
- Installed shepherd hooks and anti-climb mesh on perimeter wall near HR.
- Completed 96 documented spot audits in 2016 and five audits that included comprehensive program management review.
- Reviewed and updated the EHS Manual and administrative policies 3 and 17 during the 2016 off-site meeting.
- Conducted 206 investigations related to recordable injuries, at-fault vehicle accidents, at-fault property damage incidents, near-misses, chemical spills and first-aid events, and recommended corrective actions as appropriate to reduce the chance of

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recurrence.

- Conducted 41 instructor-led training courses, which included 2,161 participants and 4,190 training hours.
- Achieved a District incidence rate of 3.0, compared to the BLS rate of 4.7, extending the District's yearslong history of rates falling below BLS rates.
- Replaced the National Pollution Discharge Elimination System water discharge permit issued to the Alfred Merritt Smith Water Treatment Facility with two De Minimis discharge permits.

Strategic Plan Goal – Deliver an outstanding customer service experience.

2017-18 Performance Objectives

- Explore and test new security technology and systems.
- Identify additional opportunities for security service and collaboration with internal departments.
- Attend briefings and meetings, and support groups such as the Utility Pipeline and Coordinating Group, InfraGard, Southern Nevada Counter-Terrorism Center, and Department of Homeland Security.
- Provide evaluation forms for instructor-led courses to assess customer satisfaction.
- Participate in local association meetings to gather information on best management practices to support the Safety Management System, and adopt and implement proven work methods.
- Participate in internal and external committees or groups to improve

communication and enhance customer service in 2017-18.

- Seek professional training opportunities to augment EHS skills and knowledge.

2016-17 Major Accomplishments

- Collected student evaluation forms after each EHS instructor-led course to improve future course curriculums.
- Participated in local professional organizational meetings, national professional seminars and conferences specific to water treatment and delivery, with EHS staff presenting at several events.
- Represented EHS in all department safety action teams, the EHS Steering Committee and several CDTs throughout the District, including the northern ranches and sustainability.
- Updated electronic materials on the Hydroweb to ensure that LVVWD employees have access to useful safety and health literature, information and videos for training.
- Participated in continuing EHS education, including webinars, local training opportunities and online training to assist in professional development and maintenance of professional certifications.
- Updated all evacuation procedures on the Hydroweb and conducted emergency evacuation drills at all facilities.
- Increased employee awareness of potentially dangerous situations and spoke at multiple department and division meetings on security issues.
- Attended a Basic Collision

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Investigation class to improve skills in responding to company vehicle accidents.

Strategic Plan Goal – Anticipate and adapt to changing climatic conditions while demonstrating stewardship of our environment.

2017-18 Performance Objectives

- Identify non-compliance items through organization-wide collaboration.
- Prepare and submit environmental reports to regulatory agencies.
- Review current recycling and waste streams at manned facilities to identify new recycling opportunities.

2016-17 Major Accomplishments

- Reduced paper records with the implementation of the LobbyGuard visitor badge system and the use of Panasonic FZ-G1 tablets for officers to complete reports and maintain logs.
- Continued testing a solar-powered live video camera system for possible use at rural facilities.
- Generated a District-wide combined total of 5,825 pounds of hazardous waste—which translates to an 89 percent decrease from the previous year—at a cost of \$17,354; the significant decline is attributed to the continued focus on reducing pollution through reduced chemical use and waste, and substituting for more environmentally preferable chemicals.
- Safely disposed of more than 120 pounds of the District's unusable

pesticides through the Nevada Department of Agriculture's Pesticide Disposal Program.

- Recycled a combined total of 2,223,770 pounds of District materials for a total revenue of \$721,158 (scrap = \$207,659, auctions = \$19,784, vehicles = \$493,715).

Strategic Plan Goal – Develop innovative and sustainable solutions through research and technology.

2017-18 Performance Objectives

- Streamline the records inventory and utilize electronic documentation capabilities and accessibility.
- Experiment with new security technologies such as Sensera cameras, implement controls such as internal motion detection through the P2000 system, and install Wallace gates.
- Develop innovative solutions for security vulnerabilities.
- Work with IT and Risk Management to implement an automated information system (Origami).
- Evaluate mobile technologies to improve EHS efficiency.

2016-17 Major Accomplishments

- Utilized the security blotter to track trends and patterns in theft, vandalism and suspicious activity to be proactive on illegal activities.
- Developed and implemented the automated Safety Management System for recordkeeping.
- Assisted with the purchase of two additional EPA Tier 4 cleaner burning

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diesel fueled engines that will emit 40 percent less air pollution than the previous engines.

- Obtained a blanket Dust Control Permit with the Clark County Department of Air Quality to cover various dust emitting maintenance activities.

Strategic Plan Goal – Ensure organizational efficiency and manage financial resources to provide maximum customer value.

2017-18 Performance Objectives

- Identify new regulations and policy changes and collaborate with other pertinent agencies.
- Assess all security processes, priorities and resource utilization to improve efficiency.
- Monitor progress on ISO 45001 and evaluate the program for possible implementation at the District.

2016-17 Major Accomplishments

- Adjusted security priorities and utilized technology assistance to absorb additional facilities at the Springs Preserve without increasing required labor.
- Adjusted security supervisors' schedules to provide better leadership during weekends and after hours.
- Adjusted instructor-led EHS training schedule to ensure critical safety training is offered more frequently.
- Reduced volume of air monitoring equipment in operation, at an annual cost savings of \$17,000.

- Safely disposed of more than 120 pounds of unusable pesticides through the Nevada Department of Agriculture's Pesticide Disposal Program, saving the District \$2,500 in disposal costs.

Strategic Plan Goal – Strengthen and uphold a culture of service, excellence and accountability.

2017-18 Performance Objectives

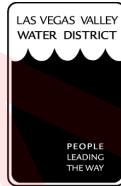
- Engage in future construction and maintenance contracts to ensure security issues and concerns are addressed at the earliest stages.
- Develop a comprehensive security manual for District employees.
- Conduct a monthly division staff meeting to update EHS employees on all major projects and communicate status changes and challenges.
- Conduct instructor-led EHS courses for District employees.
- Provide EHS information updates to the District through electronic management advisory and safety alert messages, Pipeline and Hydroweb articles, etc.
- Provide diverse learning opportunities in all department disciplines.
- Conduct EHS annual off-site meeting to discuss future initiatives and to evaluate and update EHS programs, policies and procedures.
- Recognize employees/teams for their unique talents and accomplishments.
- Disseminate an annual EHS trend report.

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2016-17 Major Accomplishments

- Participated in several professional development courses while continually searching for and participating in relevant low- or no-cost training opportunities.
- Achieved a 2016 Safety Stand Down Day participation rate of over 300 employees, and visitation rate of over 450 employees to the EHSCS booth at the organization's annual Employee Expo.
- Completed the annual EHS trend report
- which highlights major EHS accomplishments throughout 2016.
- Received zero OSHA citations in 2016.
- Reviewed and updated the safety awards program.
- Received 17 Safety Action Requests, each of which were tracked and monitored to ensure corrective actions were implemented.
- Utilized the monthly security report and blotter system to track suspicious activity and behavior to adjust security patrols and staff to be proactive on potential illegal activities and act as deterrents.
- Continued 100 percent ID badge checks at all entrance points to facilities, maintaining tighter control on access points.
- Assisted with the major move that Customer Care made to the Molasky Corporate Center.

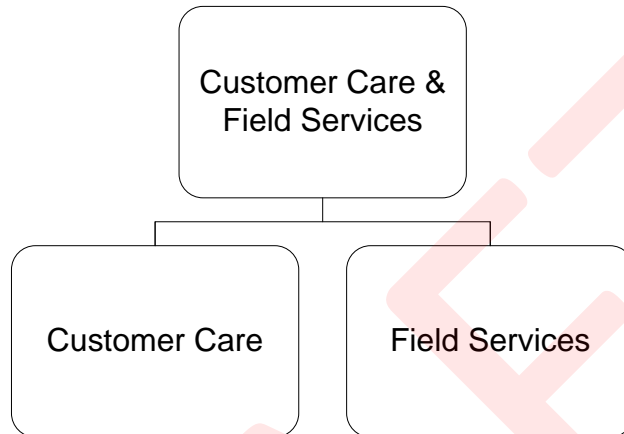
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CUSTOMER CARE AND FIELD SERVICES

Level: 2800



Mission

To deliver an outstanding customer experience by providing accurate service data to ensure timely billing and responsible customer concern resolution.

Department Description

The Customer Care and Field Services department was created with the express goal of developing a customer facing department dedicated to delivering world class service. The department handles all customer transactions from meter to cash.

Budget Objectives and Highlights

The 2017-18 budget for the Customer Care and Field Services department is consistent with the organization's efforts to reduce costs where possible while continuing to improve departmental efficiencies through both technological and performance based enhancements in order to provide the optimum customer experience.

Customer Care. Continuing efforts to reengineer business processes around the meter to cash philosophy. This should minimize field impacts and expand proactive customer notification.

Field Services. The 2017-18 Budget Plan contains funding for a read verification program, large meter maintenance, advanced metering infrastructure, and operational costs.

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Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ 1,322,821	\$ 3,428,650	\$ 1,114,250
Maintenance & Repairs	62,097	87,500	81,500
Other Employee Expenses	86,287	120,125	131,000
Other Expenses	2,357,735	3,644,300	3,646,300
Total Operating Expenses	\$ 3,828,940	\$ 7,280,575	\$ 4,973,050
Capital Costs	\$ 4,487,352	\$ -	\$ -
Payroll Costs	\$ 20,273,943	\$ 20,466,855	\$ 21,493,027
Total Department Expenditures	\$ 28,590,235	\$ 27,747,430	\$ 26,466,077
FTE Positions	172.9	178.0	171.1

Department Performance

In 2016-17, the Customer Care and Field Services department continued to refine business processes and advance technology in service to the Las Vegas Valley Water District's (LVVWD) customers. The department focused efforts on maximizing the customer experience through four strategic goals: Delivering an Outstanding Customer Experience; Anticipate and Adapt to Changing Climatic Conditions while Demonstrating Stewardship for our Environment; Develop Innovative and Sustainable Solutions through Research and Technology; Strengthen and Uphold a Culture of Service, Excellence, and Accountability.

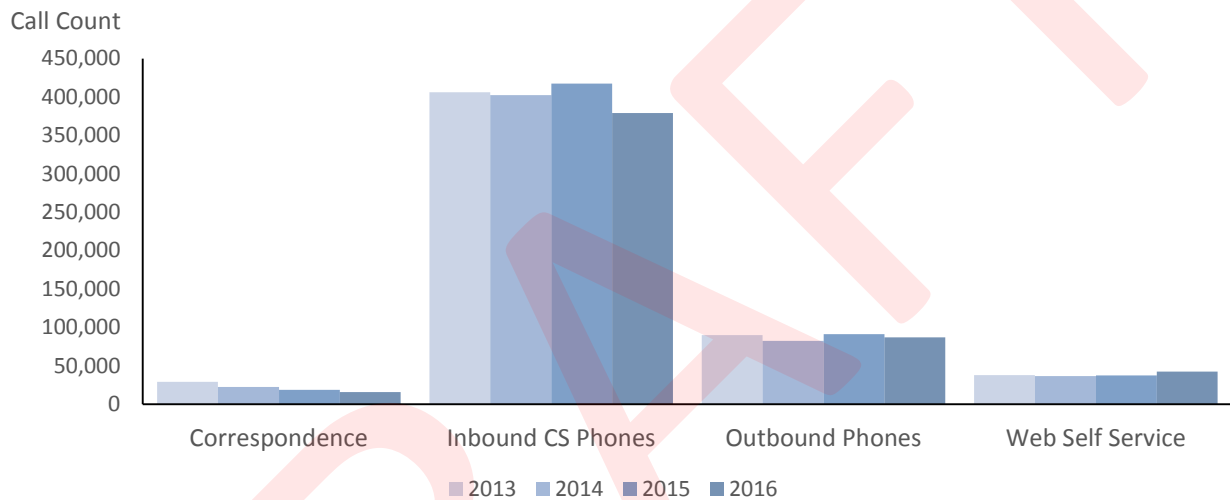
Customer Care. The Customer Care division serves as the primary point of contact for internal and external service inquiries—supporting approximately 386,000 active services. The division manages the customer care phones, web requests, correspondence and walk-in requests. Customer Care handles payments, pay arrangements, collection courtesy calls, delinquent account processing, high consumption requests, water-waste complaints, 24/7 emergency phone coverage, along with providing monthly billing to the LVVWD's customers.

Customer care continues its proactive approach to customer education and service through outbound customer service calls and customer notifications.

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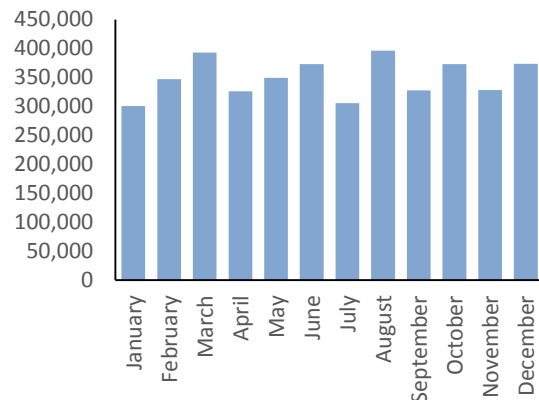
The following graph illustrates the shift in volume distribution over the past four years as process and technical innovations advance the meter to cash philosophy.

Customer Care Phone and Correspondence Volume



Advanced metering technology and proactive outreach has improved service performance and bill outcomes. These efforts are best illustrated in a low percentage of estimated bills. Customer Care and Field Services manages the monthly billing process from meter to cash for large services, developer accounts, adjustments, investigations, quality control, supplemental, fire protection services, consumption notifications and mobile meters.

Bills Generated 2016



The following chart depicts the total number of bills generated monthly in 2016.

Field Services: The Field Services division is responsible for reading and maintaining

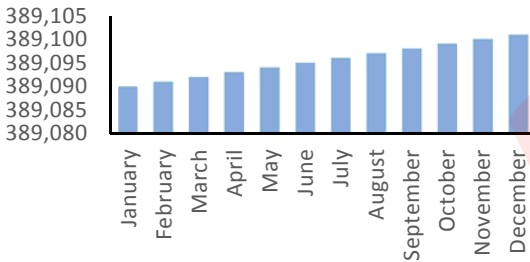
meters for approximately 386,000 services in Las Vegas, Searchlight, Blue Diamond, Kyle

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Canyon, Laughlin and Jean. The division also responds to leak investigations, low pressure, high consumption, water waste inquiries, billing requests, and turn ons/shut offs.

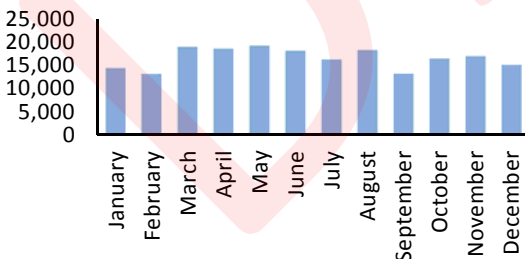
The 2016 Meter Reads chart illustrates the number of meter reads processed by Field Services in 2016 (Over 4.6 million total).

Meter Reads 2016



The following chart illustrates the number of work orders processed by Field Services in 2016 (Over 200,000 processed).

Field Activities Completed



Strategic Plan Objectives and Accomplishments

Strategic Plan Goal – Deliver on Outstanding Customer Service Experience.

2017-18 Performance Objectives

- Continued assessment of customer satisfaction, establish benchmarks and identify all avenues for enhancement.
- Establish culture of continuous improvement of processes and practices through the use of feedback from our customers, customer care stakeholders as well as affiliated departments throughout the LVVWD.
- Work with IT for continued integration of state of the art technologies in order to enhance the customer experience, increase efficiencies, create multi-channel platform capabilities as well as eliminate external vendor dependencies.
- Identify and assess the viability of additional technologies aimed at the promotion of efficiencies, reduction of appurtenant expenses as well as informational integration.
- Provide continuous training and development to ensure a quality customer service experience.
- Communicate with and receive continuous feedback from employees on organizational policy changes and procedural/process improvements.
- Monitor and collaborate with other

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organizations/industries to identify innovations, best practices and ways to improve the customer experience.

- Enhance our quality program for Field Services.
- Continue read verification project for all meters 2" and smaller.
- Enhancement of the Quality Assurance initiatives to improve call assessment, incorporate more feedback and interactional based development.
- Assess customer satisfaction results against overall quality outcomes for actionable improvement.
- Continue to improve customer care technologies, tools, training and implementation.
- Conduct roundtables and focus groups focused on employee engagement and quality of life in the workplace.

2016-17 Major Accomplishments

- Achieved 48 percent success rate with added administrative process for resolving severe arrears through proactive notification.
- Outbound collection calls yielded \$2.3 mm cost avoidance in truck rolls.
- Improved internal resources within the call center resulted in more than 15,825 calls thus improving the customer experience.
- Dedicated 1900 hours of training throughout 2016 to consistently provide optimum customer experience.

- Deployed business processes and training critical to annual PCI compliance standards.
- Improved safety measures for securing employees in the event of an evacuation emergency.
- Assisted 1,471 customers in the field with consumption related questions resulting in a 49 percent reduction from 2015.
- Performed 69 customer escalation field meets 2016.
- Added additional training to staff for water waste compliance to assist in educating our customers.

Strategic Plan Goal – Anticipate and Adapt to Changing Climatic Conditions while Demonstrating Stewardship for our Environment.

2017-18 Performance Objectives

- Reduce and dispose of waste responsibly.
- Maintain proper disposal of scrap and waste products, especially lithium batteries.
- Continue to support organizational water conservation efforts through improved technology, customer and interdepartmental communication.

2016-2017 Major Accomplishments

- Disposed of toxic waste material in compliance with OSHA regulations.
- Recycled tons of cardboard boxes through Opportunity Village, a not-for-profit organization.

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- Mailed 6,062 water waste letters in 2016.
- Completed 5,911 Water Waste investigations resulting in \$51,000 in fees assessed.
- Field Services participated in filming two water waste segments, a Water Works Wednesday episode and hosted two media related site visits
- Large Services completed over 830 preventative maintenance work orders.
- After Hours / Dispatch staff processed over 18,400 work tasks and handled over 10,400 Springs Preserve related inquiries in 2016.

Strategic Plan Goal - Develop Innovative and Sustainable Solutions through Research and Technology.

2017-18 Performance Objectives

- Begin to collect event and more refined interval data from the meter reading system to reduce truck rolls and increase customer service.
- Develop and strengthen global partnerships to leverage resources and advance innovations in Customer Service.
- Continued identification, assessment and implementation of customer care technologies, tools and resources.
- Upgrade and enhance various call center technologies including but not limited to: IVR with increased self-service options and flexible design, a

streamlined and integrated agent interface and more robust reporting tools.

- Integrate hourly interval data into business processes.
- Improve technology solutions for revenue protection and greater collection gains.
- Enhance outreach through modernized trickle notification technology.
- Continue to educate customers through field meets and courtesy letters.

2016-17 Major Accomplishments

- Lobby payments and transactions continue to decline with successful expanded payment and self-service options, reducing lobby traffic and carbon footprint.
- Implementation and training of the Itron Analytic software.
- Implemented and trained a new Web Self Service user interface that meets ADA compliance standards.
- Implemented Record on Demand technology to achieve compliance with the PCI DSS.
- Host and participate in education and technical venues for business advancement throughout 2016.

Strategic Plan Goal – Strengthen and Uphold a Culture of Service, Excellence, and Accountability.

2017-18 Performance Objectives

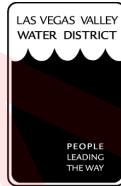
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- Provide and seek timely feedback on individual, team and departmental performance to enhance collaboration, accountability and excellence.
 - Continue Read Verification Program to resolve any discrepancies from AMR to meter reads.
 - Ensure timely and consistent communication with team to provide feedback and solicit recommendations.
 - Maintain weekly communications to keep the team informed of business impacts and process improvements.
 - Continuous communication forum between workgroups to address interdepartmental challenges and business impacts.
 - Share service level results across workgroups.
 - Leverage the existing resources for expert training classes to employee skill development.
- and in furtherance of the District's strategic goals.
- Utilized various subject matter experts throughout the department to support training initiatives.

2016-17 Major Accomplishments

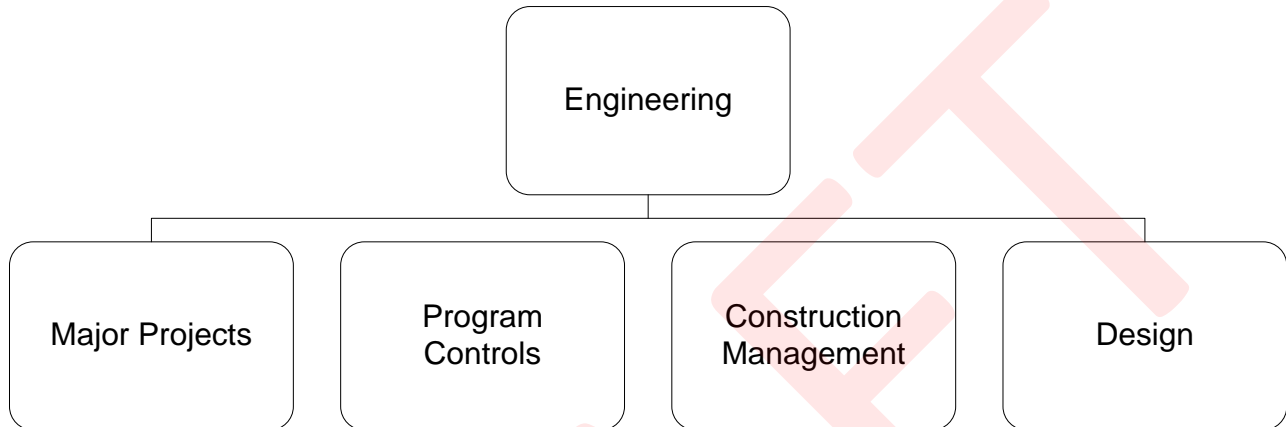
- Completed service verification project with verified reads on all services
- Increased Quality Monitoring to enhance the functional capabilities of the individual, team and departmental performance.
- Enhanced the Employee Performance Development System (EPDS) for all front-line employees.
- Re-engineered the Customer Care Quality Monitoring Program to be in alignment with industry standards

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ENGINEERING

Level: 3400



Mission

The mission of the Engineering department is to provide excellence in the field of engineering and related support services for a reliable and cost-effective water system.

Department Description

The Engineering department is responsible for implementing capital improvements projects for both the Las Vegas Valley Water District (LVVWD) and the Southern Nevada Water Authority (SNWA).

The LVVWD's capital projects are currently focused on the repair, rehabilitation, and replacement of aging pipelines, reservoirs, pumping stations, and related components within the large water distribution system spread across the vast Las Vegas Valley and in nearby rural areas. These projects are described in the LVVWD Capital Improvements Plan (LVVWD CIP). In

coordination with the Operations and Infrastructure Management departments, Engineering provides the design and construction services for many of the larger LVVWD projects.

The SNWA owns and operates the regional water supply system, the Southern Nevada Water System (SNWS), which treats Colorado River water and delivers it to the SNWA's purveyor members in the Las Vegas Valley. Improvement projects for the SNWS are identified in the Major Construction and Capital Plan (MCCP). The MCCP is the vehicle for authorizing ongoing projects and initiatives related to establishing and maintaining reliable system capacity, providing necessary support facilities, and developing access to new water resources. In coordination with the Operations and Infrastructure Management departments, Engineering provides the design and construction services for many of the larger MCCP projects.

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The SNWA is also responsible for the facilities providing erosion protection in the Las Vegas Wash, as defined in the Las Vegas Wash Capital Improvements Plan (Wash CIP). Engineering accomplishes the planning, design and construction of the projects defined by the Wash CIP.

Using its project tracking systems, construction management, permitting surveying and rights-of-way resources, Engineering offers support services to other departments for their operating and capital projects.

Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ 846,125	\$ 193,975	\$ 110,685
Maintenance & Repairs	5,695	26,000	50,000
Rental & Leases	1,565,004	-	-
Other Employee Expenses	27,532	44,175	94,625
Other Expenses	117,455	124,500	79,100
Total Operating Expenses	\$ 2,561,810	\$ 388,650	\$ 334,410
 Capital Costs	 \$ 26,220,672	 \$ 19,574,063	 \$ 52,096,380
 Payroll Costs	 \$ 10,238,887	 \$ 11,086,642	 \$ 13,194,902
Total Department Expenditures	\$ 39,021,370	\$ 31,049,355	\$ 65,625,692
 FTE Positions	 63.5	 67.5	 78.3

Budget Objectives and Highlights

The 2017-18 Engineering department budget demonstrates significant ongoing commitment for the major projects associated with Lake Mead Intake No. 3 and the Wash CIP. In addition, a major portion of the department staff will continue to be focused on many projects directly supporting

the Operations and Infrastructure Management departments in preserving the facilities needed to assure a reliable, quality water supply for water customers.

The Intake No. 3 tunnel and intake project was completed and became operational in 2015. This achieved the goal of access to better quality water deep in Lake Mead, but does not, on its own, protect against lost system

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capacity if lake levels drop below the operational levels of the two existing intake pumping stations. Accordingly, in 2015 the SNWA launched design and construction activities for a Low Lake Level Pumping Station (L3PS) that would function at levels as deep as possible for the new intake tunnel and preserve system capacity well below the operational levels of the existing intakes. Capital expenditures for the new pumping station will continue through project completion in 2020.

Construction of the Tropicana Weir began this fiscal year and is scheduled for completion in July 2018. Construction of the Historic Lateral Weir Expansion and Sunrise Mountain Weir is anticipated to begin fall of 2017.

The Engineering department will also advance various capital projects for the LVVWD by designing and managing construction of projects to install new facilities, replace water mains, rehabilitate valve or meter vaults, install backflow prevention devices and perform other necessary system improvements.

Department Performance

The Engineering department is organized around five functional areas.

Major Projects. Teams are organized, as needed, to successfully manage completion of major capital projects of the LVVWD and the SNWA capital plans. Currently, there are two active major project efforts, one for the L3PS and one for the Las Vegas Wash, and staff are dedicated to those project activities.

Design. The design team is comprised of professional engineers, technicians, permit coordinators, and support staff who work with operators, planners and asset managers in other departments to define project requirements and incorporate those requirements into design and construction packages. These packages are generally prepared for public bidding to construction contractors. The design team members work closely with their clients and the construction managers to assure design requirements are clear, compliant with the approved scope of work, align with schedule and budget, and consistent with generally accepted engineering standards. Design also coordinates with in-house Legal, Safety, Risk Management staff to ensure contract provisions are appropriate.

Construction Management. The construction management team is comprised of engineers and inspectors who have extensive experience in the construction of public works for water utilities and manage the construction of necessary facilities and inspection of new developer-installed facilities. These team members also participate in the development of design packages to assure construction complexities are properly considered and addressed prior to inviting contractor bids. They also coordinate with the Legal department to assure laws, regulations, and contract provisions are properly observed.

Program Controls. A technical team organized to assist with the implementation and management of the LVVWD and SNWA capital programs through the establishment and monitoring of scheduling and cost controls. This team provides cost and

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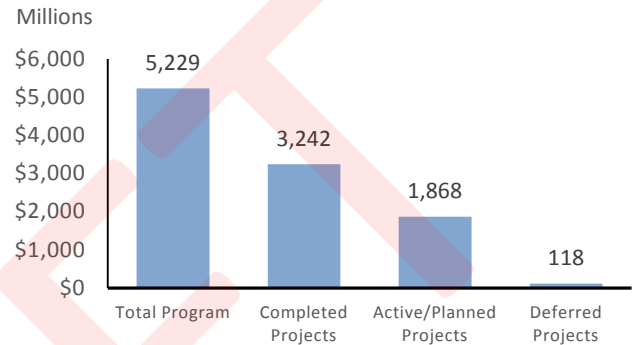
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schedule reporting along with cost and schedule analysis of capital projects. This team makes use of computer-based tools which compile relevant project data from various departments. This team also performs a vital function in collecting projected capital expenditures as a tool for forecasting future funding requirements and coordinates closely with the Finance department.

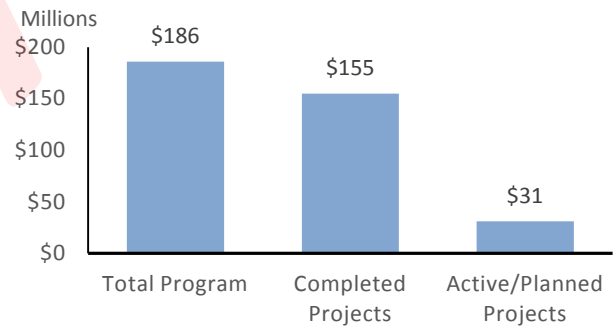
Survey, Property Management and Infrastructure Mapping Services. Professional staff within the department support design and construction of infrastructure by providing land surveying, water rights surveying, line location, right of way acquisition and property management and as-built record drawings for both the LVVWD and SNWA systems. These services are vital to the efficient management of property controlled by the LVVWD and SNWA and the infrastructure installed within public rights of way.

The following charts compare completed projects to active and planned projects for each of the SNWA's capital plans and give perspective for the magnitude of the capital plan activities.

**Major Construction & Capital
Plan Status
As of March 2017**



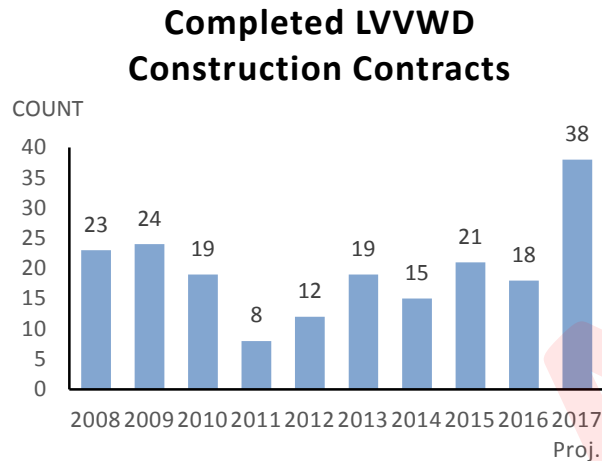
**Las Vegas Wash Capital
Improvements
As of March 2017**



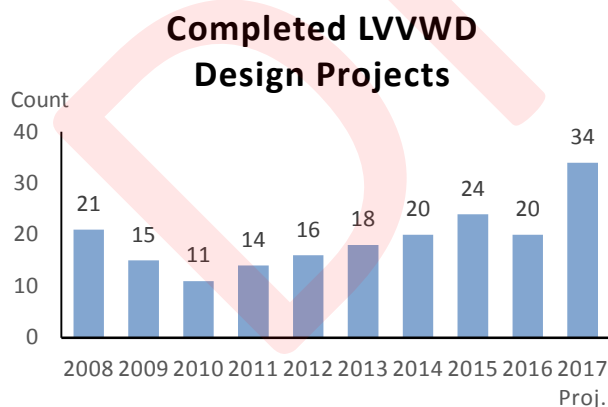
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The chart below (Completed LVVWD Construction Projects) represents the number of the LVVWD construction projects completed by Engineering since 2008 and the number expected to be completed in 2016.



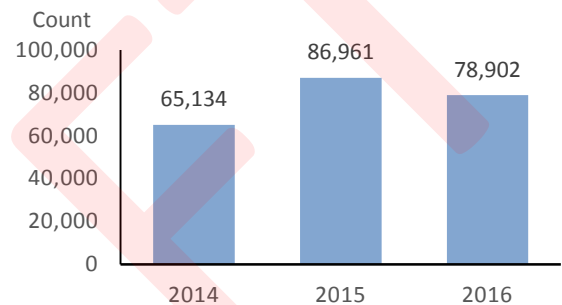
The following chart (Completed LVVWD Design Projects) illustrates the number of projects Engineering has designed since 2008 to support the infrastructure management requirements of the LVVWD.



The chart below shows how many thousands of features related to water facility assets constructed under capital projects for both the LVVWD and SNWA that have been edited (added or updated) within the geographic

information system facility database over the past three years. The chart mirrors the increase in development activities experienced in the service area over this time.

Number of GIS Project-Related Feature Edits



Strategic Plan Objectives and Accomplishments

Strategic Plan Goal – Assure quality water through reliable and highly efficient systems.
2017-18 Performance Objectives

- Complete design and construction of projects in accordance with forecasted capital budgets, the cost estimates and schedules identified in the capital plans.
- Complete the underground and discharge aqueducts construction for the L3PS.
- Provide the Infrastructure Management and Operations departments with a high level of technical services and capital project support.
- Consolidate project tracking applications and align work processes to improve staff efficiency.
- Improve methods for direct electronic

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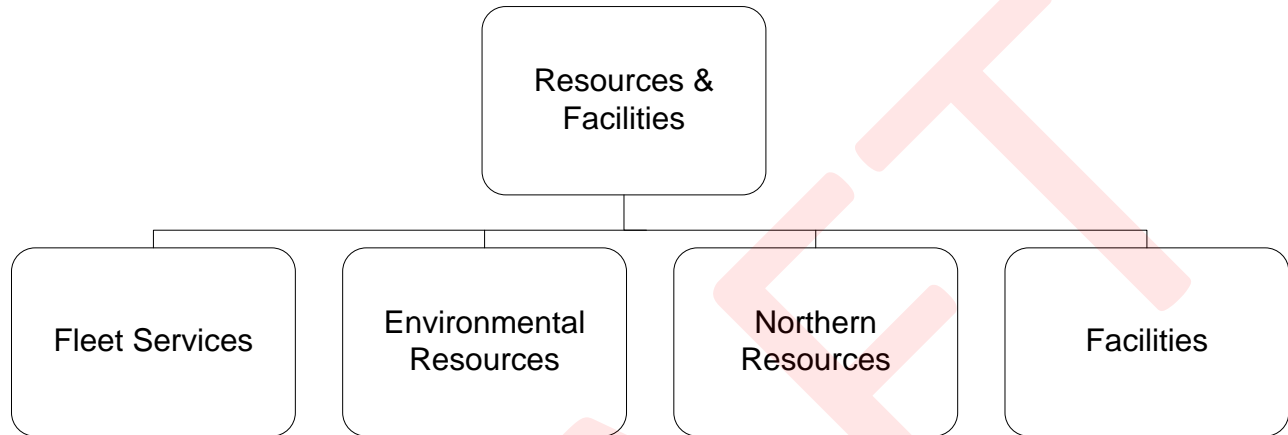
capture in the field of attributes of constructed water facilities.

2016-17 Major Accomplishments

- Made significant progress on the underground portion and completed the design for the above-ground construction for the L3PS.
- Completed the discharge aqueducts connection work within the critical treatment plant outages.
- Completed design of water system facilities necessary for development in Garnet Valley.
- Completed construction of 18 LVVWD projects valued at \$17 million related to improvement of the LVVWD's facilities, including the \$12.3 million Fayle Reservoir Rehabilitation project.
- Awarded 17 LVVWD construction contracts valued at \$12.6 million related to improvement of the LVVWD's facilities.
- Awarded one weir construction contract valued at \$8.95 million related to the Las Vegas Wash Capital Improvements Plan.
- Awarded one SNWA construction contract valued at \$3.07 million related to the Filter Demonstration Project at AMSWTF.
- Performed inspections on approximately 550 different projects, involving over 42,200 individual inspection actions.
- Implemented new enterprise-wide budgeting tools for capital projects.

RESOURCES & FACILITIES

Level: 3600



Mission

The mission of the Resources & Facilities department is to sustainably manage the Southern Nevada Water Authority's (SNWA) land and environmental resources through sound policy, applied science and advanced technology; and, to sustainably manage the SNWA and the Las Vegas Valley Water District (LVVWD) facilities and fleet assets through cost effective strategies supporting operations and organizational business.

Department Description

The Resources & Facilities department consists of four divisions that include the Fleet Services division, Facilities division, Northern Resources division and Environmental Resource division. Additional responsibilities assigned to the department include, climate change science and policy analysis, and leadership in organizational sustainability.

Budget Objectives and Highlights

The 2017-18 Resources & Facilities department budget contains funding for a wide-range of initiatives discussed below.

Facilities. The Facilities division budget contains \$4.7 million in operational funding for the repair, maintenance, cleaning and servicing of all the LVVWD and the SNWA buildings and facilities, including landscape and roadways.

Fleet Services. The Fleet Services division budget contains approximately \$8.8 million for new & replacement vehicles and related equipment having reached their end of life cycle. An additional \$305,000 is for new GPS equipment for all fleet vehicles. This equipment will be used to better manage the fleet as well as reduce fuel usage and enhance safety.

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Environmental Resources. The Environmental Resources division budget contains \$2.4 million in operational funding to continue environmental and biological planning, compliance and resource management activities for the SNWA. The division will continue to provide environmental support and ensure regulatory compliance for the Las Vegas Wash, Northern Resources, Water Resources, Engineering, and other departments. The division will also continue to manage the Warm Springs Natural Area property to meet agreements and further the SNWA resource management objectives. In fiscal year 2017-18, the division anticipates receiving \$1 million in revenue from Federal and State grants and local contributions.

Northern Resources. The Northern Resources division budget totals \$7.97 million, of which, approximately \$500,000 is for livestock inventory purchase and \$3.53 million for capital improvements to develop, utilize and maintain primary groundwater rights. Total gross revenues are projected to exceed \$2.2 million. The Northern Resources division

consists of seven individual properties that have been consolidated into one independent operating entity. The consolidation and management of these ranch properties has created operational efficiency, but increased gross operating costs. Increased operating costs are attributed to building livestock populations and re-establishment of perennial crops on irrigated fields, replacing aging non-functional infrastructure, renovation of historical ranch structures and construction of additional facilities. Program diversification including water development, nutrient management, cropping structure, propagation of multiple species of livestock, water and energy application have created sustainable revenue centers supporting operations. The primary goal for this division is to integrate the management of water, land and agricultural resources such that environmental and social conflicts are minimized and the Groundwater Development (GWD) Project is maintained as a viable and sustainable alternative future source of supply.

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Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ 2,144,385	\$ 2,957,250	\$ 3,176,900
Maintenance & Repairs	2,148,885	2,200,500	2,202,000
Rental & Leases	191,971	282,400	372,400
Other Employee Expenses	70,918	176,210	168,710
Other Expenses	(23,733)	140,200	142,350
Total Operating Expenses	\$ 4,532,427	\$ 5,756,810	\$ 6,062,360
Capital Costs	\$ 130,515	\$ 7,496,000	\$ 8,229,000
Payroll Costs	\$ 9,294,255	\$ 7,833,478	\$ 8,194,311
Total Department Expenditures	\$ 13,957,197	\$21,086,288	\$ 22,485,671
FTE Positions	73.5	64.7	64.8

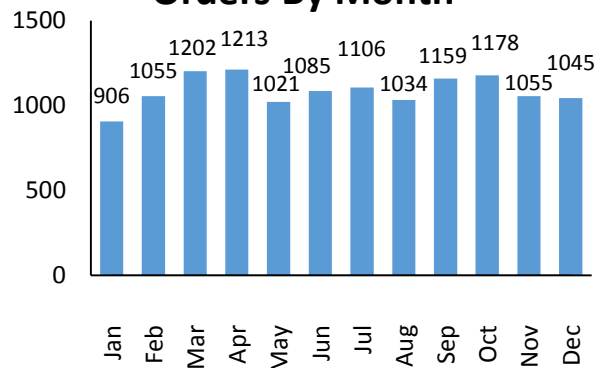
Department Performance

Facilities. The Facilities division is divided into three (3) subsets: Facilities Maintenance, Facilities Services, and Buildings and Grounds. The division is responsible for ensuring the four (4) major epicenters and the two hundred seven (207) offsite properties totaling 1,452 acres exceed the LVVWD standards for appearance, quality and cost-effectiveness. Additionally, Facilities supports numerous rural system sites including Big Bend Water District, Warm Springs, Mount Charleston, Jean, Searchlight, Northern Resource Properties, and others. The division provides support during the design and construction of new facilities, as well as, site

remodeling and/or retro-fit support for existing structures.

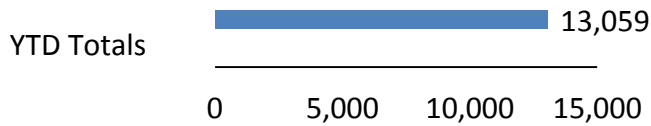
The following charts depict the total work orders completed by month and calendar year.

2016 Completed Work Orders By Month



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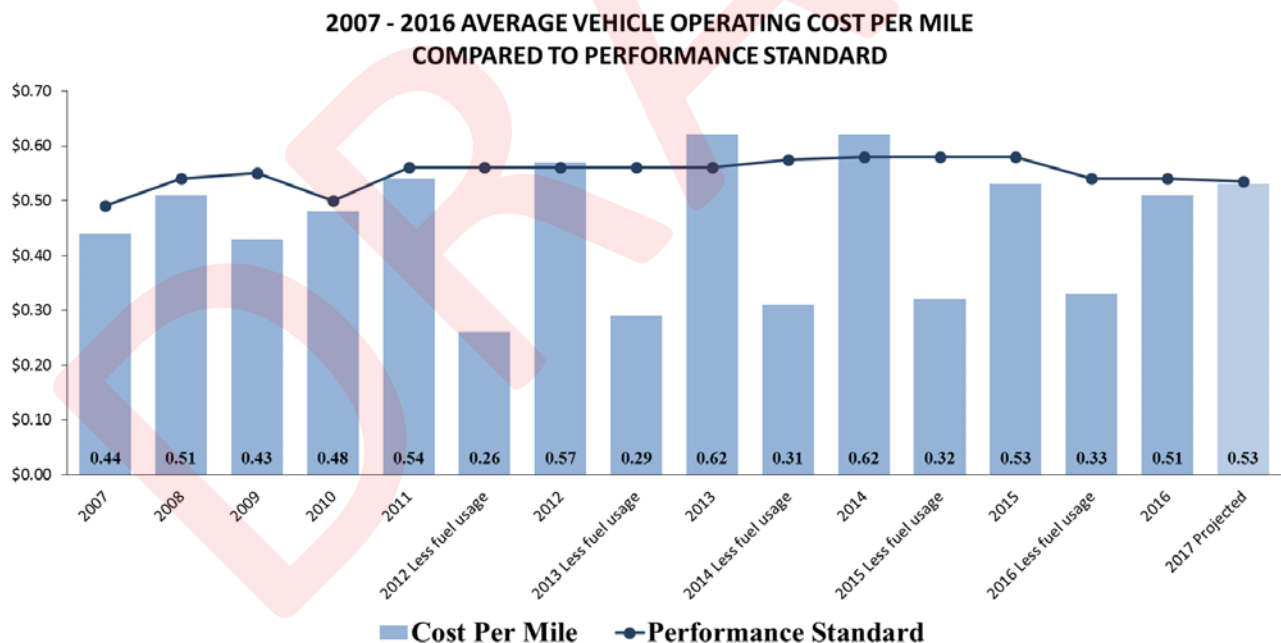
2016 Completed Work Orders Year to Date Totals



Fleet Services. The mission of the Fleet Services division is to provide safe, reliable and functional vehicles, equipment, tools, fuel, and communications equipment to the LVVWD, SNWA, LVSP, and BBWD operations. Currently the division maintains more than 1,500 vehicles and support equipment pieces

and 1,200 pieces of communications equipment for the organization. This includes services for repair, maintenance, acquisition and disposition of all vehicles, support equipment, communications equipment and loanable tools. Fleet Services also operates six service facilities and six fueling facilities located in Las Vegas, Boulder City, Henderson and White Pine County.

The following chart reflects the LVVWD's average vehicle operating cost per mile compared to accepted performance standards.



Environmental Resources. The Environmental Resources division is responsible for conducting environmental monitoring, and management to ensure compliance with environmental laws, permits, and agency agreements. This includes

preparing environmental compliance documents for resources and infrastructure, conducting natural resources studies, and completing environmental compliance monitoring and reporting, in accordance with Federal environmental regulations, state

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water right rulings, and interagency environmental agreements. The division is also responsible for fulfilling organizational responsibilities related to management and restoration of the Las Vegas Wash, and the Warm Springs Natural Area.

Northern Resources. The Northern Resources division has developed and sustained global markets for sales of internally produced agricultural products, including beef calves, lambs, wool and alfalfa. These commodities represent approximately \$2.2 million in projected ranch revenue for fiscal year 2017-18. Improvements in agricultural practices, livestock genetics, program diversity and husbandry have resulted in increased efficiency and effectiveness in utilizing Federal rangeland and private forage, and added alfalfa acreage to increase overall production. The strategic plan for Ranch Operations is to produce and deliver quality products and service, exhibit scientific based stewardship and, demonstrate financial and organizational efficiency. The ranch infrastructure, resource stewardship, water rights, personnel development, and financial stability are priorities integrated into the management program. Ranch operations also support cross-departmental initiatives concerning the collection of environmental and hydrologic monitoring data and various other aspects of the GWD Project.

Strategic Plan Objectives and Accomplishments

Strategic Plan Goal – Assure quality water through reliable and highly efficient system.

2017-18 Performance Objectives

- Maintain critical equipment and building systems to ensure a safe and comfortable work environment; measure equipment uptime percentage.
- Develop and implement 10 year rolling asset management plan.
- Comply with environmental permit requirements for construction and operation of weirs in Las Vegas Wash.
- Conduct research and public outreach in the Las Vegas Wash in accordance with agreements and the Las Vegas Wash Comprehensive Adaptive Management Plan (LVWCAMP).

2016-17 Major Accomplishments

- Conducted aquatic bird, marsh bird, and invertebrate surveys along the Las Vegas Wash, including identification of the first endangered yellow-billed cuckoo.
- Conducted compliance monitoring and reporting in support of weir construction on the Las Vegas Wash without a single incident of non-compliance.
- Re-vegetated approximately 50 acres along the Las Vegas Wash, removed more than 12 acres of tamarisk, and conducted vegetation monitoring on nearly 300 acres.
- Conducted two Las Vegas Wash Green-Up events, where 340 volunteers planted approximately 13.5 acres.
- Coordinated and hosted a two-day science symposium for approximately

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300 high school students as part of World Wetlands Day.

- Developed a Long-Term Operating Plan on the Las Vegas Wash.
- Completed the following projects designed to maintain uninterrupted operations: replaced dilapidated sewer and chiller piping at the AMWSTF, conducted major repairs to the RMWTF Laboratory HVAC units, and installed new HVAC units for the AMSWTF SCADA computer room.

Strategic Plan Goal – Deliver an Outstanding Customer Service Experience.

2017-18 Performance Objectives

- Achieve an 80 percent or greater satisfaction rating for facilities-related customer interactions.
- Continue to include customers in the specification process of new and/or replacement vehicles and equipment.
- Partner with other departments to create vehicle/equipment committees to better assess needs and improve end products provided.
- Minimize equipment down time through the use of technology, technician training and good parts availability.
- Provide the best possible equipment choices to the departments to assist them in meeting their goals efficiently and effectively.
- Respond to changing customer needs and implement and/or change services to better support the mission.

2016-17 Major Accomplishments

- Enhanced customer service in outlying areas through the use of technology, improved parts availability, and scheduling of technicians.
- Maintained Automotive Service Excellence (ASE) “Blue Seal of Service Award”.
- Maintained Automotive Service Excellence (ASE) “World Class Technician Status”, adding one additional technician to the World Class Standings.
- Managed and facilitated the move of 110 Customer Care employees to the Molasky or Field Services Building in a prompt and efficient manner, significantly reducing anticipated downtime.
- Project 7S9016 – completed the installation of insulation in the north soffit of the AMSWTF Administration Building to eliminate all cold complaints.
- Facilitated major internal events including: all Divisional holiday parties, Safety Stand-Down Day, Celebrating You week.
- Implemented successful proactive disinfection program to minimize employee impact during the flu season.

Strategic Plan Goal – Anticipate and Adapt to Changing Climatic Conditions while Demonstrating Stewardship of our Environment.

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2017-18 Performance Objectives

- Continue to lead and develop the alternative fuel vehicle program in support of clean air in the Las Vegas Valley.
- Recondition and reuse service bodies for light duty vehicles.
- Expand the Districts plug-in electric vehicles fleet.
- Expand the use of compressed natural gas as an automotive fuel.
- Sustain the SNWA's central Nevada groundwater rights and right-of-way grant for future groundwater development.
- Conduct monitoring and submit annual hydrologic and biological data and reports to the Nevada State Engineer as required by water-right permits.
- Sustainably manage the Great Basin Ranches such that annual gross revenue covers at least 100 percent of direct costs, measured as a five-year running average.
- Develop and certificate 100 percent of ranch water rights.
- Maintain Great Basin Ranch assets, including property, facilities, water rights, and grazing allotments in accordance with annual work plans.
- Inspect 100 percent of ranch irrigation, stock, and domestic wells at least annually, and maintain at least 90 percent of the wells at full operational capacity.
- Complete environmental compliance and monitoring for existing infrastructure and projects initiated by other divisions and departments.

- Collaborate on all major local and regional climate change initiatives relevant to the SNWA.
- Make progress towards achieving the goals of the Recovery Plan for rare aquatic species on the Muddy River (Moapa dace).
- Provide public access at the Warm Springs Natural Area in accordance with the Southern Nevada Public Land Management Plan funding agreement.
- Mow fields at least once annually, and trim palms and maintain fire breaks annually as needed at the Warm Springs Natural Area in accordance with the Fire Management Plan.
- Communicate sustainability goals and progress to the organization.

2016-17 Major Accomplishments

- Replaced older diesel and gasoline powered vehicles and flex fuel vehicles, lowering capital cost and reducing the Districts carbon foot print.
- Recycled and reused several service bodies and mounted equipment on light and medium duty utility vehicles, reducing the Districts use of raw materials.
- Recycled used oil to be used as heating fuel for the fleet maintenance facility in Spring Valley.
- Selected as one of the 100 Best Fleets "Top 100 Fleets in North America" and "Top Green Fleets in North America"..
- Supported preparation of legal briefs in defense of the Groundwater Development Project rights-of-way.

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- Prepared expert reports for water rights hearing remand for SNWA's central Nevada groundwater rights.
- Monitored more than 200 ground photography fixed monitoring locations across the SNWA's grazing allotments, conducted vegetation monitoring at 48 sites, and conducted riparian surveys at 21 sites to document SNWA's use of the rangeland, drought conditions, and general range health.
- Obtained 3 rights-of-way for historic ditches and pipelines associated with ranch operations.
- Negotiated with federal agencies, collected data, and prepared reports in support of renewal of permits for 16 SNWA grazing allotments.
- Conducted native fish surveys on the Virgin and Muddy Rivers.
- Conducted desert tortoise, migratory bird, and sensitive species surveys, and responded to 2 calls for dangerous animals at various SNWA/LVVWD facilities.
- Reviewed 146 draft policies, regulations, and projects potentially relevant to the SNWA and the LVVWD, and submitted 11 formal comments letters.
- Completed environmental compliance processes and obtained federal right-of-way for Silver State Energy Association's Eastern Nevada Transmission Project.
- Conducted bi-annual Moapa dace counts.
- Initiated construction of the second phase of public access trails and kiosks at the WSNA, which is being paid for with Federal grant funding.
- Treated and removed weeds on 44 acres on the WSNA, and grew over 5,000 native plants at the greenhouse for restoration at Warm Springs and the Las Vegas Wash.
- Trimmed 150 palm trees, resurfaced approximately 3,500 feet of firebreaks with gravel, installed 4,430 feet of new barbwire fence to preserve defensible space around structures and Moapa dace streams.
- Outreach at the Warm Springs Natural Area included 80 students from Moapa Valley Future Farmers of America who assisted in planting and property cleanup, and Boy Scouts of America who installed over 2,000 native plants and a foot bridge.
- Maintained and improved Great Basin Ranch properties through building renovations at the Robison ranches, Harbecke, Bransford, Wahoo houses 1 and 2, Phillips and Bastian; improving calving areas, shipping facilities, built feedlot facilities enhancement to support livestock program; fencing, stock water development, trough and pipeline installation, and pond projects on several deeded sites; clearing all ranches of waste and other hazards.
- Supported better range ecology by controlling livestock distribution, forage utilization and protection of riparian areas by resting, rotating and placing into conservation allocated AUM's.

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- Completed installation and brought online four new irrigation systems at Huntsman/Phillips.
- Established and harvested marketable crop under these systems.
- Completed the re-fencing development area and perimeter fence along CR894, approximately 3 miles of fence line including approximately 2 miles of internal fences.
- Built water infrastructure to support livestock production at Huntsman, Phillips, Bransford and Scotty Meadows.
- Produced 11,226 ton of marketable forage products with a value of \$1,852,290.
- The ranch produced 460,390 pounds of beef with a value of \$642,194 and added 980 beef replacement females to the inventory with a value of \$1,470,000.
- The ranch produced 278,510 pounds of lambs with a value of \$479,225 and added 1,160 replacement sheep to the inventory with a value of \$232,000.
- Completed re-habilitation of the Bastain well, prepared ground for pivot installation and planting.
- Placed approximately 50 percent of permitted AUMs in non-use for conservation due to drought impact.
- Continued audit of Spring Valley Associates administration and developed strategies for management compliance with DOL regulation.
- Participated with Environmental Resources team completing reclamation at four well sites.
- Monitored climate change science and potential impacts to the SNWA through coordinated activities with the Water Utilities Climate Alliance and Association of Metropolitan Water Agencies.
- Recycled existing furniture to modify or upgrade work areas or offices for 120 employees.
- Participated in the annual holiday drive, recycling over 2,500 Christmas trees.
- Continued to employ energy efficient upgrades in the lighting and climate control applications.
- Facilitated the Sustainability CDT, which met more than six times to coordinate the organization's sustainability goals.

Strategic Plan Goal – Ensure Organizational Efficiency and Manage Financial Resources to Provide Maximum Customer Value.

2017-18 Performance Objectives

- Without compromising safety and/or service level, reduce operating costs through standardization opportunities, inactive inventory reduction, and continuous process improvements.
- Reduce the overall cost per mile/hour of operation for the LVVWD's vehicles and equipment.
- Continue to reduce the number of vehicles/equipment that are low usage and not cost effective.
- Through research and testing, purchased vehicles and equipment exhibiting the lowest cost of

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ownership while at the same time providing the most ergonomic and reliable means for employees to carry out their mission in the most efficient manner.

- Annual department expenditures remain within budget.
- Facilitate renovation projects utilizing in-house labor whenever possible.

2016-17 Major Accomplishments

- Replace older diesel and gasoline powered vehicles with flex fuel vehicles, saving an estimated \$260,000 in capital replacement costs.
- Reconditioned and reused several service bodies and mounted equipment on light and medium duty utility vehicles saving over \$125,000.
- Replaced ninety-five (95) vehicles and equipment pieces that were no longer cost effective to operate and maintain.
- Recovered over \$782,529 in vehicle resale at auction.
- Obtained \$875,000 in Southern Nevada Public Land Management Act grant funding for construction of the second phase of public access at the Warm Springs Natural Area.
- Increased beef and sheep herd numbers substantially to provide future revenue growth.
- Completed Valley View Information Technology – Phase C upgrading forty (40) work stations and seven (7) offices using predominately in-house labor.
- Used in-house labor to renovate the Valley View Engineering Planning to upgrade twenty (20) work stations, ten

(10) offices, a kitchenette, and a conference room.

- Completed the main administration area at AMSWTF upgrading six (6) work stations, fourteen (14) offices, a copy center and a brand new data feed using in-house labor.
- Continued to provide proper care and operation of fire protection and life safety systems, climate control for personnel and mission-critical areas, repair and maintenance of plumbing systems, and integrity of facility components including: lighting, building facades, sidewalks, roofs, roads, and perimeter walls.

Strategic Plan Goal – Strengthen and Uphold a Culture of Service, Excellence and Accountability.

2017-18 Performance Objectives

- Department staff completes 90 percent of mandatory Knowledge Reservoir training on schedule.
- Department average annual incident rate exhibits a downward trend, based on a five-year average.
- Ensure 90 percent of Facilities preventive maintenance work is completed by the due date.
- Ensure 98 percent or greater, fire and life safety inspections or tests are completed by the due date.
- Partner with other departments to create vehicle/equipment committees to better assess needs and improve end products provided.
- Maintain good parts and supply inventories.

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- Comply with industry standard repair procedures.
- Provide comprehensive preventive and predictive maintenance.
- Team safety. Zero lost-time accidents.
- Train and certify maintenance and service personnel in new technology and repair techniques.
- Fleet certification as an "Industry Competitive Fleet Management Operation" through the Fleet Counselor Services (FCS).
- Maintain Automotive Service Excellence (ASE) "World Class Technician Status."
- Maintain I-CAR Platinum Class Certification for Fleet Services paint and body operations.

2016-17 Major Accomplishments

- Renovations for safer operation of El Tejon Ranch irrigation lift station; replacement of hazardous irrigation electrical CT stand at Shoshone.
- The Facilities division comprised of a team of custodians reliably maintains an orderly, clean and compliant environment at all sites.
- Facilitated over 5,000 meeting room set-ups over the past 12-months.
- Completed 13,286 Work Tasks over the past 12-months.
- Created vehicle/equipment committees with key customers in order to better assess needs and improve end products provided.
- Maintained Automotive Service Excellence (ASE) "Blue Seal of Service Award."

- Maintained Automotive Service Excellence (ASE) "World Class Technician Status."
- Achieved I-CAR Platinum Class Certification for Fleet Services paint and body operation.
- No lost-time accidents occurred.

Strategic Plan Goal – Develop innovative and sustainable solutions through research and technology.

2017-18 Performance Objectives

- Continue to equip fleet facilities with state of the art testing and diagnostic equipment in order to properly diagnose and repair vehicle and equipment failures in a timely cost effective manner.
- Implement GPS/telematics technology throughout the fleet in order to enhance fleet management capabilities, save fuel and improve fleet utilization.

2016-17 Major Accomplishments

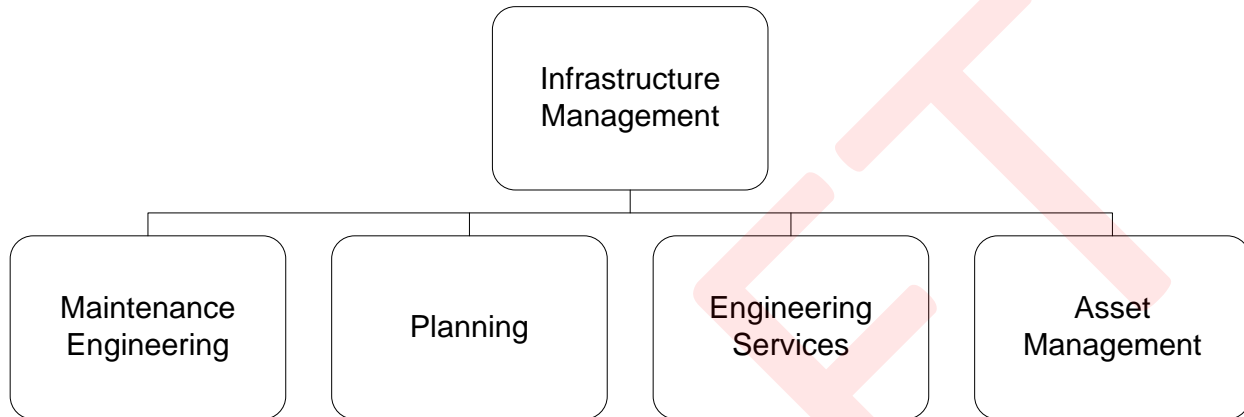
- Equipped all fleet repair facilities with state of the art manufacture specific diagnostic equipment, reducing vehicle down time and repair costs.
- Provided online technical training and diagnostic information to technicians at all repair locations, giving them the tools needed to become more proficient and efficient in their job duties.

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INFRASTRUCTURE MANAGEMENT

Level: 3700



Mission

To provide world-class stewardship of the existing water system infrastructure through comprehensive asset assessment, protection, and renewal in the most fiscally responsible manner possible.

Resources and Facilities, and Water Quality and Treatment (WQ&T) departments. The Asset Management division tests for leaks on large diameter pipelines, provides inspection support, develops future cost projections, and maintains the LVVWD and the SNWA cathodic protection systems. All of these efforts are directly in support of the department's mission.

Department Description

The primary responsibility of the Infrastructure Management department is to manage the Las Vegas Valley Water District (LVVWD) and the Southern Nevada Water Authority (SNWA) assets by developing and maintaining the asset management program. To accomplish this, the Engineering Services and Planning divisions review water plan submittals for proposed development to ensure they meet the LVVWD's construction standards, and provide adequate pressures and fire flow. The Maintenance Engineering division conducts pumping unit efficiency tests, provides technical support, and develops capital projects for the Operations,

Budget Objectives and Highlights

The 2017-18 Infrastructure Management department budget contains a comprehensive view of ongoing efforts to maintain costs at current levels, provides funding to continue the development and maintenance of the asset management program, and demonstrates a commitment to providing daily operational support for the LVVWD's and SNWA's projects.

Infrastructure Management's total operating expense budget between the LVVWD and the SNWA increased \$2,137,145 from the budget year 2016-17 to 2017-18. The addition of the

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Communication Systems group; increased funding in the amount of \$1,750,000 for the SNWA emergency work, fiber optic leases, communication equipment; and the addition of \$450,000 for backflow, pipeline replacements and improvements - completed

in conjunction with other agency projects, and the RedEye projects are contributing factors to the operating expense increase. The department will continue to focus efforts on maintaining cathodic protection, SCADA, and the 4-1-1 developer review process.

Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ (196,932)	\$ 597,150	\$ 366,240
Maintenance & Repairs	684,743	1,760,850	2,326,500
Other Employee Expenses	51,420	103,400	117,705
Other Expenses	245,956	261,400	215,625
Total Operating Expenses	\$ 785,187	\$ 2,722,800	\$ 3,026,070
Capital Costs	\$ 1,099,138	\$ 22,711,945	\$ 15,423,300
Payroll Costs	\$ 11,488,919	\$ 11,512,155	\$ 12,474,889
Total Department Expenditures	\$ 13,373,243	\$ 36,946,900	\$ 30,924,259
FTE Positions	64.8	64.1	63.7

Department Performance

Maintenance Engineering. The Maintenance Engineering division is responsible for the engineering design enhancements and modifications needed to operate and maintain pumping stations, rate-of-flow-control stations, reservoirs, water treatment facilities, the distribution and transmission pipelines, and wells in a safe and efficient manner. Specific responsibilities of

Maintenance Engineering include PLC/HMI/SCADA programming and 24x7 support, SNWA communications infrastructure and 24x7 support, water quality projects, electrical coordination study analysis, motor control center and switchgear upgrades, administration of on-call vault repair and distribution service contracts, administration of pump and motor repair contracts, design and implementation of cathodic protection projects, tank re-coating projects, as-built documentation, and

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facilities improvements. The division also provides day-to-day engineering support for the LVVWD and SNWA, Big Bend Water District (BBWD), Alfred Merritt Smith Water Treatment Facility (AMSWTF), River Mountains Water Treatment Facility (RMWTF), and rural systems.

The division is currently managing over 250 projects between the LVVWD and the SNWA, with a capital budget of more than \$14 million. Major projects include the SCADA upgrade at the SNWA, Automation control system upgrades at the SNWA and the LVVWD, VFD replacements at WRC and Lamb Pump Stations, Blue Diamond wells rehabilitation, cathodic protection system installations at East Valley Lateral, West Valley Lateral, and Gibson Lateral, chemical storage tank repairs, fluoride system upgrades at AMSWTF, Stewart North and South Basin floor and wall joint replacements, and the electrical system upgrade at Campbell Pump Station.

Planning. The Planning division provides research, analysis, modeling, and forecasting to support a number of activities at both the LVVWD and the SNWA. The division provides long-term forecasts, water use analyses, and conservation analyses to the SNWA as inputs into regional water resource planning. The division provides economic analysis, water demand projections, population distributions, and water demand distributions to the LVVWD as inputs into financial planning and rate setting, infrastructure planning, and small systems analysis. This data is utilized for the evaluation of system additions initiated by the LVVWD and large system additions initiated by developers. The data is also used for hydraulic criticality assessment of distribution system components to ensure system

reliability. The division maintains an industry leading hydraulic model, with cutting edge modeling capabilities, of the distribution system which is utilized for engineering analysis and decision support. The division locates, sizes, and schedules new pumping stations, reservoirs, wells, and major pipelines. In coordination with the Operations department, the division develops operating and emergency strategies to improve water quality and reduce energy consumption. The division collaborates with the Engineering Services division in the review of pressure and fire flow availability for new developments and writes cost sharing agreements for the design and construction of major water facilities. The division collaborates with the WQ&T and Operations departments to address water quality compliance issues, to research and develop alternative technologies applicable to the LVVWD water distribution system, and to plan for capital improvements and required monitoring for regulatory compliance. The division conducts distribution system pressure and flow investigations in support of Customer Care and Field Services, Operations and Public Information. The division also performs planning for artificial recharge, small systems, recycled water distribution systems, and out-of-valley transmission systems.

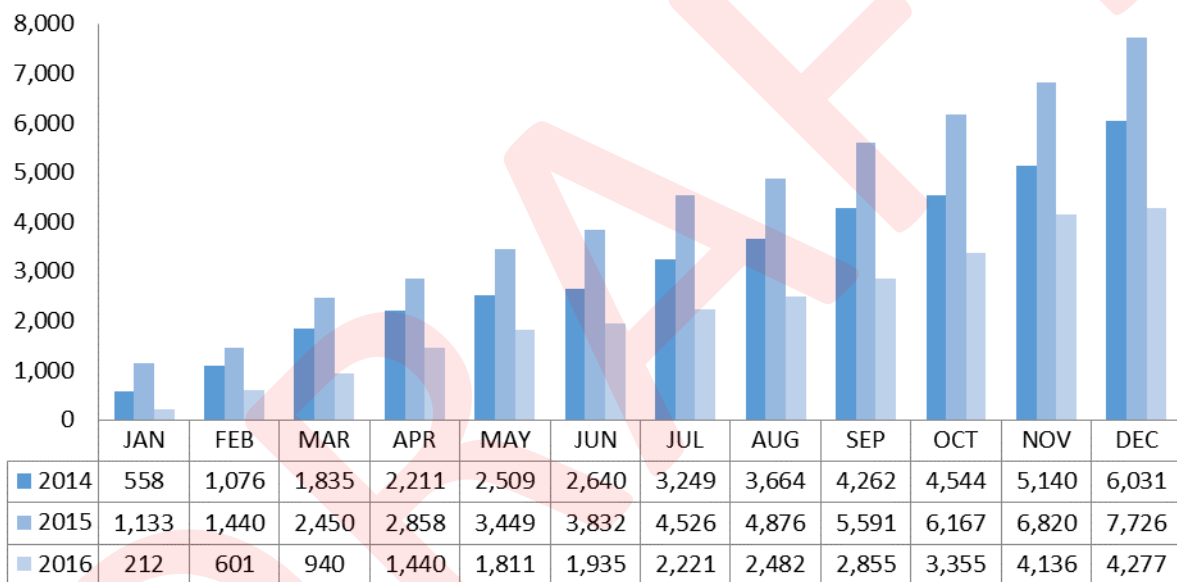
Engineering Services. The Engineering Services division is responsible for reviewing plans for additions and modifications to the systems of the LVVWD and the SNWA, initiated by developers, utilities, and public entities. Engineering Services approves the water plans for these system additions, and ensures system additions meet the LVVWD's requirements for reliability and maintainability, calculates fees, processes

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agreements, commits water resources to new developments, and ensures water facility construction is per the LVVWD's standards. The division also coordinates with other public works construction to minimize both the LVVWD costs and inconvenience to the public. Engineering Services is also responsible for the

evaluation and testing of products for use in the water distribution system and is in charge of the LVVWD Approved Products List. The following chart represents the LVVWD's cumulative data representing new service points.

New Service Points
2014-2016 Cumulative New Service Points Received



Asset Management. The Asset Management division assesses infrastructure conditions and forecasts short and long-term capital renewal needs to meet service level expectations. The division is responsible for managing the corrosion control program for the LVVWD, SNWA, and associated small systems. The goal of the corrosion control program is to extend the life of steel pipe and other steel structures by applying and maintaining cathodic protection (CP). Corrosion Control Systems Technicians collect annual corrosion data on over 2,762 CP test

stations and 17 impressed current rectifiers for the LVVWD, as well as 1,025 CP test stations and 73 impressed current rectifiers for the SNWA. The division also maintains CP system components, installs new anodes and test stations, and performs corrosion assessments. The long-term capital renewal needs were utilized as a basis for the LVVWD's 10-Year Capital Plan; which was recommended by the Citizen's Advisory Committee (CAC).

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Estimated Annual Infrastructure Renewal Needs
Asset Management

ACTIVITY	10-YEAR PROJECTION	PERCENTAGE
Meter Program	\$32.4 million	8%
Vault Program	22.5 million	6%
Service Laterals	70 million	18%
Pipelines rehabilitation and replacement	130 million	33%
Facilities Improvements	27 million	7%
SCADA	6 million	2%
Pump Stations	6.7 million	2%
Reservoirs	4.65 million	1%
Wells	15.6 million	4%
Reclaimed Water	1.7 million	< 1%
Fleet, Safety & Security	39.3 million	10%
Misc. capital	34.5 million	9%
TOTAL	\$390.3 million	

The LVVWD's distribution infrastructure is comprised of over 4,462 miles of piping, 4-inch in diameter and larger, 1,680 miles of ¾-inch to 3-inch services, 117,715 valves, and 36,801 fire-hydrants. In order to meet conservation objectives and rate-payer expectations, the distribution infrastructure must be maintained, replaced, or rehabilitated at an appropriate level. The division will continue to update renewal needs based on condition assessments, water losses, break rates and overall risk.

Strategic Plan Objectives and Accomplishments

Strategic Plan Goal – Assure quality water through reliable and highly efficient systems.

2017-18 Performance Objectives

- Replace obsolete site automation equipment with current technology utilizing industry standard protocol.
- Maintain a capital improvements program for the LVVWD and small systems, and review development submittals in a timely manner.
- Monitor and evaluate water quality in the distribution system, and recommend improvements in

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- response to changing water quality and regulatory conditions.
- Provide stewardship of the chemical processes used at all water treatment facilities.

2016-17 Major Accomplishments

- Completed PLC automation system upgrades at sixteen LVVWD sites. Clarifiers, flocculation, chemicals, and raw water automation systems completed at RMWTF with ozone and filters scheduled for the fall. This, in combination with the Emerson negotiated SCADA upgrade, will close out project 300E at the SNWA.
- Completed five cost sharing agreements with land developers for the design and construction of major facilities.
- Developed a water quality mitigation strategy to address changing water quality associated with water distribution system expansion and performed hydraulic criticality analysis and provided recommendations to minimize costs for water main rehabilitation projects.
- Identified and repaired two leaks on the SNWA transmission system.
- Executed the first ever cross-departmental multi-manufacturing plant approved products tour.

Strategic Plan Goal – Deliver an outstanding customer service experience.

2017-18 Performance Objectives

- Maintain efficiency in reviewing water plan submittals, network analyses, and hydraulic grade line requests.
- Continue the 4-1-1 review process for Developer projects; four-week first review, one-week resubmittal review, and one-week for final Mylar review/approval; with a target success rate of 90 percent.
- Collaborate with the City and County Building departments to establish plan review criteria for existing developments requiring backflow retrofit and meter upsizing.
- Continue to work with other agencies to include water facility upgrades and replacements in road improvement projects.

2016-17 Major Accomplishments

- Approved 4,277 new water service connections, 330 hydraulic grade line requests, 230 water network analyses, and 458 sets of development plans.
- Assisted engineering consultants in integrating water quality considerations into their network analyses.
- Implemented an online fire flow inquiry system in coordination with the Clark County Fire Department and processed 168 fire flow requests.
- Reviewed 1,868 sets of developer and public works plans for the LVVWD and the SNWA, including brand new submittals, re-submittals, and revisions.
- Reduced the length of time to review water plan submittals, network analyses, and hydraulic grade line requests through expansion of the

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digital submittal system and process improvements.

Strategic Plan Goal – Ensure organizational efficiency and manage financial resources to provide maximum customer value.

2017-18 Performance Objectives

- Update master planning areas and associated facilities needed to serve developed and vacant acreages based on new development trends.
- Continue to utilize in-house resources to inspect infrastructure and only utilize outside resources for specialized testing the technicians and engineers are not experts in conducting. This includes Corrosion Control Technicians utilizing remote submarines to inspect smaller tanks instead of hiring divers.
- Continue to utilize the latest condition assessment technologies to determine the true condition and expected remaining life of the infrastructure.
- Maintain an industry leading hydraulic model, with state-of-the-art modeling tools, of the distribution system for effective decision support and further automate the hydraulic model and tools for maintenance, calibration, asset rehabilitation, emergency response, shutdown analysis, and water quality applications.
- Generate a pipeline risk of failure score for all pipelines in the system for use in the development of a prioritized pipeline replacement program.

2016-17 Major Accomplishments

- Completed 64 projects, with another 98 projects scheduled to be completed by the end of the fiscal year.
- Incorporated the LVVWD facility replacements and improvements into City, County, and Nevada Department of Transportation projects, reducing future costs and minimizing the public's impact due to construction.
- Developed a 10-year major facility requirement plan for the northwest, southwest, and Summerlin areas; and prepared a master plan for Downtown Las Vegas and the Las Vegas Medical District, identifying system improvements required to maintain adequate level of service as the area continues to redevelop.
- Completed a comprehensive price elasticity study. Evaluated the impact of price changes on 25 different industry types and built a system-wide model for all commercial/industrial users. Combined with recent work done at UNR, these models explained 95 percent of all water use at the LVVWD.
- Utilized remote submarine to inspect critical infrastructure, such as the low level intake structure and a number of reservoirs to reduce costs with diver services and used Magnaflux Leakage (MFL) technology to scan steel tank floors to measure wall thickness and identified holes.

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Strategic Plan Goal - Strengthen and uphold a culture of service, excellence and accountability.

- Completed a master plan for the Garnet Valley Water System Phase I.

2017-18 Performance Objectives

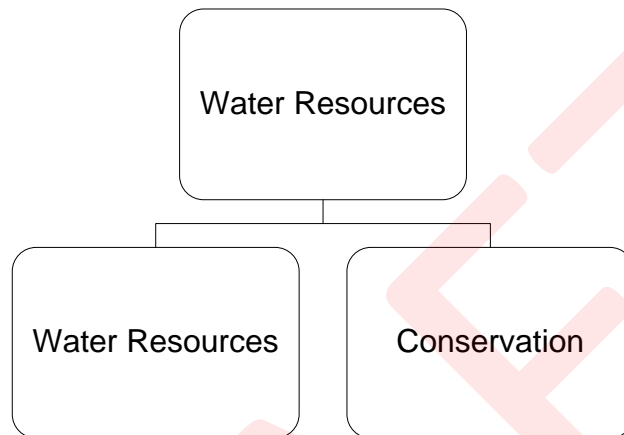
- Merge the individual division capital plans into one comprehensive cost loaded capital plan.
- Provide updated cost curves and risk assessments for the LVVWD and the SNWA pipelines.
- Continue to conduct Uniform Design and Construction Standards (UDACS) training sessions for engineering firms; addressing each firm's needs and assisting them in submitting more accurate plans.

2016-17 Major Accomplishments

- Processed 1,282 record drawing requests for developer and public works projects for the facilities.
- Completed three UDACS' training seminars (two firms and CLV Public Works).
- Processed 338 tentative, parcel and final map reviews for new development.
- Implemented a SCADA/PLC work ticket system to expedite small automation tasks that fall outside of the Maintenance Engineering Project Tracking System; and met with SCADA operators on a weekly basis and attended Operation's biweekly staff meetings to ensure that problems and concerns are dealt with quickly, and software and operating philosophy changes are understood.

WATER RESOURCES

Level: 3800



Mission

The mission of the Water Resources department is to ensure adequate water resources are available to meet the community's current and future water needs in the face of climate uncertainty.

Department Description

The Water Resources department manages the SNWA's water resource portfolio to ensure a reliable water supply for the community. Primary responsibilities include the management of existing water supplies, the acquisition of new water supplies, and water demand management. The department supports policy initiatives on the Colorado River, conducts forward planning for water resource needs, assesses future water supply risks, provides technical hydrological support for the operations of the LVVWD and SNWA groundwater wells, and administers regional water conservation programs.

Budget Objectives and Highlights

In March of 2017 the Water Resources Department was formed by merging the Colorado River team with the Water Resources and Conservation Divisions from the Resources and Facilities Department. The work of the Colorado River team has largely been integrated into the functions of the other divisions. The department also oversees environmental programs related to Colorado River resources.

The department's budget is \$50,341,375 which represents an increase of \$4.5 million compared to the division and team budgets from the previous organizational structure for fiscal year 2016-2017. Increases are primarily attributed to anticipated partnerships with Colorado River Basin States and Mexico to undertake system conservation projects designed to protect critical elevations in Lake Powell and Lake Mead and developing and expanding Tributary Conservation

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Intentionally Created Surplus (ICS) supplies through the lease and purchase of Muddy River and Virgin River water. Budgets for other ongoing Colorado River activities, and environmental compliance costs remain similar to previous years' budgets. The budget for conservation activities reflects the SNWA's long-term commitment to increased water conservation.

Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ 4,725	\$ 23,500	\$ 54,500
Maintenance & Repairs	-	1,000	1,000
Rental & Leases	-	-	-
Other Employee Expenses	1,003	-	2,000
Other Expenses	3,909	113,000	108,000
Total Operating Expenses	\$ 9,637	\$ 137,500	\$ 165,500
Capital Costs	\$ -	\$ -	\$ -
Payroll Costs	\$ 67,808	\$ 287,525	\$ 284,970
Total Department Expenditures	\$ 77,445	\$ 425,025	\$ 450,470
FTE Positions	0.5	1.6	1.5

Department Performance

Water Resources. The Water Resources division is responsible for securing and managing regional and local groundwater and surface water resources to ensure a reliable water supply for Southern Nevada. This responsibility involves managing existing

Colorado River allocations and agreements including those for river related environmental compliance; conducting regional water resource planning, including: integrated water resource planning, population forecasting, regional water demand analyses, and water accounting; identifying, evaluating, and developing sources of additional groundwater and

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surface water supplies; managing banked resources; establishing hydrologic and climatological monitoring networks; securing water rights from the Nevada State Engineer's (NSE) Office; and, ensuring all water-resource assets remain in good standing.

	Supply	Consumptive Use
Permanent	Colorado River (SNWA)	272,205 AFY
	Nevada Unused Colorado River (Non-SNWA)	0-21,000 AFY
	Tributary Conservation/ Imported Intentionally Created Surplus	41,500 AFY
	Las Vegas Valley Groundwater Rights	46,830 AFY
	Direct-Reuse	21,800 AFY
Temporary	Southern Nevada Groundwater Bank	336,091 AF
	Interstate Banks (California and Arizona)	931,266 AF
	Intentionally Created Surplus (storage in Lake Mead)	531,562 AF

Conservation. The Conservation division develops and implements programs and strategies to sustain and promote water conservation. The SNWA monitors water use in terms of Net Gallons Per Capita per Day

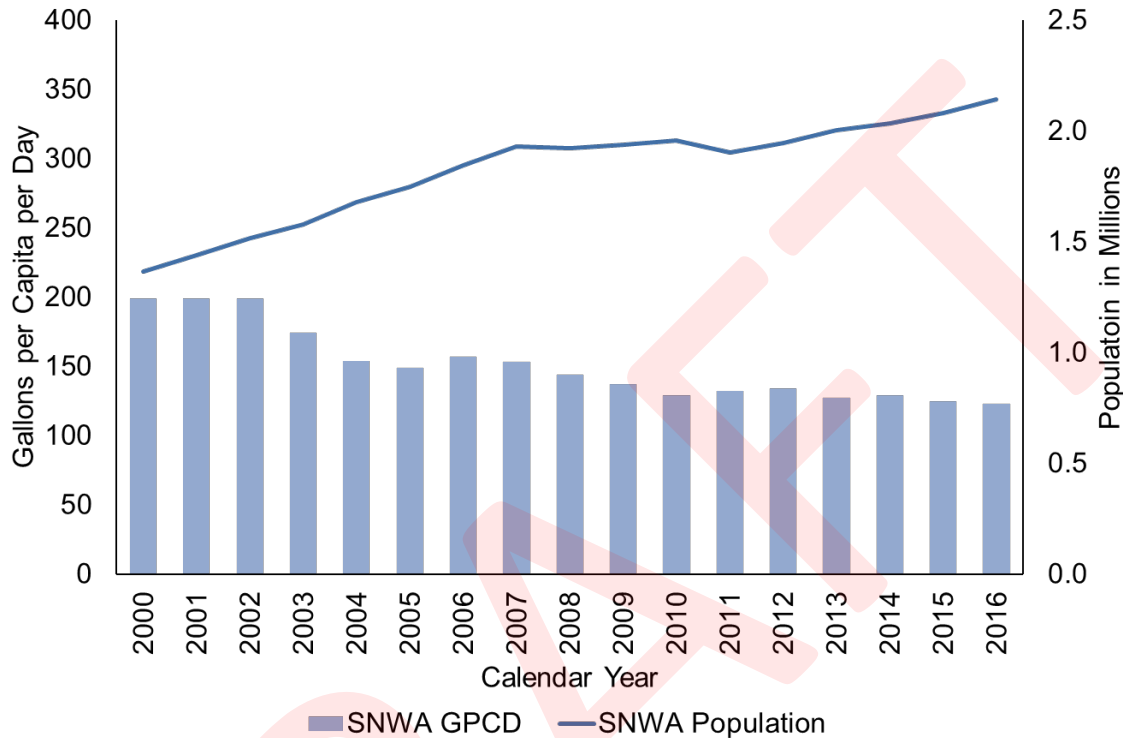
(GPCD), since the SNWA recycles nearly all indoor water use, either through return-flow credits or direct reuse. Net GPCD more accurately reflects the community's use of water resources and improves comparability with other communities. The SNWA's net GPCD was 123 in 2016. This is a reduction of 38 percent, since onset of drought policies in 2002.

In 2016, the SNWA supported 2,277 projects comprising 4.4 million square feet of landscape conversion. These conversions will produce perpetual annual savings of more than 245 million gallons. The cumulative benefit of landscape conversions completed since 2000 reduced the SNWA's 2016 consumptive water use by more than 10.1 billion gallons.

The Conservation division employs three major strategies to effect water efficiency: education, incentives, and regulation. Education strategies include multi-media (managed through the Public Information division), customer contacts, publications, videos, special events, demonstration projects, and a comprehensive website. The incentive strategy utilizes rebates to promote landscape conversions and use of water-efficient technology and accounts for the largest share of conservation funding. The regulatory strategy relies on coordination with other jurisdictions to implement efficient development standards, time-of-day watering requirements, water waste penalties and tiered water rate structures.

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SNWAGPCD and Population



Strategic Plan Objectives and Accomplishments

Strategic Plan Goal 1 – Assure quality water through reliable and highly efficient system.

2017-18 Performance Objectives

- Cooperate with other Colorado River water users on programs that protect critical elevations in Lake Powell and Lake Mead.
- Ensure reliability of Colorado River supplies through active participation in environmental compliance and management programs.
- Maintain all the SNWA and LVVWD groundwater, surface water, and artificial recharge permits through

efficiently managed monitoring and reporting in order to comply with permit terms.

- Inspect the SNWA and LVVWD wells annually to ensure appropriate operational capacity for each service area. Develop and certificate water rights, as appropriate.

2016-17 Major Accomplishments

- Continued implementation of the Colorado River Pilot System Conservation Program and the Lower Basin Memorandum of Understanding for Pilot Drought Response Actions. Combined with other water storage initiatives, nearly 20 feet of additional water resulted in Lake Mead.

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- Completed all compliance monitoring and reporting for the LVVWD's and SNWA's groundwater rights, and permits to recharge, store, and recover water from the Southern Nevada Water Bank.
- Provided water resources and technical assistance for development in Garnet Valley (including the well design and water rights to support Hyperloop One, Faraday Future, and Playa Solar projects).
- Completed an investigation of elevated concentrations of regulated chemical constituents in the Las Vegas Valley groundwater, and devised mitigation measures to lower the concentration of these constituents in the LVVWD's production wells.
- Filed over 120 water-right applications, proofs and extensions with the NSE to maintain and perfect the LVVWD and SNWA groundwater and surface water rights while optimizing operation flexibility.
- Implemented a maintenance and repair plan to optimize efficiencies of irrigation wells and the development of water rights associated with the NR Ranch properties. Completed the rehabilitation of four irrigation wells.
- Administered U.S. Geological Survey joint funding agreements to ensure proper measurement of Las Vegas Wash surface water flows and the timely reporting of Colorado River return flow credits.
- Participated in the development of a 20 year operating plan for Glen Canyon Dam that protect downstream

environmental resources and water quality in Lake Mead.

- Continue funding and participation in the Lower Colorado River Multi-Species Conservation Program.

Strategic Plan Goal 2 – Deliver an Outstanding Customer Service Experience.

2017-18 Performance Objectives

- Maintain 90 percent or greater client satisfaction rating for delivery of the Water Smart landscapes program.
- Improve the Water Smart Contractor program for consumers and subscribing contractors.
- Revise the Water Smart Home program to afford greater flexibility to homebuilders.

2016-17 Major Accomplishments

- Served more than 5,000 customers through conservation programs. Maintained a conservation customer feedback rating of 4.59 out of 5 (91.8 percent).

Strategic Plan Goal 3 – Anticipate and Adapt to Changing Climatic Conditions while Demonstrating Stewardship of our Environment.

2017-18 Performance Objectives

- Cooperate with other Colorado River water users on programs that protect critical elevations in Lake Powell and Lake Mead

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- Advance programs and projects that benefit multiple uses on the Colorado River including the health of the system and the environment.
- Host a hydrology symposium with other Colorado River water users, federal agencies, and stakeholders to advance hydrological research and improve existing modeling tools.
- Collaborate with the Bureau of Reclamation and other Colorado River water users to provide accurate near-term, mid-term, and long-term projections of Colorado River conditions including Lake Mead elevations
- Complete actions as required under the SNWA / Department of Interior Stipulated Agreements.
- Monitor, account, and conduct reporting for ICS credits for Muddy and Virgin River water rights and leases.
- Publish the annual SNWA Water Budget and review and update, as necessary, the SNWA Water Resource Plan.
- Ensure compliance with terms of the SNWA Cooperative Agreement and Section 5 contracts with the Secretary of the Interior to fully utilize Nevada's 300,000 acre-feet of Colorado River apportionment.
- Communicate conservation goals and progress to the organization.
- Host 10th Annual WaterSmart Innovations Conference.
- Continue to implement water efficiency programs identified in the SNWA 5-Year Conservation Plan.
- Support conservation plans that benefit endangered and threatened

species to ensure access to current and future water supplies.

- Monitor, and when appropriate participate in, external activities that might interfere with the SNWA's access to current and future water supplies.

2016-17 Major Accomplishments

- Contributed approximately 60,000 acre-feet of unused Nevada water for the protection of Lake Mead elevations.
- Participated in the ongoing implementation of the Pilot System Conservation Program.
- Conducted Colorado River modeling in support of ongoing negotiations and resource management activities.
- Achieved 2016 Net GPCD of 123.
- Provided more than 5,000 conservation rebates saving the community over 320 million gallons per year.
- Partnered with NV Energy, Southwest Gas, and the Desert Research Institute to supply 1,000 Water and Energy home retrofit kits to schools through a school sustainability curriculum.
- Hosted approximately 1,000 attendees from 40 U.S. states at the 9th Annual WaterSmart Innovations Conference and Expo.
- Implemented new regional regulations to restrict landscape watering on Sundays.
- Administered a professional services agreement with the UNLV Center for Business and Economic Research to

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- develop annual Clark County population forecasts.
- Published the SNWA 2016 Water Budget and completed a comprehensive review of the SNWA 2015 Water Resource Plan.
- Monitored Colorado River Basin water-supply conditions and the SNWA's water use.
- Created and delivered approximately 25,300 acre-feet of Tributary Conservation ICS and over 7,600 acre-feet of System Conservation water from the Muddy and Virgin Rivers to Lake Mead.
- Negotiated and entered into new long-term (10-year) leases for Muddy and Virgin River water that is eligible for Tributary Conservation ICS credits.
- Negotiated and entered into an agreement to develop recovery capacity for water banked in Arizona.
- Purchased 24.64 acre-feet of Virgin River water.
- Participate in development of industry standards, voluntary green program standards and other national water efficiency initiatives.
- Conduct a joint study with WaterStart and MGM Resorts International on water efficiency technology for resort and large facility management.
- Implement a pilot program to deliver residential water use audits to clients with extraordinary use characteristics.
- Participate in development of national standards and performance verification methods for Energy Service Companies conducting Water and Energy retrofits to public buildings.

2016-17 Major Accomplishments

Strategic Plan Goal 4 – Develop Innovative and sustainable solutions through research and technology.

2017-2018 Performance Objectives

- Continue to collaborate with water efficiency technology incubators and accelerators, including WaterStart, ImagineH2O, the Metropolitan Water District of Southern California's Innovative Conservation Program, and others.
- Lead a multi-agency, national research initiative on cooling technology and water demand.
- Collaborated with the State of Nevada's WaterStart program to review water efficiency technology and select award recipients.
- Collaborated with the RESNET network to develop a national water efficiency rating system for new homes.
- Collaborated with the nation's major manufacturers of "smart" irrigation controllers to develop and improve features.
- Conducted a pilot research program to quantify potential water savings from residential audits conducted for clients with extraordinary water use characteristics.
- Increased participation in SNWA Smart Irrigation Controller Rebate program by 266 percent from 2015.
- Hosted the nation's largest event for exhibiting and presenting water

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efficiency technologies (WaterSmart Innovations).

\$1M grant to be dispersed from FY17 through FY19.

- Partnered with the Metropolitan Water District of Southern California and Central Arizona Project to implement the Innovative Conservation Program.

Strategic Plan Goal 5 – Ensure Organizational Efficiency and Manage Financial Resources to Provide Maximum Customer Value.

2017-18 Performance Objectives

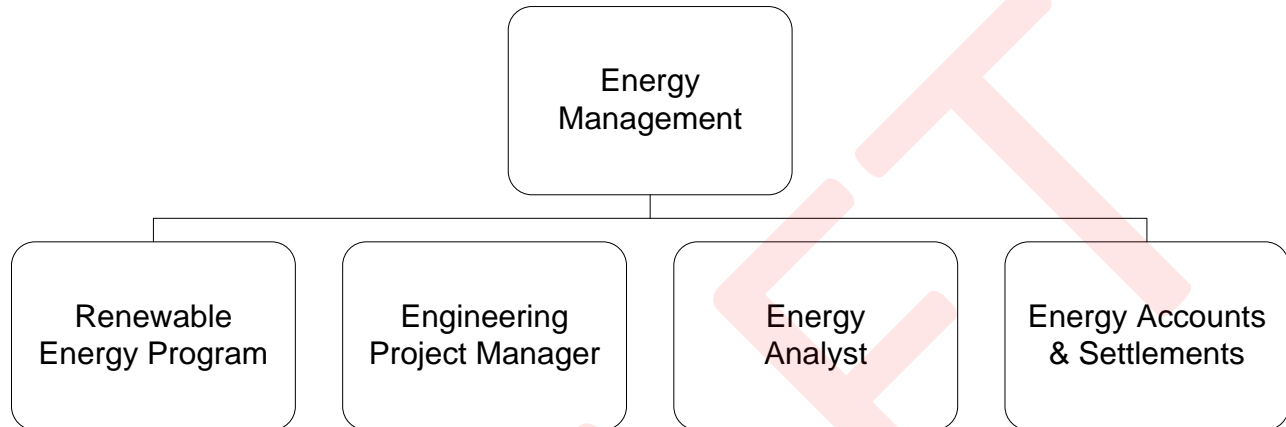
- Implement hydrologic monitoring efficiencies with remote data collection.
- Obtain at least \$100K in grant funding for conservation programs.
- Leverage conservation research dollars through regional/national projects that attract funding and participation from peer utilities.
- Implement a new business system to streamline workflows, maintain accountability, reduce labor intensity through automation and expand use of electronic documents.

2016-17 Major Accomplishments

- Installed Geostationary Operational Environmental Satellite telemetry systems to monitor and provide real-time access to important hydrologic sites in remote locations and to reduce travel-related expenses.
- Obtained \$1,300,000 in grant funding. A \$300K grant for conservation programs in 2016 and a three-year,

ENERGY MANAGEMENT

Level: 3900



Mission

The mission of the Energy Management department is to manage an energy resources portfolio for the members of the Silver State Energy Association (SSEA), including the Southern Nevada Water Authority (SNWA) and its member agencies, which yields predictable prices; considering the overall value of sustainability and cost minimization.

Department Description

The Energy Management department was established in fiscal year 2005-06 to manage the procurement and utilization of energy resources necessary to pump, treat, and deliver water to the member agencies. The SNWA, in collaboration with the Colorado River Commission of Nevada (CRC), initially purchased energy supplies for its own water pumping needs and later began supplying power for the water pumping and wastewater needs of the SNWA member agencies, including the Las Vegas Valley Water District

(LVVWD), the City of Las Vegas, the City of Henderson, the Clark County Water Reclamation District and the City of North Las Vegas.

In 2007, the SNWA, along with the CRC, Lincoln County Power District No. 1, Overton Power District No. 5 and the City of Boulder City, formed the SSEA, a joint action agency charged with procuring and managing power resources for its members. Today, Energy Management personnel and CRC personnel, acting as the staff of the SSEA, manage the procurement and utilization of energy resources for the SNWA and its member agencies needs and the needs of the other SSEA members.

Key functions performed by Energy Management personnel on behalf of the SSEA include energy trading and procurement, accounting and settlements, energy risk management, forecasting, analytical support, and project planning and development. In addition to the functions performed on behalf of the SSEA, Energy Management personnel

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also support the renewable energy initiatives of the SNWA and the LVVWD.

Budget Objectives and Highlights

The fiscal year 2017-18 Energy Management department budget contains funding for all expenses associated with the procurement and management of energy resources for the SNWA's electrical loads. Expenses for the LVVWD, other SNWA member agencies, and

other SSEA members, are not included in this budget. The majority of budget funding is for energy commodities and services purchased by the SSEA from the energy and financial marketplace to meet the SNWA's needs. Other expenditures include transmission, distribution and ancillary services; operation and maintenance expenses associated with transmission and generating assets; and administrative and general expenses for CRC and the personnel of the SNWA.

Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ -	\$ -	\$ -
Total Operating Expenses	\$ -	\$ -	\$ -
Capital Costs	\$ -	\$ -	\$ -
Payroll Costs	\$ (3,708)	\$ -	\$ -
Total Department Expenditures	\$ (3,708)	\$ -	\$ -
FTE Positions	-	-	-

Department Performance

Silver State Energy Association. The SNWA has been instrumental in the formation and development of the SSEA, which has brought significant benefits to the SNWA, its member agencies and the SSEA members. In order to properly manage the energy needs of the SNWA, a certain minimum size of labor and infrastructure is required. The employees and

systems of the Energy Management department and the CRC Energy Services group have met this need for many years now.

Expanding the energy portfolio managed by this group to include the SNWA member agencies and the members of the SSEA has brought significant economies of scale and portfolio synergies to each of the participants, including the SNWA. Furthermore, the energy portfolio has been able to be expanded in this

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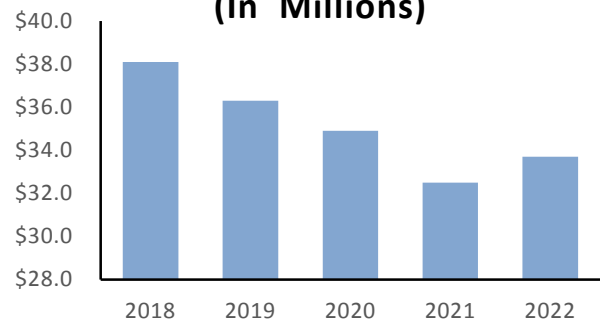
way without increasing the size of the labor and overhead required to properly manage it. Over \$1 million per year of general overhead and operating costs are now being paid for by non-SNWA entities, costs that otherwise would be paid for by the SNWA.

Some of the benefits the SNWA realizes by participating in the SSEA include 1) economies of scale when purchasing energy; 2) lower overhead costs; 3) lower balancing, imbalance and ancillary services costs due to the synergies of serving a single larger portfolio vs. serving the different load shapes of each individual entity; 4) federal hydropower optimization, which can only be realized by serving the combined portfolio; 5) economies of scale, shared resources, and shared costs of project development work; and 6) additional opportunities to work cooperatively with the other public entities in the overall energy portfolio.

Energy Price Stability. Energy Management measures its success on the basis of how well it is meeting its objective to provide energy to the SSEA members yielding stable, low and predictable prices. Consistent with the SSEA's Energy Risk Procedures the price exposure of the SNWA's energy portfolio has largely been eliminated through calendar year 2021. The SSEA locks in its energy portfolio costs by securing a combination of physical market resources (generation assets or contracts for the

delivery of electricity) as well as electric and gas financial products to meet the needs of its members. Physical contracts for electricity are secured whenever there are sufficient buyers and sellers to create liquid markets. Financial products are secured when physical contracts are unavailable or market liquidity is unacceptably low. Financial products protect against price movements in the market and can be converted to physical supplies at a later time when physical power markets are more liquid. Because the SNWA portfolio cost is substantially fixed through calendar year 2021, changes in the market price of energy are expected to have little effect on the SNWA's expected costs during this period. The chart below shows the SNWA's actual and projected energy costs through calendar year 2021 as of the end of January 2017.

SNWA 2018-2022
Fiscal Year Ending
Projected Energy Costs
(In Millions)



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Energy Management has met its objective of providing energy at stable and predictable prices. This long-term management approach has allowed the SNWA and its members to budget for energy costs with a high degree of confidence years in advance. To ensure the commitment to long-term price stability is met, a Risk Control Committee comprised of the SNWA and its member agencies meets quarterly to review standardized reports produced by the SSEA, and to monitor the SSEA's adherence to its Risk Control Procedures.

The SNWA's energy costs are expected to be approximately \$39 million, excluding the estimated cost of capital associated with the SNWA's energy assets for the fiscal year 2016-17. This amount is recovered through the SNWA wholesale water delivery charge

SSEA Eastern Nevada 230 kV Transmission Project. For the past several years, the SSEA members have been working cooperatively to develop the Eastern Nevada Transmission Project (ENTP), a 230 kV transmission system that would allow for the interconnection of SSEA members' electrical systems with each other and with the Mead Substation. Mead is the major regional wholesale market access point in Southern Nevada. The SSEA has completed an Environmental Assessment and received full project right-of-way grant and permits from the Bureau of Land Management. Management is presently evaluating various opportunities to move this project forward into the design phase.

SNWA and LVVWD Sustainability Initiatives. The SNWA continues to pursue economical energy contributing to the SNWA's and the LVVWD's goal of providing 25 percent of the

supply portfolio with renewable energy by 2025.

Strategic Plan Objectives and Accomplishments

Strategic Plan Goal – Assure quality water through reliable and highly efficient systems.

2017-18 Performance Objectives

- Maximize the value of existing renewable energy facilities.
- Develop new economical renewable energy supply options.
- Complete evaluation of options for moving the ENTP forward into the design phase.
- Complete design and other preparation work for the ENTP.

2016-17 Major Accomplishments

- Secured Right of Way Grants to develop the SSEA's 230 kV Eastern Nevada Transmission Project.
- Coordinated the installation of the electric power delivery system for the Lower Lake Level Pumping Station (L3PS).
- Developed economical options for several alternative energy project proposals.
- Completed the sale of 25 percent interest in the Silverhawk Power Plant for \$77 million cash and will also realize \$5 million in annual operating savings.
- Executed new Portfolio Energy Credit (PEC) sales agreements with Barrick, Goldstrike and Switch.

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- Consolidated all of the LVVWD solar renewable systems under Energy Management and transitioned ongoing maintenance oversight of the facilities to CRC.

Strategic Plan Goal – Deliver an outstanding customer service experience.

2017-18 Performance Objectives

- Continue to work with the SSEA members and the SNWA member agencies to understand and meet their energy related information and reporting needs.
- Evaluate the usefulness of the information being posted to the SSEA website and modify the website accordingly.
- Provide in-depth training for our customers so that they understand all components of their energy budgets and bills.

2016-17 Major Accomplishments

- Collaborated with the SNWA Finance department to define and implement improved energy reporting and accounting practices.
- Created a more comprehensive and timely report of actual energy expenses.
- Supported member agency efforts to apply for, and obtain, federal hydropower allocations from Hoover Dam.

Strategic Plan Goal – Ensure organizational efficiency and manage financial resources to provide maximum customer value.

2017-18 Performance Objectives

- Reduce or eliminate unexpected changes to the cost of energy provided to customers.
- Develop internal tools and/or streamline internal processes, allowing for production of energy information that is more understandable and easily accessible to our internal and external customers.
- Enhance accounting system actual transaction detail to provide more robust cost versus actual comparison reports.
- Determine optimal balance of operating funds and short-term investments and identify available vehicles to achieve optimal fund balances.
- Investigate alternative methods for collateral posting.
- Test and evaluate a model for estimating the creditworthiness of energy suppliers that do not have an established credit rating.
- Develop a transmission wheeling rate for the Power Delivery Project.
- Implement a new system for the accurate and timely tracking performance of renewable energy systems and portfolio energy credits.
- Create a timely and accurate PEC/REC report management tool.
- Prepare comprehensive documentation for all revenue and cost allocations.

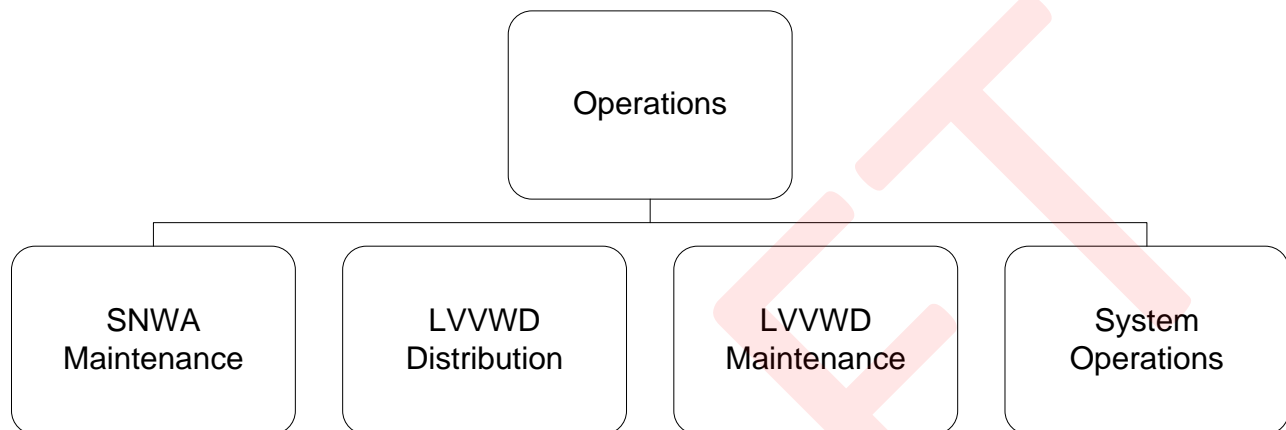
2016-17 Major Accomplishments

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- Maintained a fixed cost energy portfolio for our customers within compliance requirements.
- Secured new 50 year Hoover Dam federal hydropower contracts for the SNWA and LVVWD.
- Created a model to help evaluate the creditworthiness of suppliers of renewable energy products and services.
- Entered into a new contract with Pioneer Solutions to upgrade trade capture system and streamline risk management and reporting processes.
- Increased the efficiency of SSEA financial operations and improved financial reporting through timely book closing.
- Identified information bottlenecks preventing the timely closing of the SSEA books and implemented solutions.
- Migrated member agency book accounting records to Quickbooks and eliminated the need to maintain those records in the Revenue & Expense workbook.
- Successfully completed the accounting records Quickbooks upgrade increasing both efficiency and availability of financial information and began developing systems to facilitate the import of data into Quickbooks.
- Completed another clean external audit, without any significant audit findings, of the SSEA's financial records after converting to QuickBooks, allowing for the regular production of improved financial reports.
- Improved internal control points through the addition of new accounting and risk management process reviews.

OPERATIONS

Level: 4100



Mission

To serve the Southern Nevada Water Authority (SNWA) customers by delivering high quality drinking water to the greater Las Vegas area through efficient, reliable, state-of-the-art delivery systems. To support the Las Vegas Valley Water District's (LVVWD) mission by delivering water to customers that is adequate to meet their needs and proven safe through a system that is effectively operated and maintained.

Department Description

The LVVWD system is comprised of a wide variety of facilities which include various pumping stations ranging in size from 7,500 gallon per minute (GPM) to 93,000 GPM and various reservoirs ranging in size from 10 million gallon (MG) to 50 MG, for a total storage of just over 900 MG. The LVVWD has 64 potable wells capable of producing 200 MGD, 31 specially constructed wells dedicated to recharging the groundwater

basin with treated Colorado River water during the winter months, and two recycled water distribution systems that include two reservoirs, five pumping stations and four wells.

The SNWA system consists of 31 pumping plants, 36 ROFCS also referred to as metering sites, 163 miles of large diameter pipeline, and over 60 regulating tanks, reservoirs and surge towers.

Operations also serves customers located not only in the metropolitan Las Vegas area, but also the small service areas of Blue Diamond, Jean, Kyle Canyon, Searchlight, Eldorado Valley, Coyote Springs/Moapa, Sloan and Laughlin.

Budget Objectives and Highlights

In October 2014, the SNWA/Southern Nevada Water System (SNWS) and the LVVWD Operations department's divisions and functions were merged into a single department. Building on this action, the

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department was further reorganized in October 2015 to create a combined Systems Operations division with separate maintenance divisions for the LVVWD and the SNWA.

Operations' divisions are responsible for the day-to-day and long term operations of a complex network of pumping stations, reservoirs, rate of flow control stations (ROFCS), sodium hypochlorite facilities, and ground water wells necessary to meet water delivery demands. Wholesale customers of the SNWA include the LVVWD, City of Henderson, City of North Las Vegas, Boulder City, Nellis Air Force Base, and the Park Service. Retail customers of the LVVWD receiving water from Lake Mead include residents of unincorporated Clark County and the City of Las Vegas. The department also operates small ground water systems for the communities of Blue Diamond, Jean, Mt. Charleston, Searchlight, the Sloan Army Reserve Center, and the Moapa Water

Treatment Plant.

Equipment and Project Budget. The Operations department combined equipment and project budget reflects the new items to establish improved maintenance practices, replacement of existing equipment items no longer supportable by the manufacturer, and capital projects the divisions manage. The total request is \$6,837,540 for the fiscal year 2017-18 Budget Plan between the LVVWD and the SNWA.

Operating Expense Budget. The department's Operating Expenses budget continues to focus on Reliability Centered Maintenance (RCM) aspects of keeping the overall water delivery system fully operational and reliable. The Operating Expenses for fiscal year 2017-18 Budget Plan are shown on the following table.

Operations' fiscal year 2017-18 overall budget totals \$66,180,658 between the LVVWD and the SNWA.

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Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Water	\$ 18,845	\$ 49,000	\$ 49,000
Energy	9,761,793	11,777,000	11,225,500
Materials & Supplies	2,650,260	4,137,552	4,408,302
Maintenance & Repairs	551,418	2,496,000	2,445,500
Other Employee Expenses	177,724	227,150	226,150
Other Expenses	265,667	392,600	396,100
Total Operating Expenses	\$ 13,425,707	\$ 19,079,302	\$ 18,750,552
 Capital Costs	 \$ -	 \$ 1,495,700	 \$ 1,509,540
 Payroll Costs	 \$ 28,681,971	 \$ 26,656,042	 \$ 28,399,985
Total Department Expenditures	\$ 42,107,678	\$ 47,231,044	\$ 48,660,077
 FTE Positions	 189.6	 187.0	 189.5

Department Performance

SNWA Maintenance. The division is responsible for the repair and maintenance of the production facilities and distribution system. The division ensures the system, facilities and equipment are maintained at a level to fulfill the SNWA's contracted water delivery commitments. This is a large, complex system consisting of 31 pumping plants, 36 metering sites called rate-of-flow control stations (ROFCS), 163 miles of large diameter pipeline, and over 60 regulating tanks, reservoirs and surge towers.

The SNWA Maintenance is also responsible for supporting the activities of the Computerized Maintenance Management System (CMMS) which is an integral component of the planning and scheduling activities for the maintenance and repair of all equipment.

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The following table is a comparative listing of the major SNWS water facilities over time:

**1998-2015 Increase In Major Water Facilities
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<u>Facility Type</u>	<u>1998</u>	<u>2000</u>	<u>2002</u>	<u>2004</u>	<u>2008</u>	<u>2015</u>
Plant Facilities	1	1	2	2	2	3
Plant Capacity	400	600	750	750	900	1,015
Metering Stations	19	25	30	31	35	36
Pumping Plants	14	21	26	27	28	31
Reservoirs and Forebays	16	23	27	27	28	32
Rechlorination Facilities	-	8	12	12	9	11
Ozone Treatment Facilities	-	-	2	2	2	3
Ozone Treatment Capacity	-	-	750	750	900	1,015
Miles of Pipeline	77	119	136	155	163	163
Acres	122	161	508	508	559	560
Square Feet	138,875	353,403	509,405	509,405	610,133	624,804
Total Facilities	50	78	99	101	104	116

***Totals include facilities located at Big Bend Water District, Laughlin, NV

The Electrical/Electronics section consists of two teams of technicians responsible for all levels of reactive, preventive and predictive maintenance, emergency repair, new construction, retrofitting and installation, and upgrading of all equipment and process control systems belonging to the SNWS. All the SNWS pump stations and ROFCS are fully automated and remotely controlled. This allows the SNWS to operate a 900 million-gallon per day water system with minimal staff. The Electrical/Electronics section is comprised of a workforce to maintain systems from 24 VDC to 13.8KV, working closely with the Colorado River Commission (CRC).

The Mechanical section, consisting of two teams, is responsible for the maintenance and

repair of the large pumping units, pneumatic/hydraulic valve actuating systems for the pump discharge control valves, the rate of flow valves and operators at the system pumping stations delivery points. These sections are also responsible for the heavy support maintenance and repair of all the in-valley and out-valley SNWS mechanical equipment consisting of motors and gear reduction units, valves and valve actuators, canal gates, air compressors and chemical feed systems utilized by treatment. A full capacity machine shop provides for in-house repair and fabrication of equipment needed to support the mission.

LVVWD Distribution. The Distribution division (Distribution) is responsible for maintaining

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6,532 miles of pipeline and laterals, 123,080 valves, 395,213 service laterals, 38,570 fire hydrants, and appurtenances comprising the LVVWD's distribution system. In fiscal year 2015-16, Distribution crews completed 8,012 work orders consisting of repairs to pipelines, and repairing and replacing valves and fire hydrants; additionally, replaced 1,982 leaking service laterals. Distribution is in the process of replacing the estimated 80,000 polyethylene services installed within the LVVWD's distribution system between 1971 and 1989. These services have been problematic and very unreliable, with multiple failures. Approximately 58,350 of these services have been replaced, leaving 21,750 in unreliable service. Distribution also assists other departments, such as Asset Management, by installing cathodic test stations, and Inspections with valve corrections and water quality.

Distribution continues the preventative maintenance valve program which locates, operates, and maintains valves within the distribution system. Distribution located and exercised 10,393 valves in fiscal year 2015-16, keeping them in good working order and improving Distribution staff's ability to quickly perform main shutdowns in case of a leak or large emergency. This has helped Distribution staff lower the average time to shut down a leaking water main in an emergency and reduce non-revenue water losses.

The Backflow Prevention section administers the LVVWD's Backflow Prevention Program. This is a service protection program involving annual testing and repair of all backflow assemblies in the LVVWD distribution system. An active backflow program ensures

contaminated water cannot enter the potable water system if a backflow, backpressure or backsiphonage condition exists. The backflow technicians are certified by the California/Nevada section of the American Water Works Association (AWWA). They are currently managing approximately 28,000 backflow prevention devices.

LVVWD Maintenance. The LVVWD Maintenance division is comprised of five sections:

- Field Booster Pump/Valve Repair
- Pump System Repair
- Electrical
- Telemetry
- Well Crew

The Field Booster Pump/Valve Repair section maintains, repairs, and installs mechanical equipment found at major pumping stations, select small system sites, and recycled water valve vaults.

The Pump System Repair section expedites repair of major pumps and motors. This is accomplished through the use of machinists, mechanical, and coating and painting skills of the section members. The section also implements the predictive maintenance tool of vibration analysis on the LVVWD 300+ motors. Another major responsibility is to maintain the natural gas industrial engines at the Campbell Pumping Station and field deployed emergency generators.

The Electrical section maintains, repairs, and installs electrical equipment typically used as a control voltage for starting electrical motors. This involves providing preventive maintenance as determined by the RCM

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process and implementing the infrared predictive maintenance technology, knowing and understanding the controls, power and mechanics of the water system, and having a working knowledge of the LVVWD's pumping strategies.

The Telemetry section maintains and repairs all instrumentation pertaining to water system operation and security, including monitoring water pressure, flow, level, drawdown, and chlorination instrumentation and systems, field computer systems, and associated devices for the SCADA system, multiple address radios and repeater system, spread spectrum radios and repeater system, microwave radio communications equipment, and security equipment in support of field sites.

The Well Crew section performs predictive, preventive, and corrective maintenance on all well pumps, artificial injection wells, and control valves. This section further plays a significant role in the evaluation of pump efficiencies and works in concert with Maintenance Engineering within Infrastructure Management to recommend well rehabilitation schedules for the well bore and pumping equipment.

System Operations. The System Operations division is comprised of the management team, LVVWD System Operations, SNWS System Operations, the Disinfection Reservoir shop, and a Small Systems section.

The management team is responsible for ensuring the sections have the necessary resources to accomplish their specific functions. Along with the section supervisors, the team consists of a manager,

administrative staff, and an energy analyst. The energy analyst is integral in compiling the monthly water usage for which the SNWA bills its customers.

The LVVWD SCADA Operations section provides around-the-clock monitoring and control of the all retail water distribution systems using the SCADA computer system. Daily tasks include coordinating water deliveries from the SNWS and operating pumps and wells to maintain reservoir levels and water system pressure. This section remains instrumental in the continuing development of an Energy Water Quality Management System (EWQMS) module designed to further improve pumping efficiencies and distribution system water quality.

The SNWS SCADA Operations section provides around-the-clock monitoring and control of wholesale water transmission and distribution system equipment using the SCADA computer system. Daily tasks include coordinating water and power orders from the LVVWD. They also operate pumps and valves at all pump stations, and monitor flows, tank levels, system pressures, chlorine residuals and other information through the SCADA network. Purveyor, wholesale customer, demands are met by pumping water through the distribution system to the rate-of-flow control stations, where the water is metered for billing. The SCADA system data is used to develop trends, reports and statistical information required for effective system operation.

The Disinfection and Reservoir section performs maintenance on equipment associated with the disinfection systems

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used to maintain a safe residual in the system. They are also responsible for reservoir structure maintenance and provide extensive support to the maintenance groups for valve and mixer maintenance.

The Small Systems section is staffed with two rural systems operators (RSO) and a superintendent. The RSOs are responsible for maintenance on the water system equipment at five locations throughout Clark County. The superintendent is aligning the Cross Departmental Teams (CDT) under his chairmanship to ensure operational, community growth, and system finances remain transparent to all work groups supporting the small systems.

Strategic Plan Objectives and Accomplishments

Strategic Plan Goal – Assure quality water through reliable and highly efficient systems.

2017-18 Performance Objectives

- Replace/upgrade critical infrastructure components that have reached the end of their useful lives and retire assets that are no longer needed.
- Continue to collaborate with Infrastructure Management to complete SNWS PAC and LVVWD DNP3 program-mable logic controller upgrades.
- Continue to identify best operational and maintenance practices of various divisions and implement them as the standard practice.
- Continue to collaborate with Infrastructure Management to complete an upgrade to the LVVWD

SCADA system.

- Partner with Information Technology to renew the Energy Water Quality Management System software so it is supportable and useable with advanced software and current server systems.
- Remain active and involved in major contracts involving new pump stations, reservoirs, wells, and other system additions or rehabilitations. After several years of no major projects, implementing advances in technology will need to be a team effort.
- Continue to work in partnership with various departments to identify and correct causes of water losses. These could be SCADA related, maintenance related, or leak related. The goal is to return to 1 percent or less total losses.

2016-17 Major Accomplishments

- Identified the steps and equipment needed to convert the Boulder City Raw Water line to deliver treated water to Boulder City. The process had become lost due to retirements over the years and now the written plan is in place for all to refer to and use, if or when it is necessary.
- Teamed with Maintenance Engineering and Asset Management to install weko seals at Hacienda Rate of Flow and Forebay. Repairs fixed an estimated 500,000 gallons per day water leak from five piping joints.
- Use of groundwater wells to meet system demands is limited by the 40,760 af allocation. This year's pumping came in at 40,756 af.
- Joined forces with Human Resources

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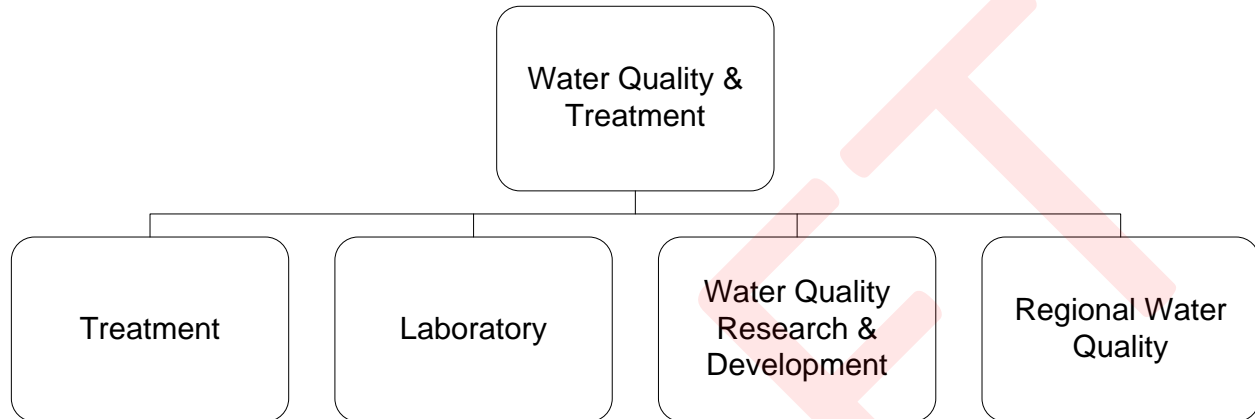
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to develop an Operator Trainee job description. This allowed for training of Limited Term Employees in preparation for future retirements.

- The LVVWD system grew by one pumping station, one storage tank, one recycled water system customer, and one intertie with the City of Henderson. Operational methods were converted to programming by Maintenance Engineering and all systems were successfully started up with no major issues.
- Executed 29 major SNWS outages in support of maintenance, engineering, or construction projects. Three outages were to tie in the L3PS discharge lines. Additionally, there was an unplanned outage for the repair of a four-million- gallons per day water leak on an AVAR line at Butterfly Valve Vault 5.

WATER QUALITY & TREATMENT

Level: 4500



Mission

To provide world-class water service through innovative and effective water quality stewardship and reliable and efficient treatment operations.

Department Description

Presently, the functions under the Water Quality and Treatment (WQ&T) department include: Treatment, Laboratory, Water Quality Research and Development (R&D), and Regional Water Quality. The primary responsibility of the WQ&T department is to ensure the water quality provided to the Southern Nevada Water Authority (SNWA) purveyor members meets or surpasses all Safe Drinking Water Act (SDWA) standards. In order to do this, all of the divisions in the WQ&T department have specific roles. The Treatment division is responsible for the operation and maintenance of the treatment process to supply high quality drinking water to the Las Vegas Valley. The Laboratory

division is responsible for ensuring the finished water quality is compliant with the SDWA monitoring and reporting requirements. The R&D division is responsible for performing research and process optimization studies to ensure the Treatment division is prepared for changing and emerging water quality challenges. The Regional Water Quality division is responsible for coordinating water quality in the SNWA source waters. All of these efforts are in support of the primary responsibility for the department.

Department Performance

Treatment. The Treatment division is responsible for the operation and maintenance of three treatment facilities: Alfred Merritt Smith Water Treatment Facility (AMSWTF), the River Mountains Water Treatment Facility (RMWTF), and the Big Bend Water District (BBWD). Combined, they have a design treatment capacity of 1 billion gallons per day. The division, through a Supervisory Control and Data Acquisition System (SCADA),

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Expenditures

LVVWD Uses	Actual 2015-16	Budget 2016-17	Budget 2017-18
Materials & Supplies	\$ 3,719	\$ -	\$ -
Other Employee Expenses	7,000	-	-
Other Expenses	-	-	-
Total Operating Expenses	\$ 10,720	\$ -	\$ -
Capital Costs	\$ -	\$ -	\$ 459,500
Payroll Costs	\$ 510,652	\$ 242,478	\$ 246,939
Total Department Expenditures	\$ 521,372	\$ 242,478	\$ 706,439
FTE Positions	2.2	1.0	1.0

controls all water treatment, chemical dosages, filter backwashing, and water quality. Treatment plant operators have direct responsibility for the operation of the water treatment facilities. The operator must comply with the SDWA, the Surface Water Treatment Rule and optimize treatment while minimizing cost.

Each operator must be certified for water treatment by the Nevada Division of Environmental Protection (NDEP) to the appropriate level for their responsibilities. The water treatment process consists of ozonation for disinfection, followed by flocculation and filtration, as well as corrosion control, fluoridation and chlorination.

Laboratory. The Laboratory division is responsible for routine water quality monitoring, testing, and reporting. The sections within the Laboratory include

Chemistry, Microbiology, Monitoring, and Laboratory Services. The analytical capabilities of the Laboratory cover a broad spectrum including: trace organic, trace inorganic, macro constituent, physical, wet-chemical, bacteriological, virological, protozoan, amoebas, and limnological analyses.

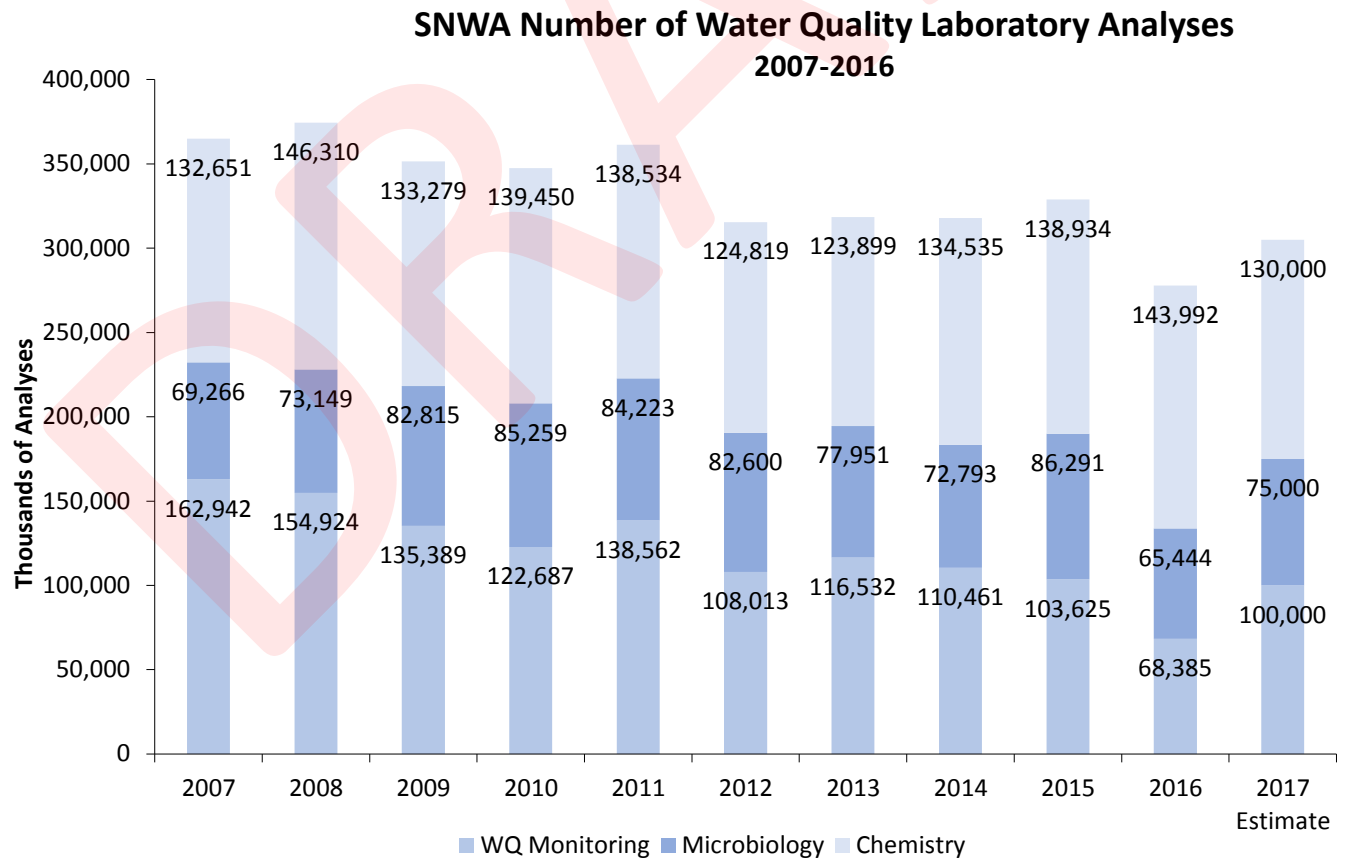
Analyses associated with the SDWA compliance testing are the highest priority in the Laboratory. The SDWA requires each public water system to perform or have performed a comprehensive set of analyses on its delivered water. The Laboratory Services section is responsible for scheduling all the routine and non-routine sampling events and receiving these samples into the laboratory. In addition, staff in this section serve as the primary point of contact for all Laboratory customers, including the private laboratories contracted for analytical services.

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The Monitoring section is responsible for collecting samples in the distribution systems of the SNWA purveyors. The Monitoring, Chemistry and Microbiology sections subsequently perform a variety of analyses on these samples. In addition, the Laboratory completed all the 2016 SDWA monitoring requirements for the 14 Clark County public water systems it serves.

The Laboratory conducts numerous analyses on samples from Lake Mead and its sources. Results of this work provide a general indication of the quality of water that will be

received by the regional water treatment plants. The Laboratory also provides analytical support to the R&D division pilot plant and grant-funded research projects. With 38 employees, approximately 29,000 samples were collected and 277,821 analyses performed in 2016. The chart below presents the total number of laboratory analyses through calendar years 2007-2016 (2017 estimate). Groundwater sampling is not required every year. The wells were only sampled for nitrates in 2016; hence, the 2016 Laboratory Analyses were lower. (See chart below).



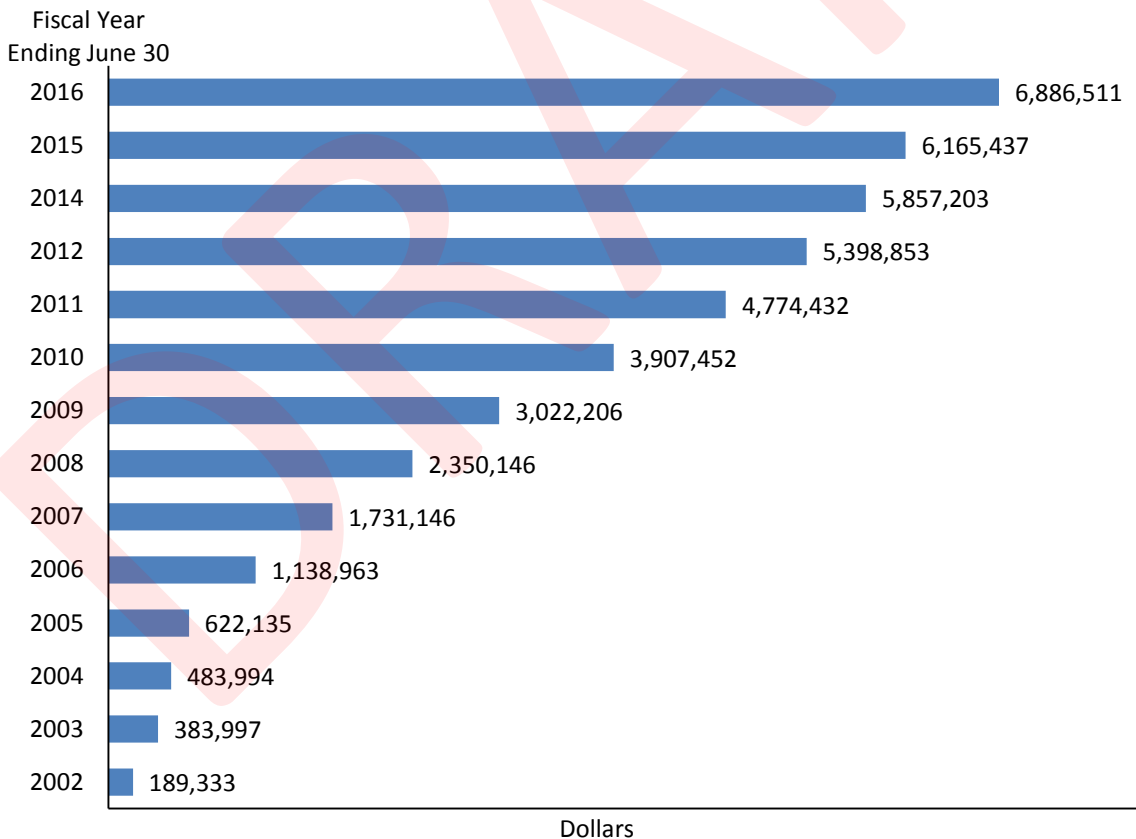
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Water Quality Research and Development.

The R&D division is involved in cutting-edge investigations of low-level environmental contaminants and water treatment plant processes. The low-level environmental contaminant research is generally in support of existing or future compliance monitoring requirements mandated by the U.S. Environmental Protection Agency (EPA) under the SDWA. The water treatment plant process research involves bench or pilot plant investigations to optimize existing treatment

or evaluate alternative treatment technologies to meet future regulatory requirements. The R&D division is comprised of Research and Development, Analytical Research and Development, and Applied Water Quality Research sections. The chart below represents the cumulative amount of water quality research funding received from outside sources through calendar years 2002 - 2016.

**SNWA Water Quality Research & Development
2002-2016 Cumulative External Funding Received**



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Regional Water Quality. The Regional Water Quality division is responsible for coordination of regional water quality issues within the SNWA and other local, state, and federal agencies. Another essential function is to collect data in the Muddy and Virgin Rivers and the Las Vegas Wash, and to compile, validate, and analyze all water quality data collected in these water bodies, as well as the data collected from Lake Mead and Lake Mohave by other agencies and the SNWA. All data collected is uploaded into the Lower Colorado River Regional Water Quality Database (Database) available at: www.snwawatershed.org/members.

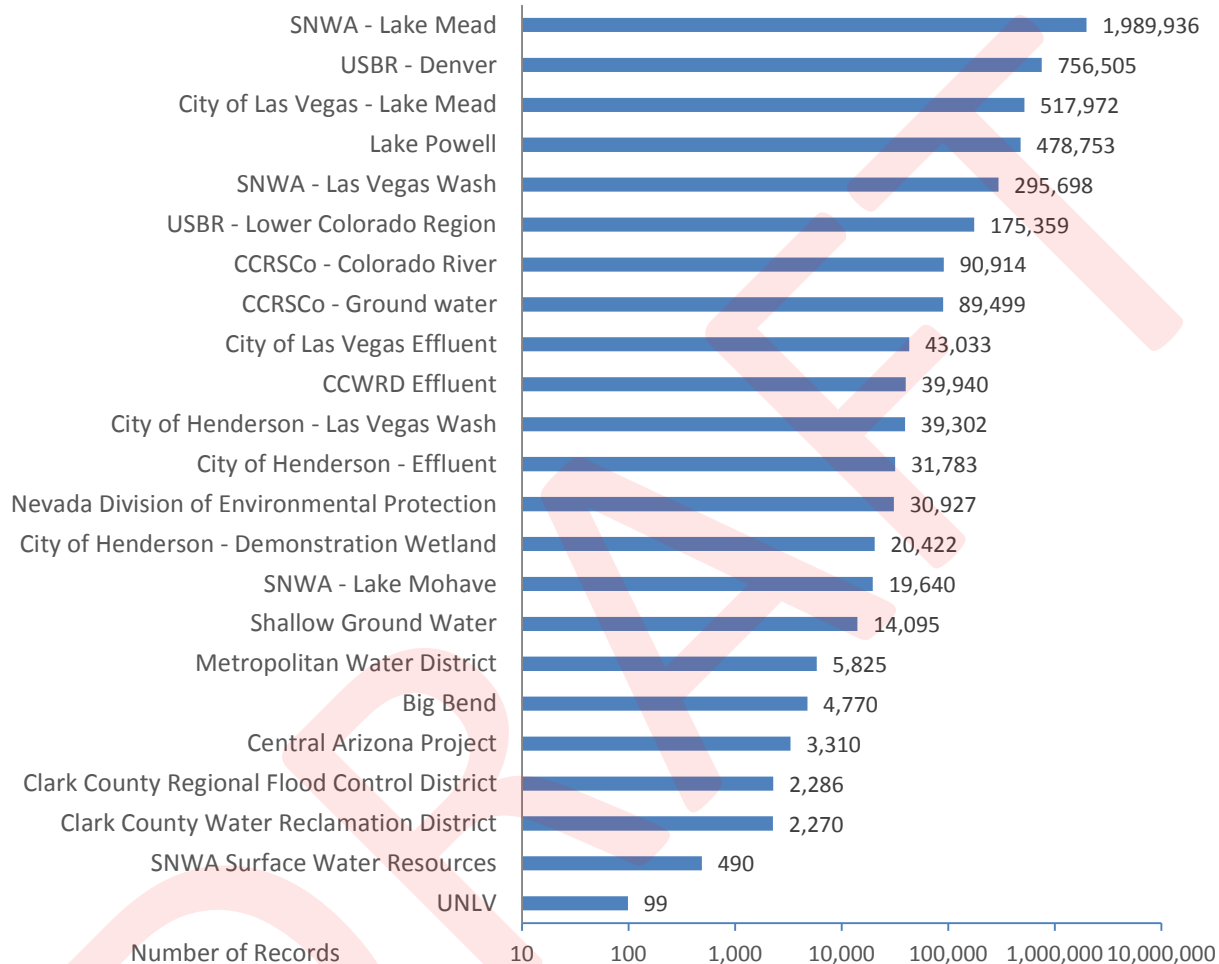
Data is also analyzed to assess impacts of nutrients, quagga mussels, perchlorate, total dissolved solids, selenium, Microcystis, and other contaminants on the water quality in Lake Mead and the drinking water supply. The division continued its efforts to integrate data and understanding of Colorado River dynamics upstream of Lake Mead including Lake Powell, the Colorado River through Grand Canyon, and releases during High Flow Experiments.

In 2016-17, the Regional Water Quality division completed a second grant from the Clark County Water Reclamation District to develop a shallow groundwater database, to conduct monitoring of the shallow groundwater, to assess the gaps, and to make recommendations for future monitoring. Additionally, a draft Sanitary Survey of the watershed was completed for submission to the NDEP to update the 2012 survey. The division continued to coordinate the Lake Mead Monitoring and Ecosystem and the Interagency Monitoring Workgroups.

The division actively seeks out new sources of data for the Database. Water quality information can be found in the Colorado River from Lake Powell to the international border with Mexico, which makes the Database a truly regional database. There are currently 4,652,828 records in the Database. The following chart is a summary of the data that has been uploaded by each agency into the Database.

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**SNWA Number of Records in Lower Colorado River
Water Quality Database (Logarithmic Scale - February 2016)**



Strategic Plan Objectives and Accomplishments

Strategic Plan Goal – Assure quality water through reliable and highly efficient systems

2017-18 Performance Objectives

- Continue Operator-in-Training program.
- Continue to refurbish AMSWTF filters.
- Continue to refurbish AMSWTF Fluorosilicic Acid (fluoride) storage system.
- Refurbish RMWTF Sodium Hypochlorite manufacturing system and reconfigure with several dilution options.
- Work closely with IT to complete the installation and implementation of the new Laboratory Information

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Management System (LIMS) to improve sample scheduling and tracking of water quality monitoring required under the SDWA for the 14 Public Water Systems (PWSs) served by the Laboratory.

- Execute the Lake Mead Model to predict conditions in the lake that could result in increased sediment loading to the drinking water intakes. This effort will incorporate conditions predicted by water managers, potential long term shifts due to climate change, and changes in sediment loading resulting from upstream management activities.
- Continue to develop Lake Mead on-line water quality buoy network.

2016-17 Major Accomplishments

- Completed modifications to the fluoride system at AMSWTF to improve reliability and safety.
- Began Programmable Area Controller (PAC) replacements at RMWTF.
- Installation of on-line TTHM analyzers.
- Completed all SDWA monitoring requirements for the SNWA, LVVWD, North Las Vegas (NLV), City of Henderson (COH), City of Boulder City (CBC), Nellis Air Force Base, Coyote Spring Valley – Moapa (CSVM), BBWD, Blue Diamond, Kyle Canyon, Jean, Searchlight, and Kapex with no monitoring violations.
- Completed the second round of *Cryptosporidium* monitoring for the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) for the SNWA and COH treatment plants.

- Limnology Modeling Project Manager assumed primary oversight and operation of the Lake Mead Model and is working to develop the SNWA's in-house modeling capabilities for the lake. The SNWA migrated the existing model parameterization to a new model platform, and has integrated and improved model drivers and planned future modeling activities.

Strategic Plan Goal – Deliver an outstanding customer service experience

2017-18 Performance Objectives

- Complete BBWD Optimization Study.
- Continue serving the International Ozone Association – Pan American Group as President (Eric Wert) and Administrative Communications Officer (Jen Fuel).
- Continue support of various ongoing research projects by providing quality data in a timely manner, including extensive lake and sources monitoring, complex storage/distribution system THM monitoring, as well as ad-hoc water quality monitoring requests. Provide outstanding customer service to external customers via water quality investigations by responding to water quality complaints in a timely manner, teaching customers about water quality and what to look for, and leaving them feeling that their concerns matter and that we want to help them resolve their problem.
- Collaborate with COH, NLV, and CBC to prepare and submit the fourth Unregulated Contaminant Monitoring

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Rule (UCMR4) monitoring plans early.

2016-17 Major Accomplishments

- Enhanced payment options were made available to BBWD customers.
- Worked with the Hydrologic Analysis & Modeling Division to provide pharmaceutical and personal care product analysis to understand nitrate occurrence in District wells.
- Provided support service and guidance to the International Ozone Association resulting in a surplus of \$70,000 from the 2016 IOA-PAG Conference in Las Vegas.
- Completed and submitted Water Quality Monitoring Plans (WQMPs) for 14 PWSs served by the Water Quality Laboratory.
- Regional Water Quality coordinated and facilitated meetings of the Lower Colorado River Water Quality Partnership and the Lake Mead Monitoring and Ecosystem Workgroup to meet the information dissemination needs of our partners.
- Regional Water Quality worked with both internal and external partners to finalize the Shallow Groundwater Study of the Las Vegas.
- Fully supported the WaterStart Program.

Strategic Plan Goal – Anticipate and adapt to changing climatic conditions while demonstrating stewardship of our environment

2017-18 Performance Objectives

- Continue rehabilitation of filters at AMSWTF.
- Evaluate performance of the new and existing filter media design to remove high turbidity at pilot-scale.
- Continue rehabilitation of RMWTF Sodium Hypochlorite system and install new style generator.
- Apply for two US Bureau of Reclamation grants through their WaterSMART Drought Response Program: 1) “Building long-term resiliency to drought through real-time water quality monitoring and forecast modeling”, and 2) “Building long-term resiliency to drought by employing riverbank filtration to improve water quality”.
- Regional Water Quality will continue to investigate the possible linkages between environmental changes driven by climate and the occurrence of Harmful Algal Blooms.
- Begin process for constructing a well at Big Bend to bring surface water into the treatment plant.

2016-17 Major Accomplishments

- Completed rehabilitation of Filters 1 and 2 at AMSWTF.
- Coordinated several plant shutdowns in support of L3PS aqueduct construction and filter rehabilitation projects.
- Completed a US Bureau of Reclamation grant through their WaterSMART Drought Response Program: “Lake Mead water quality monitoring to mitigate impacts caused by the drought”, resulting in the completion of a comprehensive on-line raw water quality monitoring station.

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- Participated in project kickoff meeting for Water Research Foundation Project 4636 titled “An Integrated Modeling and Decision Framework to Evaluate Adaptation Strategies for Sustainable Drinking Water Utility Management Under Drought and Climate Change”.
- Published the following journal article: Brouillard, B., Dickenson, E., Mikkelsen, K., Sharp, J., “Water quality following extensive beetle-induced tree mortality: Interplay of aromatic carbon loading, disinfection byproducts, and hydrologic drivers”, *Science of the Total Environment*. 572 (2016) 649-659.
<http://dx.doi.org/10.1016/j.scitotenv.2016.06.106>.
- The Laboratory implemented the Cyanotoxin Automated Assay System (CAAS) for the monitoring of total and free microcystin levels in our source and finish waters.

Strategic Plan Goal – Develop innovative and sustainable solutions through research and technology

2017-18 Performance Objectives

- Evaluate the use of ATP and flow cytometry for early detection of harmful algal blooms.
- Continue work on externally funded projects funded by the Water Environment & Reuse Foundation (#TIRR2R15, #16-02), U.S. EPA (#83582301), USDA, the State of Alaska, and the City of Altamonte Springs, Florida.
- The Laboratory will implement an electronic logbook manager on

Laboratory tablets which will eliminate the purchase, storage, and destruction of paper logbooks.

- Work with Partner and Stakeholder Agencies to streamline and, where possible, increase the use of technological advancements in water quality sampling.

2016-17 Major Accomplishments

- Installed copper sulfate injection system for biological control of pilot plant and raw water sampling pipe.
- Developed methodology for the analysis of total microcystins in water by conversion to 3-methoxy-2methyl-4phenylbutyric acid followed by LC-MS/MS.
- The Laboratory has continued to support R&D studies involving Assimilable Organic Carbon (AOC) removal using an innovative, state-of-the-art, automated analytical technique.
- Regional Water Quality continues to lead the Interagency Monitoring and Sampling Workgroup to ensure and verify the performance of sampling instruments used on Lake Mead and the Las Vegas Wash.
- Grant proposal was submitted to the US Bureau of Reclamation WaterSMART program to fund additional automated water quality sampling platforms.
- Commenced with new standardization of water treatment plant maintenance.

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Strategic Plan Goal – Ensure organizational efficiency and manage financial resources to provide maximum customer value

2017-18 Performance Objectives

- Continue to revise and update preventive maintenance program.
- Enhance cross-training efforts of staff at RMWTF and AMSWTF.
- Pursue externally funded research grants from Water Research Foundation (e.g., Tailored Collaboration Project on Disinfection Framework for Bio-filters), U.S. EPA, National Science Foundation, Water Environment & Reuse Foundation, and the US Bureau of Reclamation.
- Continue collaborating with sampling partners to collect data on Lakes Mead and Mohave in order to ensure efficiency of time and financial resources while collecting sufficient information to protect the resource.

2016-17 Major Accomplishments

- Implemented paperless work order process at both AMSWTF and RMWTF.
- Began training Electrical/Ronics Systems Technician II at RMWTF in anticipation of staff retirements.
- Converted one Electrical/Ronics Systems Technician II position to a Mechanical Systems Technician II to better balance workloads and resources.
- Received over \$500,000 from external grants.
- Regional Water Quality has continued to partner with US Bureau of

Reclamation, Lake Mead National Recreation Area, and the City of Las Vegas to share resources and to combine efforts where possible. This allows for broader and more efficient sampling of Lakes Mead and Mohave to the benefit of the SNWA and the other agencies.

Strategic Plan Goal – Strengthen and uphold a culture of service, excellence and accountability.

2017-18 Performance Objectives

- Investigate AWWA performance awards at BBWD.
- Continue presenting scientific research at conferences and publishing on research projects.
- Coordinate and complete all required lead and copper sampling for the small water systems administered by the LVVWD: Blue Diamond, Kyle Canyon, Jean, and Searchlight.
- Increase the participation of the Limnology Modeling Project Manager in regional water quality groups.
- Continue cross-training of employees to ensure performance and to enable skills development.

2016-17 Major Accomplishments

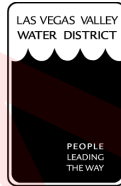
- Received AWWA Partnership for Safe Water President's Award at both AMSWTF and RMWTF.
- Published nine articles in scientific journals.
- Presented three papers at 2016 ACS Fall Conference, four papers at IOA

Las Vegas Valley Water District
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conference, two papers at 2016 WEFTEC, 13 papers at the 2016 AWWA WQTC Conference, one paper at 2016 Tri-State Seminar, five papers at the 2017 ACS Spring Conference, and two papers at the 2017 AWWA ACE Conference.

- Coordinated and completed all required lead and copper sampling for the LVVWD.
- The Regional Water Quality division continues to be called upon for expert opinions and guidance for a wide range of lake and river water quality issues in the Las Vegas Valley and throughout the Lower Colorado River Basin.

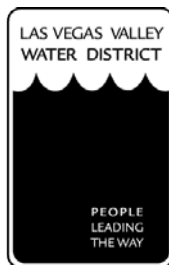
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SECTION 6

CAPITAL PLANS

Capital Budget.....	6-1
Capital Improvement Plan	6-8



LAS VEGAS VALLEY WATER DISTRICT

FISCAL YEAR 2017-18

OPERATING AND CAPITAL BUDGET

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Capital Budget

The Las Vegas Valley Water District (LVVWD) maintains a long-range facility planning process to determine the type, size and location of water distribution facilities needed to meet the water services demands of the areas in Clark County served by the LVVWD. As water system facilities are defined they are added into the LVVWD's overall construction program. The ongoing capital equipment and construction program is a dynamic program, with projects added, changed, or deleted as necessary to meet the changing conditions in the LVVWD's Service Areas. The construction program consists of new pumping stations, reservoirs and wells, land acquisition, new water pipelines, and other distribution system facilities. The capital equipment budget consists of vehicles, Information Technology equipment, water works and diverse industrial equipment. LVVWD is planning to acquire over \$8.4 million in capital equipment during the next fiscal year. Some of the capital projects will become operational by the end of fiscal year 2017-18, while other projects will be completed in subsequent fiscal years.

In January 2017, the LVVWD Board of Directors approved a 10-year Capital Improvement Plan (CIP) that will guide decisions related to asset management, necessary water system expansion and water quality compliance activities. The plan represents an investment of \$616 million (2016 dollars) over a 10-year planning horizon to construct new facilities and make improvements to key system components, ensuring a reliable water system for the

LVVWD's customers. The CIP is included at the end of this section.

Impact of Construction Program on Operation and Maintenance Expenses

For the LVVWD water distribution facilities, in the near term, the LVVWD does not anticipate any impact on maintenance expenses and only minimal expenses associated with the operation of the new facilities added to the LVVWD's water distribution system through its overall construction program. This is due to the following three factors:

- First, the facilities being added to the LVVWD's system are new and require little or no maintenance.
- Second, the facilities are designed and constructed with the latest available technology, and are not accepted by the LVVWD until they are fully inspected and tested and ready for operation.
- Third, over the past several years the LVVWD has conducted numerous process improvement investigations and adopted recommendations that have resulted in significant on-going operational and maintenance efficiencies and savings.

In the long term, the LVVWD anticipates incurring maintenance expense for the rehabilitation of facilities such as reservoirs, pump stations, and pipelines. However, these

**Las Vegas Valley Water District
Operating and Capital Budget
Capital Plans**

Fiscal Year Ending June 30, 2018

costs are minimized through the LVVWD's use of state-of-the-art diagnostic equipment and testing procedures, which significantly lower maintenance costs and reduces the rate of catastrophic failures. Finally, these facilities were, and are being constructed, for new customers who generate additional operating revenues. These revenues in the past have offset, and in the future are anticipated to continue to offset, the added long-term maintenance expense.

Projecting long-term additional operating expenses driven by the addition of capital assets to the LVVWD's water system is not easily quantified.

The LVVWD's overall construction program is funded by an expected \$100 million debt issuance, the LVVWD's State Revolving Fund Loan (SRF) and with the Revenue Funds. The projects consist of new pumping stations, reservoirs and wells, land acquisition, new water pipelines and recycled water distribution system facilities. The LVVWD construction expenditures are estimated to be approximately \$77.5 million.

In December 2014, the LVVWD entered into an agreement with the State of Nevada

Department of Conservation and Natural Resources to receive a loan from the State Revolving Fund to finance construction of water infrastructure. It is projected the LVVWD will ultimately receive \$50 million in SRF loans, but the first loan was for \$20 million. A second loan of \$15 million was part of the 2015-16 Adopted Budget Plan. The final \$15 million was included in the 2016-17 adopted Budget Plan.

The SRF loan is secured by a general obligation bond that the LVVWD provided to the State of Nevada as collateral for the loan. The SRF loan will be funded on a reimbursement basis, i.e. the LVVWD must first fund the construction expenditures with its own assets and then be reimbursed by the SRF loan. Until the loan is fully funded, the LVVWD is obligated to pay interest only on the outstanding amount of the loan. After the loan is fully funded, the LVVWD is obligated to make roughly equal semiannual payments of principal and interest over 20 years.

The tables on the following pages show a listing of the specific capital equipment, active design and construction projects included in the LVVWD's capital expenditures for the next fiscal year.

Las Vegas Valley Water District
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LVVWD: CAPITAL BUDGET 2017-18

CAPITAL EQUIPMENT

2300 - Information Technology:

Internet Router	12,000
Large Format Plotters	20,000
IronPort Replacement	24,000
Gig-Ring Switches	27,000
KVM Replacement	42,000
EMC Data Domain Storage Capacity Growth	45,000
StorageTek Tape Drives	48,000
EMC Isilon Storage Capacity Growth	75,000
Network Closet Switches	120,000
General Infrastructure	150,000
Computer Monitor Refresh	151,200
Corporate Servers	156,000
Oracle Database Firewall Software	165,600
Rugged Mobile Computer Refresh	289,000
Desktop Computer Refresh	486,000

3400 - Engineering:

GPS Base Station Receivers and Antennas	78,000
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3600 - Resources & Facilities:

Electric Utility Cart W/two Seats and Load Deck	13,000
Diesel Exhaust Fluid (DEF) Dispensing equipment	17,000
Upgrade Cooling at Montessori ECC	25,000
1 Each 32' working height Scissor Lift	28,000
2 Each Electric Carts One For Trash & One for General Maintenance	28,000
1/2 Ton Extended Cab Short Bed 4X4 Pickups	35,000
Trailer Mounted Valve Machine W/Water Pumps & Hyd. Tool Circuit	40,000
1 Each Mini Excavator W/Hammer Cat 302.7DCR or equal	45,000
1/2 Ton regular Cab 4X4 Short Bed Pick up	45,000
2 each 1/2 Ton Extended Cab Short Bed 4X4 PickupS	66,000
3/4 Ton Extended cab Utility 4X4	94,000
Replace Defective LVVWD HVAC Units	200,000
Upgrade Single-pass Pump Station Evaporative Coolers - Phase I	200,000
GPS/Telematics Equipment and setup	205,000
Crew Cab Utility W/Crane and Welder	220,000
4 Each 19,500 lb. Utility Trucks W/Cranes & Welders	640,000
1 lot of 27 replacement equipment pieces including 11 backhoes	794,000
1 lot of 39 Replacement Vehicles	3,185,000

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Diamond Wire Guillotine Pipe Saw	10,740
Greenlee Super Tugger and Cable Pulling Accesories	16,500
Pipe Threading Machine	18,000
KeyTrak System for Satellite Facilities	24,800
Oscilloscope Tektronix MS05204B	32,000
Air Compressors for Pump Stations 1B, 2A, 2B, 2C, and IPS1	35,000

4500 - Water Quality & Treatment:

Capillary Ion Chromatograph Conversion	42,500
Sampling Instruments for the Las Vegas Wash	50,000
Safe Drinking Water Act (SDWA) Compliance Monitoring and Tracking Software	100,000
Inductively Coupled Plasma Mass Spectrometer System(ICP-MS)	267,000

TOTAL CAPITAL EQUIPMENT	\$ 8,365,340
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CAPITAL PROJECTS

2300 - Information Technology:

Workday HCM	796,500
Enterprise Content Management System	810,000
Purchase and Budget System Consolidation	1,296,000
Genesys Call Center	2,020,500

2500 - Public Services:

Springs Preserve Exhibit Upgrades	67,500
Garden Lighting	72,000
Springs Preserve Gardens speakers and low voltage wiring installation	135,000
Garden Paving	157,500
Springs Preserve Playground: Design and Construction	405,000
Springs Preserve Gardens Electrical Service Expansion, Phase II	585,000

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3400 - Engineering:

SEARCHLIGHT WATER SYSTEM IMPROVEMENTS RESTORATION	22,500
3090 Zone North Interim Tank	27,000
Residential Main Extension, 9640 Hauck Street	36,000
Kyle Canyon Water District Site - Communications System Upgrade (MEPS 7256)	81,000
Valley View Asphalt Repair and Resurfacing - Phase II	153,000
Pavement Replacement Services, Phase I, 2017 - 2019	180,000
Water Service Replacements	180,000
Pavement Replacement Services, Phase II, 2017 - 2019	180,000
On-Call Pavement Replacement 2017	180,000
On-Call Concrete Replacement 2017	180,000
Shaumber 3205 Zone North Pipeline, Phase I	229,500
Springs Preserve Lobby Floor Renovation	261,000
Pipeline Replacement in Ronald Lane	276,120
Miscellaneous Vaults Reconstruction and Repairs, Phase XX1	315,000
Egan Crest 3090 Zone North Pipeline, Phase II	333,000
2860 Zone South Interim Facilities	382,500
West Craig 2635 Zone Pipeline	450,000
East Admin IT Area Plumbing Upgrade	450,000
Springs Preserve Cienega Modifications	549,000
Pavement Replacement Services, Phase II, 2017 - 2019	675,000
3665 Zone Reservoir Inlet/Outlet Pipeline	900,000
Miscellaneous Vaults, Reconstruction and Repair, Phase XXII	900,000
Miscellaneous Vaults, Reconstruction and Repair, Phase XX	940,500
Charleston Blvd. 2300 Zone Pumping Station Discharge Pipeline Rehabilitation	1,152,000
Necessary Site Improvements, Stewart Reservoir Landscaping	1,156,500
Alta 3205 Zone Reservoir Spray Aeration System Addition (MEPS 7335)	1,170,000
Miscellaneous Large Backflow Installations, Phase IV (MEPS 7478)	1,215,000
Miscellaneous Large Backflow Installations, Phase V (MEPS 7478)	1,215,000
Miscellaneous Vaults, Reconstruction and Repair, Phase XXIII	1,350,000
Paradise Road Waterline Replacement	1,350,000
Miscellaneous Main Replacements, Elvis Presley Blvd. and Paradise Rd.	1,433,700
Las Vegas Boulevard Improvements - Resorts World	1,485,000
Pipeline Replacement, Vegas Drive, Pyramid Dr. to Martin L. King Blvd.	1,530,000
Customer Services Electrical & Data Upgrades, Phase II	1,800,000
Centennial 2635 Zone Reservoir and 2745 Zone Pumping Station	1,820,700
Pavement Replacement Services, 2015 - 2018	2,250,000
Las Vegas Boulevard Improvements Phase 1	2,610,000
Pipeline Replacement, Washington Ave./Decatur Blvd.	2,700,000
Miscellaneous Small Backflow Installations, Phase XV (MEPS 7478)	4,050,000
Miscellaneous Main Replacements, The Dales Subdivisions	6,100,560
3665 Zone Reservoir	9,748,800

Las Vegas Valley Water District
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3600 - Resources & Facilities:

Valley View Fleet Office Renovation	18,000
Springs Preserve Energy Conservation	22,500
Springs Preserve Plumbing Upgrade	45,000
Valley View Hoover Room	67,500
West Admin Renovation Design & Assessment	72,000
Valley View Field Services Upgrade	72,000
LVVWD Miscellaneous Projects	90,000
LVVWD - Reconfigure Engineering Workspaces	108,000
Valley View Sodium Hypo Bldg HVAC Upgrades	126,000
Valley View - Renovate Restrooms	153,000
Springs Preserve Miscellaneous	180,000
Tropical Satellite Perimeter Fence Upgrade	270,000
Remodel Operations Building Lab Space	315,000
East Admin Human Resources Renovation	360,000
West Admin Renovation	450,000

3700 - Infrastructure:

South Well Field/LVVWD Campus Site - Asbestos Breakout Area (MEPS 7891)	22,500
Water Resource Center Site - WRC NW Tank #1 Relining (MEPS 7892)	22,500
LVVWD Campus - Equip Operations Building Emergency Power (MEPS 6473)	25,200
Broadbend 54" Dismantling Joint & Flange Replacement (MEPS 7505)	27,000
Multi-site - Jean Wells Access Road Drainage (MEPS 6900)	31,500
Montessori South High Bay Lighting Replacements (MEPS 7488)	31,500
Campbell Gantry Crane Lighting (MEPS 6697)	31,500
Multi-Site Fence Installations (MEPS 7476)	31,500
El Capitan Site - El Capitan Washdown Installation (MEPS 7894)	31,500
District Service Area - PRV 196 and 197 - Install Data Monitoring (MEPS 6310)	36,000
Underhill Pump Discharge MOV Replacements (MEPS 7484)	45,000
Multi-site - Install Redundant Chlorine Monitors (MEPS 6304)	45,000
Charleston Heights - Repair/Replace Springs Preserve pump station (MEPS 7146)	45,000
LVVWD - Multi-site - HMI Repair/Replacement (MEPS 7502)	45,000
LVVWD - Feasibility and Design for Control Room Upgrades (MEPS 7864)	45,000
Multi-Site - Relocation of Sodium Delivery Points	54,000
Springs Preserve Landscape Lighting Installation	67,500
LVVWD - Golf Course Radio Tower Improvements (MEPS 7861)	67,500
South Well Field/LVVWD Campus Site - LVVWD Vector Truck Drying Beds (MEPS 7679)	90,000
Multi-Site Transformer Replacements (MEPS 7492)	90,000
LVVWD - Site CyberSecurity Upgrades (MEPS 7863)	90,000
Well Waste Line to Incorporate Flapper Valve and Air Gap	103,500

Las Vegas Valley Water District
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Charleston Heights Site - Repair the Coating Tank Interior and Exterior (MEPS 7255)	135,000
Fayle 2420 & 2300 Zone Pump Discharge Valve Replacements (MEPS 7485)	180,000
Luce Site - North Pump Station MCC Upgrades (MEPS 7714)	180,000
Multi Site - Multi-Site Vault Pipe Coating FY 17-18 (MEPS 7834)	180,000
Wells 22A & 23A NV Energy Service Equipment Upgrades (MEPS 7490)	202,500
LVVWD - Campbell Site - Engine Control Standardization (MEPS 7572)	225,000
District Service Area - AC Mitigation for CO 523 and XC 10527 (MEPS 7011)	243,000
Partial Lining of Jean Well J-4 (aka Midway) (MEPS 7481)	301,500
Campbell Pumping Station Control Room Upgrades	315,000
Luce Reservoir Joint Replacement (MEPS 7504)	315,000
Campbell Site - Campbell Reservoir Joint Replacement (MEPS 7744)	315,000
District Service Area - Misc. Vault Repair 17-18 FY (MEPS 7869)	315,000
WRC - Rampart Pump Station Site - VFD Replacements (MEPS 7715)	405,000
District Service Area - Multi-Site Large Backflow Installations 17/18 FY (MEPS 7862)	405,000
Stewart Site - Emergency Power Source Upgrade (MEPS 7815)	450,000
LVVWD - Replace PLC 5 Remote Racks From Sites (MEPS 7849)	450,000
Luce Site - THM Mitigation System Installation (MEPS 6681)	611,100
LVVWD - Multi-site - Fiber Optic Cable Installation (MEPS 6508)	675,000
6th Street Waterline Replacement	765,000
LVVWD Campus - Telvent Upgrade	1,125,000
Replace Wells at end of service life (MEPS 6094)	1,350,000
Pipeline Participation Project	1,800,000
Annual Large Meter Replacement	3,402,000

4100 - Operations:

Electric Motors Repair or Replace	45,000
Repair or Replace System Valves	45,000
Motor Control Center, Starters, Transformers, and Other Repairs	67,500
Annual Pump Repair	135,000
Replace Aging/Failed Surveillance and Networking Equipment	270,000
Backflow and Enclosure Replacements	270,000
Well and Pump Rehabilitation	540,000

TOTAL CAPITAL PROJECTS	\$ 77,508,180
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TOTAL CAPITAL BUDGET	\$ 85,873,520
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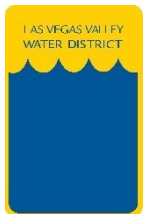


LAS VEGAS VALLEY WATER DISTRICT CAPITAL IMPROVEMENTS PLAN 2017



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LAS VEGAS VALLEY
WATER DISTRICT



LAS VEGAS VALLEY WATER DISTRICT
Capital Improvement Plan 2017-2027

About the Las Vegas Valley Water District

The Las Vegas Valley Water District (LVVWD) is a subdivision of the State of Nevada. The agency was created by a special act of the Nevada Legislature in 1947 to acquire and distribute water, primarily in the Las Vegas Valley. The not-for-profit LVVWD commenced operations in July 1954 and has served as the Southern Nevada region's largest municipal water provider since that time. As of 2017, the water distribution system comprises more than 6,500 miles of pipeline, 53 pumping stations, 70 reservoirs/tanks, 76 production wells, approximately 400,000 water meters and a 3.1 megawatt solar-electric system.

Vision

The Las Vegas Valley Water District's aims to be a global leader in service, innovation and stewardship.

Mission

The Las Vegas Valley Water District's strives to provide world class water service in a sustainable, adaptive and responsible manner to our customers through reliable, cost effective systems.



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CAPITAL IMPROVEMENT PLAN

EXECUTIVE SUMMARY

The Capital Improvement Plan (CIP) outlines the District's plan for achieving organizational goals and objectives. The plan outlines the projected capital needs over a 10-year period.

Doing Business

For much of its past, the District focused on developing new facilities to meet the evolving needs of the community. Between 1980 and 1998, Clark County was among the fastest-growing communities in the nation, which necessitated major capital investments in new infrastructure. However, beginning in late 2007, these conditions changed significantly when much of the nation began to experience significant economic disruption. Local expansion efforts halted abruptly and many projects in progress were put on hold.

During this time and continuing today, the Water District's focus shifted from system expansion to asset management, with an increased emphasis on customer care. In accordance with its mission, the District works to provide a safe, reliable water supply to more than 1.4 million residents within the City of Las Vegas and unincorporated portions of Clark County, Nevada. All functions in support of this mission—from maintaining infrastructure to ensuring accurate metering and protecting water quality—require properly functioning physical assets.

Capital Improvement Plan

Capital improvements are needed to reliably operate and maintain the District's extensive water distribution system, as well as to address state-mandated water quality issues and new development needs. This 10-Year Capital Improvement Plan serves to guide decisions related to maintaining and, as required, replacing those assets, as well as necessary water system expansion and water quality compliance activities.

The following provides a brief introduction to system needs, which are further detailed in the latter portions of this document. Costs represented herein are intended only to detail the size and scope of improvements needed over the 10-year planning

horizon. Cost authorizations for improvements will be considered by the Board of Directors annually as part of the organization's regular budget process.

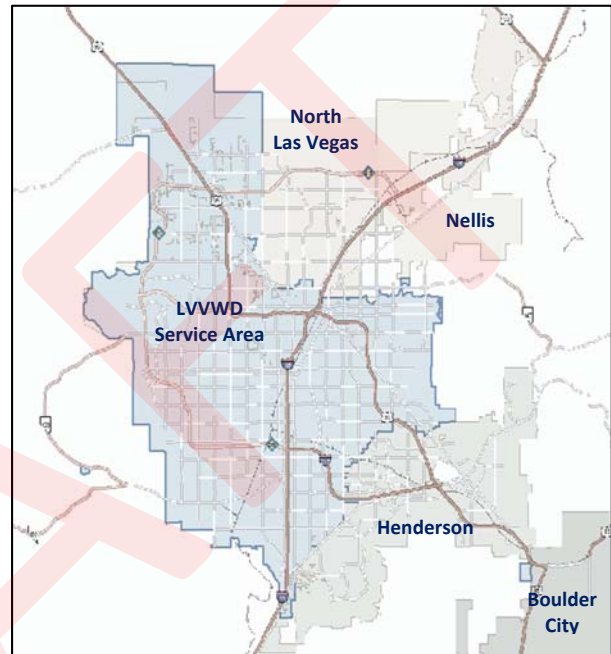


Image: LVVWD Service Area

Asset Management Improvements

The Infrastructure Management department is primarily responsible for overseeing the organization's physical assets, with considerable input and support from the Engineering, Operations, Water Quality and Finance work groups. Because the service life of individual components comprising a large water system can vary by decades, Infrastructure Management uses sophisticated planning tools to develop repair/replacement schedules, allowing for orderly and fiscally prudent implementation.

The agency's infrastructure management strategy is based on five foundational principles:

- Extend infrastructure life and prevent failures through timely maintenance and repairs
- Protect system assets through continual condition assessments
- Assess and prioritize projects to ensure critical

system operations remain functional

- Minimize financial impacts through orderly, phased implementation
- Minimize financial outlays by maximizing asset life cycle

A substantial percentage of the community's water system was constructed in the 1980s to address increasing demands. As a result, numerous facilities now exceed 30 years of age. Research has demonstrated that replacing or repairing utility components under emergency conditions—for instance, a broken water main—is both more expensive and disruptive to customers than affecting maintenance through a systematic approach. Key system components that must be addressed during the 10-year planning horizon include:

- Reservoirs
- Pumping Stations
- Pipelines and Service Laterals
- Valves and Vaults
- Meters
- Water Quality Systems
- Groundwater Wells
- Facilities and Building Improvements
- Electrical Systems
- Communication Systems

Cumulative costs associated with the repair and/or replacement of these hundreds of thousands of components—measures necessary to maintain current service levels, system reliability and water quality—are projected to be approximately \$390 million over the next decade.

Maintaining Water Quality

As a Public Water System, the LVVWD is responsible for ensuring compliance with all water quality regulations, enforced by the Environmental Protection Agency and the Nevada Division of Environmental Protection's Bureau of Safe Drinking Water. In addition to rigorous testing for more than 100 constituents—the Water District collects more than 33,000 water samples annually for analysis—it must comply with mandates from these agencies designed to protect water quality.

Chief among these mandates is what is termed "backflow protection," a mechanism that prevents the reintroduction of water from private properties into the

municipal water system. Compliance with this State requirement will entail the installation of approximately 35,000 backflow prevention devices on meters throughout the District's service area.

New Development Improvements

During the recession, the District deferred all non-essential construction projects. While this decision was fiscally prudent, it required engineers to devise mid-term solutions that could provide access to the municipal water supply for residents and businesses in newly developed areas without investing in additional reservoirs and pumping stations. While those solutions proved effective, the absence of core infrastructure in affected areas undermines system reliability and subjects customers to vulnerability that is inconsistent with organizational standards.



Image: LVVWD Field Repair

To address this issue and ensure these customers receive the same level of reliability as their counterparts in other parts of the valley, the District plans to construct a total of four reservoirs, four pumping stations and associated appurtenances during the planning horizon. The District anticipates to expend approximately \$125.7 million to design and construct these facilities, which will both serve existing customers and support additional development. Additional costs associated with facilities needed to support new communities will be borne by developers.

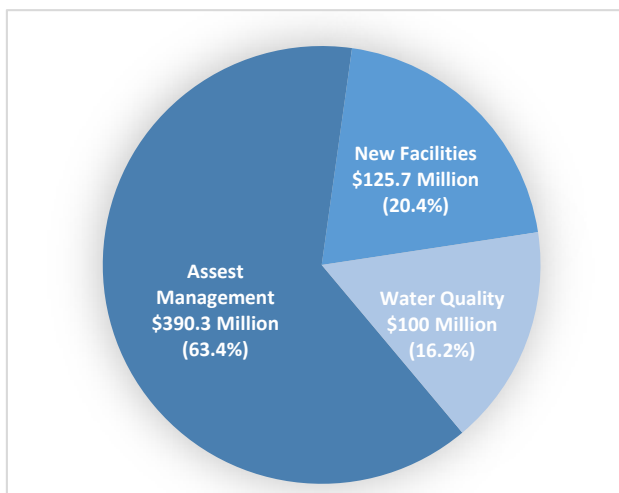


Figure 1.2: Cost Distribution by Improvement Type

10-Year Capital Planning

In total, the asset management, water quality protection and system expansion activities outlined in this document represent an investment of \$616 million over the 10-year planning horizon. These improvements will help the District to maintain current service and water quality standards, ensuring continued reliability for the residents and businesses that depend upon this vital resource.

CAPITAL IMPROVEMENT PLAN

ORGANIZATIONAL OVERVIEW

Introduction

The Nevada State Legislature created the Las Vegas Valley Water District in 1947 to help manage local groundwater supplies. The newly-formed agency acquired the assets of its predecessor and began operations in 1954 as the municipal water provider for Las Vegas and unincorporated Clark County.

Transition and Growth

In the period between its creation and the early 1970s, the District got to work repairing and expanding the water system to meet the growing needs of the community. These efforts included installing more than 800 linear miles of pipeline and increasing reservoir storage to approximately 160 million gallons. At the same time, the District also entered into an agreement with what is now known as Basic Management Inc. for expansion of its small industrial line to deliver Colorado River water to the District's service area. These efforts decreased the community's reliance on groundwater supplies and marked the organization's first major initiative to help stabilize the local water table.

Post-war expansion paled in comparison to the unprecedented population growth that occurred over the years that followed. In the 1980s and '90s, Las Vegas ranked as the nation's fastest-growing city virtually every year. In response and to fulfill its mission of meeting the community's water needs, the District engaged in an infrastructure construction initiative without parallel in the United States. At the same time, water demands soared, necessitating a cohesive, regional approach to resource management. This resulted in the creation of the Southern Nevada Water Authority (SNWA), of which the District serves as the administrative entity.

Current Environment and Operating Priorities

Beginning in 2007, the nation began to experience the most significant economic downturn since the Great Depression. Southern Nevada was hit harder than almost any other region in the nation, and this period of recession marked the first time in decades

that the Las Vegas area experienced a sustained period of little or no growth. During this time, most new residential and commercial development projects came to a halt. While economic recovery is occurring, the massive booms of prior decades have not returned. As a result, the District's operational priorities have changed in response to meet the evolving needs of the community. While expanding the water system to accommodate new customers remains a core responsibility, the emphasis has shifted to ongoing operations and infrastructure management.

Today, the District provides water service to an area approximately 300 square miles in size, serving more than 375,000 residential and commercial customers through a network of approximately 6,500 linear miles of pipelines and service laterals. Accomplishing this task requires the agency to maintain millions of individual components, ranging in size from the small service laterals that deliver water to individual homes to massive pumping stations and reservoirs.

Strategic Approach

As a public, not-for-profit water agency, the District is committed to managing its finances and assets responsibly. The system represents a significant community investment; in total, the agency's capital assets were valued at \$1.7 billion as of the last fiscal year. As with all capital assets, depreciation is inevitable, although the rate and degree thereof are influenced by many factors. The responsibility for optimizing the value of these assets—maximizing service life while maintaining the reliability of water delivery—rests with the LVVWD's infrastructure management and maintenance programs.

Calculating the necessary rate of replacement for water facilities is the responsibility of the District's Infrastructure Management department, which maintains an inventory of water system components categorized by type, age and material. The service life of a given pipeline, pump or valve is influenced by a variety of factors, but knowing when to replace assets is the key to operational efficiency, as well as minimizing leaks and service interruptions. These engineering professionals also work to optimize

infrastructure value by refurbishing equipment when possible instead of prematurely replacing it.

Given that the community's water system comprises millions of discrete components—from small 5/8" laterals serving individual homes to massive pumping stations that move water to the Las Vegas Strip—fully accounting for the entirety of an infrastructure network is a significant challenge. Infrastructure Management, Operations and Engineering work in concert to ensure that facilities are maintained in working condition and upgraded or replaced when needed.

As shown in Figure 1.3, the LVVWD evaluates the condition of its assets to identify potential issues, manage operational risks and reduce costs. By maintaining a comprehensive infrastructure inventory and reflecting factors such as age, material type, operating environment and historical failure rates, LVVWD is able to project capital reinvestment needs over decades, phasing projects to minimize spikes in financial outlays while maintaining the system's integrity. This strategy has proven highly effective; LVVWD customers enjoy one of the nation's most reliable water systems, with a leak rate far below the national average and an efficiency rating that has been classified as "world-class" by the International Water Association.

As with all systems, age is becoming a factor for the LVVWD infrastructure network. Some system components are now approaching or are more than 50 years old. The issue of aging infrastructure is hardly unique to Southern Nevada. To the contrary, the LVVWD's system is relatively young compared to other metropolitan communities. It is incumbent upon the LVVWD to undertake strategically guided rehabilitation and replacement initiatives in order to assure that Las Vegas does not experience similar service outages and leak rates such as have befallen other metropolitan communities. In total, current estimates by the American Water Works Association indicate that communities in the United States will need to collectively invest more than \$1 trillion over the next 25 years to restore and expand public water systems.

To finance capital projects associated with system maintenance and expansion, the LVVWD uses funds generated through a combination of bond proceeds, water rate revenue and low-interest loans from the State Revolving Fund for drinking water systems. These three revenue streams provide access to funds for necessary improvements and save ratepayers money by reducing interest costs, a benefit of the LVVWD's AA Standard & Poor's rating and Aa1 Moody's rating.

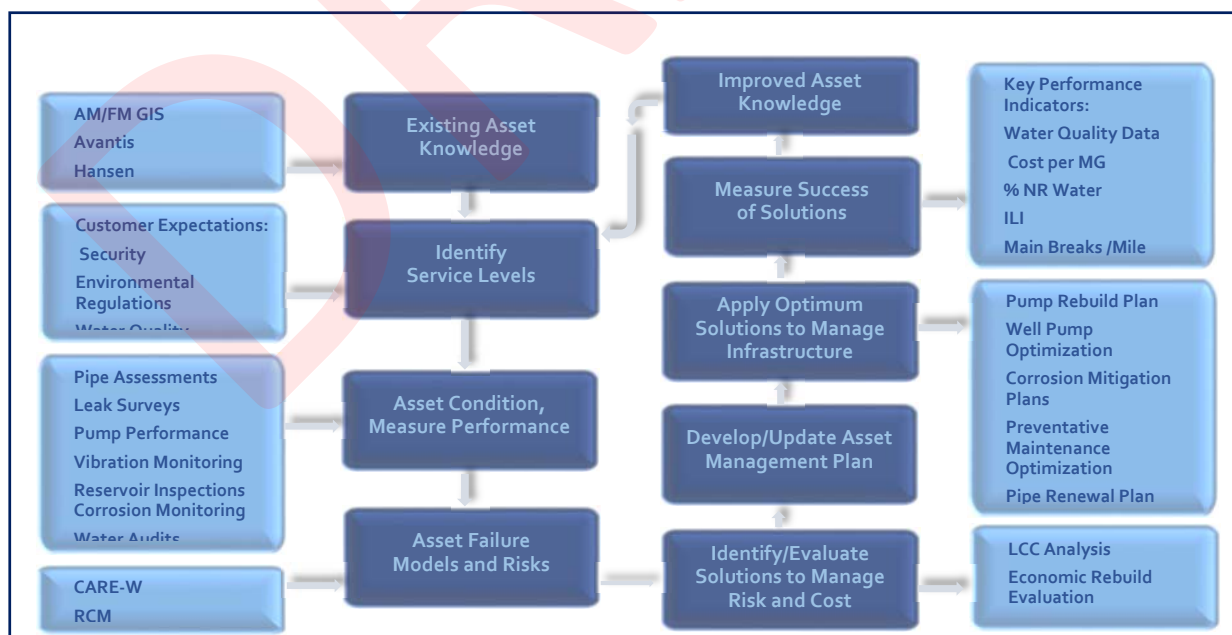


Figure 1.3: LVVWD Asset Management Life Cycle

Maintaining a fiscal balance between the “pay-as-you-go” approach and long-term financial instruments is key. Overuse of bonds can negatively impact the agency’s credit rating, resulting in higher interest rates, while funding all projects as they occur results in financial instability and significant rate fluctuations. Another important aspect related to project financing is maintaining appropriate reserves; strong reserves positively impact credit ratings and improve the agency’s ability to respond to short-term capital needs or economic fluctuations.

This Capital Improvement Plan is intended to reflect projected capital improvement needs in the LVVWD service area over a 10-year planning horizon (2017 – 2027). The precise timing and cost of individual elements will be prioritized from year to year based on need and accounted for as part of the LVVWD’s annual budget process. The following section provides an overview of purpose and need, and estimated cost in the areas of asset management, new facilities and water quality improvements.

DRAFT

CAPITAL IMPROVEMENT PLAN

ASSET MANAGEMENT

Introduction

In the context of a public water system, asset management refers to the proactive approach employed by utilities to reduce the life-cycle cost of infrastructure while maintaining high levels of reliability and meeting water-quality standards. At the District, this initiative is spearheaded by the Infrastructure Management department with considerable support and input from the Engineering, Operations and Finance work groups. Given the millions of individual water system components that must be evaluated based upon age, materials and projected service life, the District's asset management process is complex. However, the objective is simple: optimize system efficiency and the use of ratepayer dollars.

Achieving this goal requires the District to balance several factors, including cost, quality, reliability and safety. An excessively conservative approach could result in higher cost, particularly if equipment and facilities are replaced well before the end of their useful life cycle. Conversely, too little vigilance opens the door to frequent service outages, high leak rates and compromised water quality.

The LVVWD's infrastructure management strategy is based on several foundational principles:

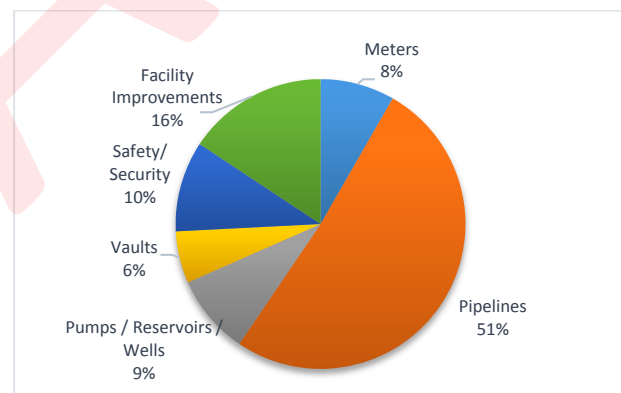
- Extend infrastructure life and prevent failures through timely maintenance and repairs
- Protect system assets through continual condition assessments
- Assess and prioritize projects to ensure critical system operations remain functional
- Minimize financial impacts through orderly, phased implementation
- Minimize financial outlays by maximizing asset life cycle

While it is not unusual to implement numerous asset management-related projects simultaneously, the overall program must be managed on a longer-term basis to execute activities in an orderly manner. For the LVVWD, that means anticipating needs and

scheduling work over a 10-year planning horizon. On an annual and ongoing basis, the LVVWD will conduct assessments to gauge progress and identify any necessary course adjustments.

The agency projects that an investment of approximately \$390 million will be required over the planning horizon to maintain system infrastructure in a manner that meets current service levels and water quality standards. As shown in the Figure 1.5, key projects include: reservoir and pumping station maintenance and rehabilitation; replacement and renewal of vaults and valves; pipeline and service lateral replacement; cyclical water meter replacement; upgrades to the Supervisory Control and Data Acquisition (SCADA) operations control system and improvements to existing facilities throughout the valley.

Figure 1.5: Cost Distribution (%) by Asset Type



Asset Management Activity Detail

A detailed overview of major asset management activities included in the District's 10-year Capital Improvement Plan is provided below. While this plan reflects long-term projected expenditures, it does not represent a blanket authorization of funding for these improvements. Projected expenditures will be considered before the Board of Directors through an annual budgeting process for consideration and authorization. Each individual project also requires further authorization, with a majority of the projects requiring Board approval. This ensures that the Board is provided timely and complete information about asset management priorities and associated annual

costs, and has the opportunity to assess progress related to the plan's implementation.

Reservoirs

The Las Vegas Valley's bowl-like topography features approximately 2,000 feet of elevation change from downtown to the far reaches of the community, effectively precluding a "direct delivery" water system. Instead, water is pumped to higher-elevation storage reservoirs and delivered to customers via gravity. Reservoirs provide far greater reliability than direct-delivery systems, which are vulnerable to service interruptions caused by outages. In total, the District maintains more than 70 reservoir basins and tanks throughout the Las Vegas Valley. Collectively, these facilities hold nearly a billion gallons of water for delivery to customers.



Image: Alta Reservoir

District reservoirs are typically constructed of concrete and installed below ground. This design protects them from the elements, helps safeguard water quality, stabilizes temperatures and provides for an exceptionally long service life if properly maintained. The District also maintains a small number of above-ground steel tanks as dictated by operating conditions and location. In addition to regular inspections of reservoir components critical to protecting water quality, these facilities are fully assessed every five years and serviced as needed. Typical capital reinvestment needs associated with these facilities include replacement of basin inlet and outlet valves, cathodic protection anodes, valve actuators, mixers, aeration systems, vent screening and back-up electrical generators. Over the next 10 years, the District projects that annual costs associated with maintaining reservoirs will be less than \$500,000, bringing the cumulative 10-year total to approximately \$4.65 million.

Pumping Stations

Most of Southern Nevada's drinking water comes from the Colorado River, drawn from pipelines within Lake Mead. The regional entity responsible for treating this water, the Southern Nevada Water Authority, sells water to local purveyors like the District at a wholesale rate and delivers it through facilities called Rate-of-Flow-Control Stations into receiving reservoirs.



Image: LVVWD Pumping Station

For most customers, this is only the beginning of their water's journey. From these receiving reservoirs, water is pumped to dozens of District-operated reservoirs located

throughout the valley. During summer months, when water use is highest, the District delivers more than 400 million gallons a day to its customers. To accomplish this, the agency operates more than 50 pumping stations that collectively produce 90,000-plus horsepower and have the capacity of 1.2 million gallons of water per minute. This is sufficient to meet even the highest "peak" demand. The ability to move water quickly around the valley is especially critical for fire suppression; there are approximately 30,000 fire hydrants within the District service area.

While variables such as the manufacturer and usage patterns affect the service life of individual pumps and ancillary equipment, a full pumping station is estimated to have a 100-year service life. The District evaluates pump performance semiannually by using an analysis of SCADA data to identify any issues. Major rehabilitation is typically performed at intervals of 35 and 65 years, while individual pumps undergo regular preventative maintenance. Performance monitoring systems automatically shut pumps down if anomalies occur, minimizing the impact of a failure. Several of the LVVWD's major pumping stations are

at or beyond the 35-year threshold and require refurbishment.

Expenditures associated with pumping stations are expected to be relatively modest given the District's successful ongoing maintenance activities. The cumulative 10-year cost associated with asset management on these facilities will be approximately \$6.7 million.

Pipelines and Service Laterals

If pumping facilities represent the water system's heart, pipelines and service laterals are the veins that keep the community's lifeblood flowing. From the 5/8" service laterals that connect homes to the water mains beneath neighborhood streets to enormous 7-foot pipelines, the District must maintain approximately 6,500 miles of pipes, all constructed during different decades from a variety of materials.

The type of material from which pipelines are manufactured largely dictates their service life. In many parts of the District's service area, water mains are more than 40 years old. Where feasible, engineers incorporate auxiliary interconnections into the design that allow water to be rerouted to a property in the event of a pipeline break. Areas without such interconnections are most vulnerable to service outages, making their maintenance or replacement an even greater priority.

Given the immensity of the pipeline and service lateral network, it is not surprising that this category of infrastructure represents the largest reinvestment need for the organization. The pipeline system consists primarily of ACP (cement), PVC, steel and ductile-iron, while service laterals are fabricated largely from copper with a small percentage of polyethylene lines. Service life projections vary dramatically by material. For instance, polyethylene (an industry standard during the 1970s and '80s) has a far shorter service life than copper, exemplified by a failure rate 50 times that of copper. As a result, the District is aggressively replacing these laterals, which pose an unacceptable risk to the organization's high service reliability standards.

The District uses an array of tools—including acoustic wave technology—to perform pipe condition assessments, often without excavation. Based upon data collected in the field and service life status, the

Asset Management team prioritizes replacement activities. To minimize disruption to customers and commuters during replacement, the District coordinates with other entities that may be executing construction projects such as road repaving or sewer system upgrades. For example, the District has developed a comprehensive master plan for replacement of the major pipelines serving the Las Vegas Strip; given the implications of major construction-related traffic impacts to employees and businesses in that corridor, the District will work in tandem with other agencies to minimize the duration of construction windows.



Image: LVVWD Pipeline Repair

Throughout the distribution system, the LVVWD is scheduling replacement of older sections of pipeline based upon leak incidence, breakage history and direct assessments. Addressing these issues systematically and proactively is critical given the implications of a prolonged service interruption for residential and commercial customers. Over the next decade, the LVVWD projects pipeline replacement costs of \$130 million, with an additional \$70 million required for service lateral replacements.

Valves

Most people are familiar with the water valves used in their landscape irrigation system. Within the context of a community water system, valves serve much the same function, but on a far larger scale—allowing water to be quickly shut off or rerouted in the event of a pipeline break or other failure. Given the importance of an uninterrupted water supply in this desert community, the ability to isolate a failed pipeline or appurtenance does more than simply reduce water loss. It also expedites the repair or replacement of the faulty component, minimizing the duration of service interruptions. Operations crews work to ensure that

the system's approximately 120,000 valves are maintained in working condition, "cycling" them periodically to prevent seizing and replacing them as necessary. Valves are also systematically changed out when the water main they serve is replaced. As a result of these efforts, the average elapsed time between notification of a pipeline break and shutdown is less than one hour.

Valves associated with large-diameter pipelines are housed in below-ground concrete structures called vaults; within the District's service area, there are approximately 2,300 vaults, which allow working access to underground equipment for testing, maintenance and replacement without excavating streets or private property. There are two categories of vaults: system vaults and meter vaults. System vaults house the isolation valves and are installed in public rights-of-way. Meter vaults, which house equipment used for accounts with meters sized 3" and larger, are located on individual properties. While both types of vaults are structurally designed to withstand traffic and soil loadings, they do have a finite service life. Inspections are conducted on a three-year cycle, with repair/replacement conducted as warranted by conditions.

On average, the District anticipates the need to replace 240 valves and execute 40 vault rehabilitation projects per year, in addition to "cycling" nearly 10,000 valves annually to ensure that they remain functional. The total cost associated with these activities is cumulatively projected at \$22.5 million during the next decade.

Meters

In the early days of the District, the introduction of meters to measure water use was controversial, which is not surprising given that the average person used more than 600 gallons per day. Today, our community is among the world's leaders in water conservation, and meters are the foundation of a system that rewards efficiency by directly linking costs with water consumption. In addition to providing an equitable way to share costs for both the water and the infrastructure necessary to deliver it, metering encourages water efficiency. Allowing customers to track their water consumption is one of the tools Southern Nevada has used to cumulatively save more than half a trillion gallons of water during the current Colorado River drought.

The LVVWD is responsible both for installing meters at new services and for maintaining approximately 375,000 water meters already installed in the LVVWD service area. There are currently 11 different meter sizes in the system, ranging from the 5/8" units that serve many homes to 12" meters that support large-scale water users such as resort properties. New technology allows meter reading to be performed remotely, saving on labor costs.

However, as with all mechanical devices, meters have a finite service life and must be replaced periodically.



Image: Valve/Vault Repair

Additionally, because meter technology has changed significantly over time, many meters—particularly large meters serving businesses—can no longer be repaired because the parts have become obsolete and are no longer

manufactured. As meters age, they can begin to under-report usage, resulting in customers using more water than is accounted. Potential revenue loss associated with this is estimated to be as much as \$1 million annually.

To address failing meters, the District has implemented a Preventative Maintenance Program to replace aging metering equipment. In addition to ensuring that customers' bills are commensurate with their demand, replacing high-volume meters with new technology—such as turbine meters—mitigates pressure loss, improving those properties' level of service. The LVVWD anticipates that costs associated with this program will be approximately \$3.25 million annually over the next decade. A portion of those outlays will be recovered as those customers' water use is more accurately billed through the new meters.

Water Quality Controls

Although water delivered to the District from the Southern Nevada Water Authority and groundwater wells has been treated and tested to ensure it meets all state and federal health standards, the integrity of customers' drinking water must be maintained and carefully monitored all the way to the tap. For instance, chlorine levels dissipate over time, requiring periodic rechlorination to prevent bacteria from entering the water. Conversely, levels of chlorination byproducts—which themselves can have harmful effects—must be carefully managed.

To maintain water quality in the distribution system, the District operates scores of sampling stations, from which more than 30,000 samples are drawn annually for analysis. Additionally, the centralized Supervisory Control and Data Acquisition (SCADA) center allows operators to monitor the water system 24 hours a day, including the use of in-line sensors to detect subtle changes in water quality.

Costs associated with this critical function are relatively modest. The high-tech SCADA center, for instance, is projected to require approximately \$6 million in upgrades over the planning horizon—much of it associated with upgrades to rapidly-advancing computer hardware and software. Other investments in water quality are embedded in broader facility maintenance initiatives that cover security enhancements and a host of other water quality protection-oriented projects.



Image: Supervisory Control and Data Acquisition (SCADA) center.

Groundwater Wells

Originally the sole source of water for Las Vegas residents, groundwater today represents about 10 percent of the District's supply. Despite its relatively modest role as a resource, groundwater is integral to meeting summer peak demand. The ability to supplement water from Lake Mead with this renewable supply reduces the strain on the region's water treatment facilities and extends our community's Colorado River allocation. Additionally, wells—which can be operated if necessary by generators—represent an excellent emergency water source.

To prevent adverse hydrologic impacts associated with withdrawals, groundwater pumping is distributed through more than 70 wells, largely located in the central and western parts of the Las Vegas Valley. Some of these wells are also used to store water saved through the community's successful conservation efforts; by reversing the powerful pumps, water can be injected into the aquifer for storage and future use.

A well system is comprised of two major components: the pumping equipment, and the wellbore itself. The service life expectancy of a wellbore can vary significantly depending upon its composition. Newer



Image: LVVWD Groundwater Well window.

wells have an expected lifespan of 75 years, while older wells typically last between 40 and 60 years. Pumping equipment has a far shorter service life, rarely exceeding 13 years. Technicians monitor pumping efficiency to determine the optimal replacement or refurbishment

Over the next 10 years, 13 wellbores will require significant rehabilitation or redrilling, while five well pumps require replacement or rebuilding annually. During the 10-year planning horizon, the District anticipates that well- and pump-related costs will be approximately \$15.6 million.

Facilities and Capital Improvements

Treating and delivering water requires a tremendous amount of electrical energy; from pumping stations and reservoirs to well facilities and the LVVWD's main campus, maintaining the reliability of the power supply is critical to the agency's operations. This entails assessing and servicing transformers and electrical panels throughout the valley. In support of its sustainability initiatives, the LVVWD also operates several solar photovoltaic generation facilities, which are co-located with existing infrastructure and provide electrical power to support operations.

Information systems also play a crucial role in ensuring that the community's water supply remains both reliable and safe. As noted above, the SCADA control center—which monitors water quality and production levels in virtually real-time—relies upon an extensive communications network. In addition, electronic facility intrusion detection and cyber-security are central to the ongoing protection of the community's water system.

The District maintains a fleet of more than 600 automotive vehicles and a similar number of heavy machines, including cranes, used to support facility maintenance and replacement, respond to emergency service outages, and conduct routine functions like valve cycling and meter reading. This award-winning fleet is housed at the District's main campus on Valley View Boulevard, which also serves as the base for the agency's customer service center,

equipment warehouse, fleet maintenance center, administrative offices and other core functions. This 300,000-square-foot complex encompasses numerous buildings with all of the associated electrical, HVAC, communications and office infrastructure, and equipment.

Security, safety and fleet-related expenditures are projected at approximately \$3.9 million annually over the next decade. Costs associated with electrical, telemetry and other related infrastructure is budgeted at \$3.45 million per year over the next 10 years, with an additional \$2.7 million annually for repair, replacement, and upgrades to infrastructure and equipment housed at the primary campus.

Asset Management Summary

A summary of forecasted Asset Management activities and associated costs over the 10-year planning horizon is detailed in Figure 1.6. Costs are represented in aggregate; however, LVVWD work efforts will be executed in a phases based on asset assessment results and need. Proposed expenditures to support this work will be presented to the Board of Directors for consideration and authorization as part of the annual budget process.

Figure 1.6: Projected Asset Management Activity and Cost by Asset Type

ACTIVITY	10-YEAR	PERCENTAGE
Meter Program	\$32.4 million	8%
Vault Program	22.5 million	6%
Service Laterals	70.0 million	18%
Pipeline Rehabilitation and Replacement	130.0 million	33%
Facilities Improvements	27.0 million	7%
SCADA	6.0 million	2%
Pump Stations	6.7 million	2%
Reservoirs	4.65 million	1%
Wells	15.6 million	4%
Reclaimed Water	1.7 million	<1%
Fleet, Safety and Security	39.3 million	10%
Misc. Capital	34.5 million	9%
TOTAL	\$390.3 million	

CAPITAL IMPROVEMENT PLAN

WATER QUALITY

The District is responsible for ensuring that municipal water supplies meet strict state and federal health standards. To accomplish this, the agency collects more than 33,000 water samples a year and analyzes them for more than 100 regulated and unregulated contaminants. The instrumentation used to test water quality can detect some compounds at one part per trillion, the equivalent of one teaspoon of water in 2,100 Olympic-size swimming pools. Additionally, the LVVWD's high-tech SCADA operations center uses advanced instrumentation to detect minute changes in water quality, providing a greater degree of protection.

To support its mission of providing customers with a safe, reliable water supply, the District works closely with the State of Nevada to identify and reduce any potential vulnerabilities to water contamination, including conditions known as backsiphonage or backpressure, more commonly referred to as backflow. This occurs when negative pressure in the system causes water to reverse its flow. There are a number of situations that can potentially cause this to occur. For example, a sudden decrease of water pressure due to a main break or a significant draw on hydrants for firefighting efforts can potentially cause backflow conditions. When this occurs, water from an individual property's plumbing system can be drawn back into the public portion of the water distribution network.

To prevent this from occurring, the State of Nevada in the mid-1990s began requiring the installation of backflow prevention devices on all new properties except single-family homes. These valve-like devices protect the community's drinking water system by preventing water from being siphoned back into water mains from private properties. This mandatory program is managed by the Nevada Division of Environmental Protection and requires that all backflow devices be tested annually by a certified technician.

System Needs

Approximately 35,000 meters within the District's service area require backflow protection. To fulfill state requirements, the District prioritized backflow installations based on their degree of risk to the system and has begun systematically retrofitting properties that require backflow protection. An annual cost of \$10 million is needed over the 10-year planning horizon to implement its backflow retrofit program. The cost of individual retrofits varies by meter size and range from approximately \$3,000 for small meters to more than \$33,000 for 10" meters. The projected cost is anticipated to address approximately one-third of outstanding retrofit needs over the next decade. The quantity of devices involved and labor-intensive nature of the installations precludes a more aggressive approach.



Image: Commercial Backflow Assembly

CAPITAL IMPROVEMENT PLAN

NEW FACILITIES

Since its inception, the District has worked to develop, operate and maintain its water distribution system in a manner that meets the needs of the community. This includes ensuring the reliable delivery of high-quality water to all customers. Over the decades, this has required the agency to install thousands of miles of water mains, hundreds of millions of gallons worth of reservoir storage and massive pumping stations necessary to move water around the valley.

When the recession that began in 2007 brought commercial and residential development to a virtual standstill, the District quickly responded by curtailing facility expansion and reliability enhancement projects, and by deferring many of the major asset management needs discussed in the preceding section. In total, hundreds of millions of dollars' worth of construction activities were postponed, which increased the strain on the community's water system. Given the uncertain financial climate, it was determined this action to be in the best interest of both ratepayers and the organization.

System Needs

Today, development activity has resumed in Southern Nevada, although certainly not to the degree experienced in the decades prior to the recession. Accordingly, the LVVWD has resumed planning activities associated with expansion of the community's water delivery system. This action is necessary for the organization to fulfill its mission of providing a safe, reliable water system to all municipal water customers in its service area.

Below is a summary of three major system improvement projects planned for development within the 10-year planning horizon. None of these projects are being constructed exclusively for prospective development; rather, all simultaneously benefit existing customers while facilitating access to the municipal water supply for planned developments.

NEW FACILITIES

Northwest Major Facilities (NW)

Within the northwest portion of the Las Vegas Valley, approximately 21,000 customers in three separate pressure zones are serviced by a single pumping

station and a single reservoir; a major development currently under construction is anticipated to bring that number to nearly 30,000 customers. In the event of a service interruption, current reservoir storage is inadequate to support customers for extended periods of time. New facilities are needed to address the strain on existing infrastructure and to reduce residents' vulnerability to service interruptions associated with scheduled or emergency outages.

New facilities planned for construction include the development of two new water storage reservoirs—one with a capacity of 10 million gallons, the other with a capacity of 5 million gallons—along with two pumping stations and associated appurtenances. The estimated cost of these improvements is \$61.8 million.

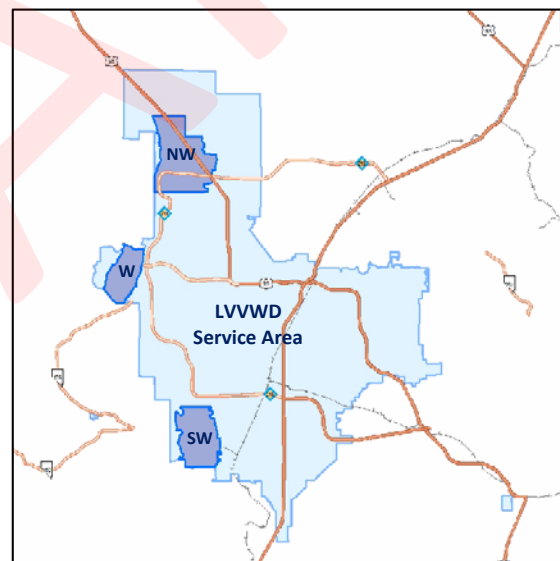


Figure 1.7: Customers to be served by new facilities

West Major Facilities (W)

Unlike the vast majority of customers in the District's service area, residents and businesses in this portion of the valley depend on direct delivery for their water service. As discussed previously, direct delivery is less reliable and impacts could arise in the event of scheduled and unanticipated outages, such as a water main break. Without storage or other redundant systems, customers could experience immediate service impacts.

New facilities planned for construction in this service area include the development of a 10-million-gallon water storage reservoir, a pumping station and associated appurtenances. Constructing this long-planned but deferred reservoir will reduce vulnerability and enhance overall system reliability. Additionally, it will provide additional capacity and emergency storage for any additional residential or commercial expansion that may occur in the area. The estimated cost of these improvements is \$30.1 million.

Southwest Major Facilities (SW)

Within the southwest portion of the valley, there are more than 6,600 customers served by a single water storage reservoir and pumping station. These facilities are located approximately 3 miles away from

their furthestmost service connection. In the event of a service interruption, current reservoir storage is inadequate to support customers for extended periods of time. New facilities are needed to address the strain on existing infrastructure and reduce residents' vulnerability to service interruptions associated with scheduled or emergency outages.

New facilities planned for construction include a 10-million-gallon water storage reservoir, pumping station and associated appurtenances. In addition to providing an emergency water supply in close proximity to customers, the proposed reservoir will alleviate pressure variability issues associated with the current engineering configuration. This benefits existing customers not only in terms of reliability, but in service quality as well. The estimated cost of these improvements is \$33.8 million.

Figure 1.8: Projected Activity and Cost by Asset Type

ACTIVITY	COST
Northwest Facilities	
5 MG Reservoir & Associated Inlet/Outlet Pipeline	\$10.6 million
10 MG Reservoir & Associated Inlet/Outlet Pipeline	26.0 million
Pumping Station & Discharge Pipeline	13.6 million
Pumping Station & Discharge Pipeline	10.9 million
Pressure Reducing Valves	700,000
<i>Subtotal</i>	<i>\$61.8 million</i>
Summerlin Facilities	
10 MG Reservoir & Inlet/Outlet Pipeline	\$22.5 million
Pumping Station	7.6 million
<i>Subtotal</i>	<i>\$30.1 million</i>
Southwest Facilities	
10 MG Reservoir	\$20.8 million
Pumping Station	12.3 million
Pressure Reducing Valves	700,000
<i>Subtotal</i>	<i>\$33.8 million</i>
TOTAL	\$125.7 million

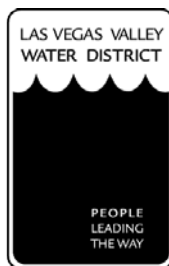
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SECTION 7

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LAS VEGAS VALLEY WATER DISTRICT

FISCAL YEAR 2017-18

OPERATING AND CAPITAL BUDGET

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Debt Management Policy

In Accordance With
NRS 350.013



LAS VEGAS VALLEY
WATER DISTRICT

June 30, 2017

Las Vegas Valley Water District
Operating and Capital Budget
Debt Management Policy
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Debt Management Policy

NRS 350.013 Subsection 1(c)

Introduction

The Las Vegas Valley Water District (LVVWD) is a quasi-municipal corporation created by the State of Nevada (State) pursuant to a Special Act (the Act) of the Legislature in March 1947. The Las Vegas Valley Water District Act is available online at:

<https://www.leg.state.nv.us/SpecialActs/55-LasVegasValleyWater.html>

The LVVWD was created for the purpose of obtaining and distributing water, primarily in the Las Vegas Valley, which includes the metropolitan area of Clark County (County) and the City of Las Vegas. Because the County Board of Commissioners serves as the LVVWD Board of Directors (Board), the LVVWD is included as a blended component unit within the County's Comprehensive Annual Financial Report. A component unit can be a legally separate organization for which the elected officials of the primary government are financially accountable. For purposes of this report, the LVVWD alone is the reporting entity.

The LVVWD's current debt structure is presented in the Appendix. The LVVWD has three options to issue debt;

- The LVVWD can issue debt in its own name. Standard & Poor's rates the LVVWD bonds "AA", and Moody's Investors Service rates them "Aa1". This rating makes the LVVWD Bonds

"high investment" grade.

- The LVVWD can issue debt through the Clark County Bond Bank. Standard & Poor's rates County bonds "AA+", and Moody's Investors Service rates them "Aa1".
- The LVVWD can issue debt through the State of Nevada (State) Bond Bank. Standard & Poor's rates State bonds "AA", and Moody's Investors Services rates them "Aa2".

By contract, the LVVWD operates the Southern Nevada Water Authority (SNWA), and the LVVWD has issued debt for the SNWA, which is additionally secured by the SNWA Pledged Revenues. See the Appendix for a listing of the LVVWD debt secured by the LVVWD revenues, and debt the LVVWD has issued for the SNWA, additionally secured by the SNWA Pledged Revenues.

The proceeds of debt issued by the LVVWD is restricted to purchase and/or construction of capital assets. The LVVWD capital plan is a phased construction program outlining current construction expenditures, as well as projected future expenditures for construction of capital assets. In addition to issuing debt to fund the purchase and/or construction of capital assets, the LVVWD also budgets a portion of operating revenues to fund capital assets on a pay-as-you-go basis.

This document is not intended to review the LVVWD's total financial position. In addition to being required by state law, this analysis of the LVVWD's debt position is important for capital asset planning purposes, and to determine if the LVVWD rates and charges are sufficient to cover current and future

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operating expense and debt service. Decisions regarding the use of debt will be based in part on the long-term needs of the LVVWD and the amount of equity (cash) dedicated in a given year to capital expenditures.

Listed below are excerpts from Nevada Law which requires local governments to submit a debt management policy:

(1) Except as otherwise provided in this section, on or before August 1 of each year, the governing body of a municipality which proposes to issue or has outstanding any general obligation debt, other general obligations or special obligations, or which levies or proposes to levy any special elective tax, shall submit to the department of taxation and the commission:

(c) A written statement of the debt management policy of the municipality, which must include, without limitation;

(1) A discussion of its ability to afford existing general obligation debt, authorized future general obligation debt and proposed future general obligation debt;

(2) A discussion of its capacity to incur authorized and proposed future general obligation debt without exceeding the applicable debt limit;

(3) A discussion of its general obligation debt that is payable from property taxes per capita as compared with such debt of other municipalities in the state;

(4) A discussion of its general obligation debt that is payable from property taxes as a percentage of assessed valuation of all taxable property within the boundaries of the municipality;

(5) Policy regarding the manner in which the municipality expects to sell its debt;

(6) A discussion of its sources of money projected to be available to pay existing general obligation debt, authorized future general obligation debt and proposed future general obligation debt; and

(7) A discussion of its operational costs and revenue sources, for the ensuing 5 fiscal years, associated with each project included in its plan for capital improvement submitted pursuant to paragraph (c), if those costs and revenues are expected to affect the tax rate.

Affordability of Debt

Response to NRS 350.013 1(c):

(1) A discussion of its ability to afford existing general obligation debt, authorized future general obligation debt and proposed future general obligation debt; and

(6) A discussion of its sources of money projected to be available to pay existing general obligation debt, authorized future general obligation debt and proposed future general obligation debt

Existing, Authorized and Proposed General Obligation/Revenue Supported Bond Indebtedness Supported by Water System Pledged Revenues (“LVVWD Water Bonds”).

The LVVWD Water Bonds constitute direct and general obligations of the LVVWD, and the full faith and credit of the LVVWD is pledged to the payment of principal and interest due thereon. The LVVWD Water Bonds are payable from general property taxes on all taxable property in the LVVWD service area, subject to Nevada constitutional and statutory limitations on the aggregate amount of property taxes. The LVVWD’s Water Bonds are secured additionally by

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certain pledged revenues described below. The LVVWD has never levied a property tax because the LVVWD revenues have always been sufficient to pay debt service on all of the LVVWD's bonds and obligations secured by such revenues.

In any year in which the total property taxes levied within the LVVWD service area by all applicable taxing units (e.g. the State of Nevada, Clark County, the Clark County School District, any city, or any special district including the LVVWD) exceed such property tax limitations, the reduction to be made by those units must be in taxes levied for purposes other than the payment of their bonded indebtedness, including interest on such indebtedness.

Nevada statutes provide that no act concerning the LVVWD Water Bonds or their security may be repealed, amended, or modified in such a manner as to impair adversely the Bonds or their security until all of the Bonds have been discharged in full or provision for their payment and redemption has been fully made.

The payment of the LVVWD Water Bonds is not secured by an encumbrance, mortgage or other pledge of property of the LVVWD, and no property shall be liable to be forfeited or taken in payment of the LVVWD Water Bonds, provided the payment of the bonds is secured by the proceeds of general (*property*) taxes and the LVVWD's revenues, which are pledged for the payment of the Bonds. Furthermore, section 350.606 of the Bond Act provides that no recourse shall be had for the payment of principal or interest, or any prior redemption premiums due in connection with municipal securities such as the LVVWD Water

Bonds, or for any claim based thereon or otherwise upon the resolution authorizing their issuance, against any individual trustee, officer, employee or other agent of the LVVWD, past, present or future, either directly or indirectly by virtue of any statute or rule of law.

Pledged Revenues. The LVVWD Water Bonds are additionally secured by the revenue received from the sale and distribution of water, connection charges or otherwise derived from the works or property of the LVVWD, after payment of reasonable and necessary costs of the operation and maintenance expenses of the water system (Water System) and the general expenses of the LVVWD (Net Pledged Revenues). Operation expenses generally include the costs of the purchase of water from the SNWA, power and pumping, purification, transmission and distribution, and customer accounting and collection.

The LVVWD Act authorizes the Board to establish, from time to time, reasonable rates and charges for the products and services furnished by the LVVWD's works and properties. Subject to the limitation that rates and charges must be reasonable, the Board must fix rates and charges which will produce sufficient revenues to pay (1) operating and maintenance expenses of the Water System, (2) the general expenses of the LVVWD, and (3) the principal of and interest on the LVVWD's first lien bonds and second lien bonds (the "Superior Lien Bonds") including any required sinking fund payments, and (4) debt service on all other securities payable from Net Pledged Revenues. It is the general intent of the LVVWD Act and policy of the

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Board that rates and charges be adequate to provide for all costs and that reliance on property taxes is to be avoided. There has, historically, been no reliance on property taxes to support the LVVWD's operations and there is no current plan or intention to call upon property taxes to support the LVVWD's financial requirements.

Authorized and Proposed Future LVVWD Water Bonds. During fiscal year 2014-15, the LVVWD issued a \$20 million new money bond as collateral to the State of Nevada for a State Revolving Fund (SRF) Loan. In fiscal year 2015-16, the LVVWD issued a \$15 million new money bond as collateral to the State for a SRF loan. In fiscal year 2016-17, the LVVWD issued a \$15 million new money bond as collateral to the State for a SRF loan. The LVVWD has three separate SRF loans which cumulatively total \$50 million. The SRF Loans are funded on a reimbursement basis. By June 30, 2017, the LVVWD was reimbursed approximately \$20 million. The remainder of the \$50 million in SRF loans are projected to be reimbursed in the next two fiscal years. With each SRF loan, until the principal amount has been completely reimbursed, the LVVWD is obligated to pay only interest on the amount reimbursed. After the principal amount has been completely reimbursed, the LVVWD will begin making equal semiannual payments, amortized over the remainder of each SRF Loan's 20 year loan term.

The LVVWD intends to issue approximately \$100 million in new money debt in fiscal year 2017-18, primarily to fund the LVVWD's Capital Improvement Program (CIP). In addition, the bond market is constantly monitored for savings opportunities via

refunding or restructuring existing debt issues.

Bonded Indebtedness. The following table sets forth the LVVWD's outstanding general obligation bonded indebtedness supported by water system pledged revenues as of June 30, 2017.

Debt Service Requirements. See Appendix for a table showing the debt service to maturity on the LVVWD Water Bonds.

Property Tax Rate Impact. Principal and interest on the LVVWD Water Bonds is payable from the Water System pledged revenues. There will be no direct impact on the property tax rate as long as pledged revenues are sufficient to pay debt service on the outstanding bonds. See Appendix for a table illustrating the LVVWD's historic pledged revenues and debt service coverage.

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EXISTING GENERAL OBLIGATION INDEBTEDNESS
SUPPORTED BY WATER SYSTEM PLEDGED REVENUES
Las Vegas Valley Water District, Nevada
As of June 30, 2017

Description	Issued	Original Amount	Outstanding
LVVWD 2008A	Feb-08	\$ 190,760,000	\$ 3,990,000
LVVWD 2008 Clean Energy	Jul-08	2,520,000	1,008,000
LVVWD 2010A BABS	Jun-10	75,995,000	75,995,000
LVVWD 2010B	Jun-10	31,075,000	27,900,000
LVVWD 2011D	Oct-11	78,680,000	58,010,000
LVVWD 2012A	Sep-12	39,310,000	39,310,000
SRF Collateral Loan #1	Dec-14	20,000,000	20,000,000
LVVWD 2015A	Jun-15	172,430,000	148,620,000
LVVWD 2016B	Apr-16	108,220,000	105,530,000
LVVWD 2016D	Jul-16	125,650,000	121,830,000
SRF Collateral Loan #2	Sep-16	15,000,000	15,000,000
SRF Collateral Loan #3	May-17	15,000,000	15,000,000
LVVWD 2017A	Mar-17	130,105,000	130,105,000
			<u>\$ 762,298,000</u>

SOURCE: Las Vegas Valley Water District

Existing, Authorized and Proposed General Obligation Indebtedness Supported by the SNWA Pledged Revenues ("SNWA Water Bonds").

The LVVWD has issued general obligation bonds for the SNWA. The LVVWD's SNWA revenue backed bonds constitute direct and general obligations of the LVVWD, and the full faith and credit of the LVVWD is pledged to the payment of principal and interest due thereon. The LVVWD's SNWA water bonds are payable from property taxes on all taxable property within the LVVWD service area, subject to Nevada constitutional and

statutory limitations on the aggregate amount of property taxes. The SNWA Bonds are additionally secured by certain pledged revenues (the "SNWA Pledged Revenues") as set forth in NRS 350.13 (4). The SNWA Pledged Revenues currently consist of fees and charges for water imposed by the SNWA upon its wholesale water customers (the LVVWD, Henderson, North Las Vegas, and Boulder City). Under the SNWA Revenue Act, the SNWA is required to maintain its fees and charges for water at a level sufficient to allow it to meet its obligations to the LVVWD to pay the LVVWD's SNWA Revenue Backed Bonds.

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Nevada statutes provide that no act concerning the LVVWD's SNWA Revenue Backed Bonds or their security may be repealed, amended, or modified in such a manner as to impair adversely the Bonds or their security until all of the Bonds have been discharged in full or provision for their payment and redemption has been fully made.

The payment of the LVVWD's SNWA Revenue Backed Bonds is not secured by an encumbrance, mortgage or other pledge of property of the SNWA (other than the SNWA Pledged Revenues) and no property shall be liable to be forfeited or taken in payment of the LVVWD's SNWA revenue backed bonds, provided the payment of the Bonds is secured by the proceeds of general (property) taxes and the SNWA Pledged Revenues, which are pledged for the payment of the Bonds. Furthermore, section 350.606 of the Bond Act

provides no recourse shall be had for the payment of the principal of, interest on, or any prior redemption premiums due in connection with municipal securities such as the LVVWD's SNWA revenue backed bonds, or for any claim based thereon or otherwise upon the resolution authorizing their issuance, against any individual trustee, officer, employee or other agent of the LVVWD, past, present or future, either directly or indirectly by virtue of any statute or rule of law.

The LVVWD has never levied a property tax to pay the LVVWD's SNWA revenue backed bonds because SNWA Pledged Revenues have always been sufficient to pay debt service on all of the LVVWD's bonds and obligations secured by such revenues.

The following table sets forth the LVVWD's bonds issued for the SNWA as of June 30, 2017.

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EXISTING GENERAL OBLIGATION INDEBTEDNESS
SUPPORTED BY SNWA PLEDGED REVENUES
Las Vegas Valley Water District, Nevada
As of June 30, 2017

Description	Issued	Original Amount	Outstanding
<u>OUTSTANDING</u>			
SNWA Tax-Exempt Commercial Paper	Mar-04	\$ 400,000,000	\$ 400,000,000
SNWA 2008B	Feb-08	171,720,000	97,470,000
SNWA 2009A BAB	Aug-09	90,000,000	90,000,000
SNWA 2009B	Aug-09	10,000,000	835,000
SNWA 2009D	Dec-09	71,965,000	40,990,000
SNWA 2011A	May-11	58,110,000	49,355,000
SNWA 2011B	Oct-11	129,650,000	110,955,000
SNWA 2011C	Oct-11	267,815,000	220,825,000
SNWA 2012B	Jul-12	360,000,000	339,555,000
SNWA 2015 Refunding	Jan-15	332,405,000	332,405,000
SNWA 2015B	Jun-15	177,635,000	166,960,000
SNWA 2015C	Jun-15	42,125,000	39,485,000
SNWA 2016A	Apr-16	497,785,000	492,255,000
SNWA 2017B Refunding	Mar-17	22,115,000	22,115,000
			<u>\$ 2,403,205,000</u>

SOURCE: Las Vegas Valley Water District

Debt Service Requirements. See Appendix for a table that shows the debt service to maturity for the LVVWD's SNWA revenue backed bonds.

Property Tax Rate Impact. Principal and interest on the LVVWD's SNWA revenue backed bonds is payable from the SNWA Pledged Revenues. There will be no direct impact on the property tax rate as long as pledged revenues are sufficient to pay debt service on the outstanding bonds.

Debt Capacity

Response to NRS 350.013 1(c):

(2) A discussion of its capacity to incur authorized and proposed future general obligation debt without exceeding the applicable debt limit.

The LVVWD does not have a specific debt limit dollar amount threshold. The LVVWD has no power to incur debt in excess of express authorization granted by the Nevada Legislature in Chapter 167, Statutes of Nevada 1947, as amended. The LVVWD's ability to

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issue debt is a function of its capital needs and revenues generated from LVVWD facilities.

Debt Comparison (per capita and assessed valuation)

Response to NRS 350.013 1(c):

(3) A discussion of its general obligation debt that is payable from property taxes per capita as compared with such debt of other municipalities in the state.

(4) A discussion of its general obligation debt that is payable from property taxes as a percentage of assessed valuation of all taxable property within the boundaries of the municipality.

Currently, the LVVWD does not have any outstanding bonds payable directly from property taxes. The existing LVVWD Water Bonds and SNWA Water Bonds are payable from pledged water revenues.

Policy Statement for Sale of Debt

Response to NRS 350.013 1(c):

(5) Policy regarding the manner in which the municipality expects to sell its debt.

There are two ways bonds can be sold: competitive (public) or negotiated sale. NRS 350.105 to 350.195 sets forth the circumstances under which a local government will sell its bonds at a competitive or negotiated sale. The LVVWD will follow the statutory requirements in determining the method of sale for its bonds. The Government Finance Officers Association also urges

“competitive sales should be used to market debt whenever feasible.”

Competitive and negotiated sales provide for one or more pricings, depending upon market conditions or other factors. Either method can provide for changing sale dates, issue size, maturity amounts, term, bond features, etc. The timing of any sale is generally related to the requirements of the Nevada Open Meeting Law.

Competitive Sale.

In a competitive sale, all underwriter(s) are invited to submit a proposal to purchase an issue of bonds. The bonds are awarded to the underwriter(s) presenting the best bid according to stipulated criteria set forth in the notice of sale. The best bid is determined based on the lowest overall interest rate.

Negotiated Sale.

In a negotiated sale, an exclusive arrangement is made between the issuer and an underwriter or underwriting syndicate. At the end of successful negotiations, the issue is awarded to the underwriter.

A negotiated underwriting may be considered based upon one or more of the following criteria:

- Extremely large issue size.
- Complex financing structure (i.e. new security feature, variable rate financings, new derivatives, and certain revenue issues, etc.) which provides a desirable benefit to the LVVWD.

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- Difficulty in marketing due to credit rating or lack of bids.
- Private placement, or sale to a municipality, to the state, or a federal agency.
- Other factors which lead the LVVWD to conclude that competitive sale would not be effective, including market conditions.

It is the policy of the LVVWD to provide minority owned business enterprises, women owned business enterprises and all other business enterprises an equal opportunity to participate in the performance of all LVVWD contracts. At competitive sale, bidders are requested to assist the LVVWD in implementing this policy by taking all reasonable steps to ensure all available business enterprises, including minority and women business enterprises, have an equal opportunity to participate in the LVVWD contracts.

Underwriter Selection for Negotiated Sale.

- The Chief Financial Officer will establish a list of pre-qualified underwriters when a negotiated sale is anticipated. The list will be based, in part, on the firms who have submitted bids for LVVWD or County competitive issues over the prior five years. In addition, the list may contain firms that have participated in other financings in Nevada (in competitive bids or negotiated sales), demonstrated ability and interest in LVVWD financings, or have submitted financing ideas and concepts for

LVVWD's consideration over the past five years.

- The Chief Financial Officer will distribute, or request that LVVWD's Financial Advisors distribute on behalf of LVVWD, a Request for Proposal (RFP) to underwriting firms on the list. The RFP will include, at a minimum, information regarding the firm's qualifications, staffing and personnel assigned to LVVWD, fees (including takedown and management fee - if any), debt structuring, marketing, expected yield, and credit strategies. Before selecting a firm or firms, the Chief Financial Officer may, but is not required, conduct interviews of firms who submit responses to the RFP.
- The selection of underwriter(s) will be based on the overall quality of the response, qualifications of the firm, demonstrated success in pricing bonds, understanding of LVVWD's objectives, qualifications of the banking and underwriting team to be assigned to LVVWD, fees, applicability of the marketing and credit strategy, and relevance and quality of structuring proposals.
- The Chief Financial Officer will designate the senior manager and book running senior manager if there are co-senior managers, as well as the co-managers from the firms selected through the RFP process. The Chief Financial Officer will determine the length of time that the selected firms will serve as the syndicate for LVVWD. Such a selection can be for a single transaction or multiple transactions,

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but the syndicate will be reviewed and a new RFP will be issued at intervals not greater than every five years.

Syndicate Policies.

- The Chief Financial Officer will establish designations and liabilities. At a minimum, in a syndicate with three or more firms serving as co-managers, the designation rules will include a minimum of three firms to be designated, with a minimum of 5 percent to any firm. The Chief Financial Officer will also determine the maximum amount to be designated to single firm (typically 50 percent, but this can be higher or lower, depending upon the size of the syndicate and the par amount of the transaction.) In addition, the Chief Financial Officer will determine the appropriate allocation of liabilities and equivalent share of compensation for group net orders.
- Prior to the sale of the bonds, the senior book running manager will submit a Syndicate Policy Memo to the Chief Financial Officer for approval. At a minimum, the Syndicate Policy Memo will include:
 - Average Takedown and takedown by maturity.
 - Details of Underwriter expenses, including the cost of Underwriter's Counsel.
 - Designation rules.
 - Liabilities.
 - Order priority (unless otherwise agreed by the Chief Financial Officer, the order priority will be

Nevada Retail, National Retail, Group Net or Net Designated, Member).

- Definition of a retail order (unless otherwise determined by the Chief Financial Officer) will include orders placed by individuals, bank trust departments, financial advisors and money managers acting on behalf of individuals with a maximum of \$1 million per account.
- Assignment of SDC Credit.
- The Syndicate Policy Memo may include other relevant information (e.g., management fee or other fees, description of the sale timeline, etc.).

Selling Group.

The Chief Financial Officer may establish a selling group to assist in the marketing of the bonds as warranted (based on market conditions and size of the transaction.)

Allocation of Bonds.

The book-running Senior Manager is responsible for allotment of bonds at the end of the order period. The Chief Financial Officer and LVVWD's Financial Advisors will review allotments to ensure the senior manager distributes bonds in a balanced and rational manner.

Operation Costs and Revenue Sources for Projects in Capital Improvement Plan

Response to NRS 350.013 1(c):

(7) A discussion of its operational costs and revenue sources, for the ensuing 5 fiscal years, associated with each project included in its plan for capital improvement submitted pursuant to paragraph (c), if those costs and revenues are expected to affect the tax rate.

As illustrated in the Net Pledged Revenues table in the Appendix of this document, operational costs are funded with water revenues. It is the LVVWD's intent to finance future operational costs with water revenues and will therefore have no effect on property taxes. New capital improvement projects will allow the LVVWD to expand the service area, thereby expanding the revenue base. New capital improvement projects will be funded with water revenues or bonds payable from water revenues.

Miscellaneous Items

Refundings.

A refunding is generally the underwriting of a new bond issue whose proceeds are used to redeem an outstanding issue. Key definitions are described as follows:

- **Advance Refunding** - A method of providing for payment of debt service on a bond until the first call date or designated call date from available funds. Advance refundings are done by

issuing a new bond or using available funds and investing the proceeds in an escrow account in a portfolio of U.S. government securities structured to provide enough cash flow to pay all debt service on the refunded bonds.

- **Current Refunding** - The duration of the escrow is 90 days or less.
- **Gross Savings** - Difference between debt service on refunded bonds less debt service on refunding bonds less any contribution from LVVWD's reserves or debt service fund.
- **Present Value Savings** - Present value of gross savings discounted at the refunding bond arbitrage yield to the closing date plus accrued interest less any contribution from LVVWD's reserves or debt service fund.

Prior to beginning a refunding bond issue the LVVWD will review an estimate of the savings achievable from the refunding. The LVVWD may also review a pro forma schedule estimating the savings assuming that the refunding is done at various points in the future.

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The LVVWD will generally consider refunding outstanding bonds if one or more of the following conditions exist:

- For advance refundings, present value savings are estimated to be at least 5 percent of the par amount of the refunded or refunding bonds (whichever is greater) when initially presented to the Board and escrow efficiency is at least 60 percent.
- Escrow efficiency is defined as net present value savings divided by the sum of net present value savings and negative arbitrage in the escrow.
- For current refundings, present value savings are at least 3 percent of the par amount of refunded or refunding bonds.
- The bonds to be refunded have restrictive or outdated covenants.
- Restructuring debt is deemed to be desirable.

The LVVWD may pursue a refunding not meeting the above criteria if:

- Present value savings exceed the costs of issuing the bonds and the date of the option to call is 3 years or less.

Debt Structure.

Maturity Structures. The term of the LVVWD debt issues will not extend beyond the useful life of the project or equipment financed. As appropriate, debt issued by the LVVWD should be structured to provide for level debt service. Deferring the repayment of principal should generally be avoided except in

instances where it will take a period of time before project or other revenues of the LVVWD are sufficient to pay debt service, or where the deferral of principal allows the LVVWD to achieve combined level debt service on all outstanding bonds.

Bond Insurance. The purchase of bond insurance may be considered as part of the structure of a bond issue. A bond insurance policy may be purchased by either an issuer or by an underwriter for either an entire issue or specific maturities to guarantee the payment of principal and interest. While this security provides a higher credit rating and thus a lower borrowing cost for an issuer, such cost savings must be measured against the premium required for such insurance. The decision to purchase insurance directly versus bidder's option is based on:

- Market volatility.
- Current investor demand for insured bonds.
- Level of insurance premiums.
- Ability of the LVVWD to purchase bond insurance from bond proceeds.

Bond insurance can be purchased directly by the LVVWD prior to the bond sale (direct purchase) or at the underwriter's option and expense (bidder's option).

When insurance is purchased directly by the LVVWD, the present value of the estimated debt service savings from insurance should be greater than the insurance premium. The bond insurance company will usually be chosen based on an estimate of the greatest net present value insurance benefit (present

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value of debt service savings less insurance premium).

Fixed and Variable Rate Debt

The LVVWD may issue fixed rate debt or variable rate debt, including (but not limited to) Commercial Paper, Variable Rate Demand Obligations, Index Bonds, or Extendible Commercial Paper.

- Fixed rate debt includes bonds that are issued for terms of 1 year to 30 years at a rate that does not change over the life of the bond.
- Variable rate debt includes debt that will pay an interest rate which is reset either daily, weekly or monthly. This rate may be based on a remarketing or on an index such as LIBOR or SIFMA. In most markets, the interest rate on variable rate debt will be lower than the interest rate on fixed rate debt since the interest rate is based on a shorter term. But, variable rate debt has more interest rate risk as the interest rate is not set for the life of the bonds. In times of market stress, short-term interest rates have suffered significant increases, albeit for short periods of time.

Since variable rate debt has more interest rate risk, the LVVWD will not issue more than 25 percent of its debt in the form of variable rate debt. The Chief Financial Officer, in consultation with the General Counsel and LVVWD's Financial Advisors, will determine the appropriate form of variable rate debt, subject to the approval of the Board of Trustees.

Financing Sources. The LVVWD will evaluate available State and County bond financing programs before choosing the financing source. The LVVWD will consider utilizing a State or County program if bonds can be sold by the State or County in a manner meeting the LVVWD's timing needs and if it is determined by the Chief Financial Officer that such program is the most cost-effective financing vehicle, and such determination is approved by the Board.

CHIEF FINANCIAL OFFICER INFORMATION

NRS 350.013 Subsection 1(e)

A statement containing the name, title, mailing address and telephone number of the chief financial officer of the municipality.

NAME: Brian Thomas
TITLE: Acting Chief Financial Officer
ADDRESS: 1001 South Valley View Boulevard
Las Vegas, NV 89153
TELEPHONE: (702) 822-8810

Appendix

Debt Service and Pledged Revenue Tables

1. Five Year Schedule of Debt Service Requirements
2. Combined Outstanding Debt Service Schedule
3. Net Pledged Revenues
4. Existing and Proposed Debt Service
5. Existing Debt Service by Company

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Five Year Schedule of Debt Service Requirements
As of June 30, 2017

Type of Debt	Fiscal Year				
	2017-18	2018-19	2019-20	2020-21	2021-22
G/O Revenue/LVVWD ¹	\$ 65,376,847	\$ 69,377,909	\$ 70,130,919	\$ 71,413,953	\$ 71,592,169
G/O Revenue/SNWA ²	\$573,923,863	\$169,544,013	\$169,467,840	\$171,582,398	\$172,009,269
Total ³	<u>\$639,300,711</u>	<u>\$238,921,922</u>	<u>\$239,598,760</u>	<u>\$242,996,351</u>	<u>\$243,601,438</u>

¹ This is debt service on \$762,298,000 existing outstanding principal balance of LVVWD debt secured by LVVWD water system revenues and assumes the issuance of \$100 million in new money debt in fiscal year 2017-18

² This is debt service on \$2,403,205,000 outstanding principal balance of LVVWD debt secured by SNWA pledged revenues in accordance with interlocal agreements.

³ Fiscal year 2017-18 debt service includes \$400,000,000 of tax-exempt commercial paper notes. We will most likely pay only the interest due on those notes when they mature and roll the principal into new commercial paper notes.

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Combined Schedule of Debt Service Requirements
As of June 30, 2017

Fiscal Year	Principal	Interest	Total
2018	\$ 501,651,115	\$ 137,649,596	\$ 639,300,711
2019	106,968,143	131,953,780	238,921,922
2020	112,210,074	127,388,685	239,598,760
2021	120,694,087	122,302,264	242,996,351
2022	126,837,493	116,763,944	243,601,438
2023	133,291,600	110,746,950	244,038,551
2024	139,588,659	104,474,996	244,063,656
2025	136,919,935	97,835,192	234,755,127
2026	143,767,703	91,114,533	234,882,236
2027	130,972,253	84,183,373	215,155,626
2028	90,983,889	78,308,960	169,292,849
2029	82,157,928	74,343,197	156,501,125
2030	85,204,703	70,558,142	155,762,845
2031	78,219,562	66,621,720	144,841,282
2032	98,522,872	63,027,322	161,550,193
2033	108,140,013	58,417,021	166,557,034
2034	113,386,388	53,372,437	166,758,825
2035	118,132,641	48,117,097	166,249,738
2036	123,070,735	42,678,979	165,749,714
2037	109,735,696	36,984,320	146,720,016
2038	137,895,711	31,669,098	169,564,809
2039	164,988,184	24,389,521	189,377,705
2040	63,790,655	14,988,606	78,779,261
2041	48,728,628	11,735,051	60,463,679
2042	51,107,637	9,358,192	60,465,829
2043	29,993,239	6,865,190	36,858,429
2044	31,496,022	5,362,407	36,858,429
2045	33,076,602	3,784,327	36,860,929
2046	34,730,627	2,127,052	36,857,679
2047	6,083,777	386,902	6,470,679
2048	3,156,429	78,911	3,235,340
Totals	\$ 3,265,503,000	\$ 1,827,587,766	\$ 5,093,090,766

Secured by:

LVVWD Water

Revenues	\$ 862,298,000	\$ 451,061,351	\$ 1,313,359,351
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SNWA Pledged

Revenues	\$ 2,403,205,000	\$ 1,376,526,415	\$ 3,779,731,415
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Net Pledged Revenues
For the Fiscal Years Ended June 30

Fiscal Year	2013-14	2014-15	2015-16	Budgeted 2016-17	Budgeted 2017-18
Revenues					
Operating Income	\$ 338,947,519	\$ 337,790,425	\$ 339,986,389	\$ 346,088,102	\$ 364,119,955
Facilities Connection Charges	11,049,850	17,657,015	13,239,500	17,834,027	15,620,696
Investment Income ¹	1,094,644	1,265,650	2,577,164	1,529,036	2,652,683
Total Revenues	351,092,013	356,713,090	355,803,053	365,451,165	382,393,334
Operating Expenses	252,968,239	245,997,419	243,312,822	260,824,174	269,136,510
Net Pledged Revenues	98,123,774	110,715,671	112,490,231	104,626,991	113,256,823
Annual Debt Service ²	63,155,932	63,164,124	58,809,008	59,678,956	65,376,847
Net Pledged Revenue After Debt Service	<u>\$ 34,967,842</u>	<u>\$ 47,551,547</u>	<u>\$ 53,681,223</u>	<u>\$ 44,948,034</u>	<u>\$ 47,879,976</u>
Debt Coverage Ratio	1.55	1.75	1.91	1.75	1.73

¹ Includes realized investment earnings on unrestricted assets only. Does not include unrealized gains or losses.

² LVVWD has issued debt for SNWA that is supported by a pledge of SNWA revenues. Debt service reported here is only for debt directly supported by LVVWD operating revenues. It does not include debt issued for SNWA and supported by SNWA pledged revenues.

**Las Vegas Valley Water District
Operating and Capital Budget
Debt Management Policy
Fiscal Year Ending June 30, 2018**

Existing and Proposed Debt Service

As of June 30, 2017

Existing Debt ¹				Proposed Debt \$50 Million SRF Program ²			
Fiscal Year	Principal	Interest	Total	Fiscal Year	Principal	Interest	Total
2018	\$ 30,408,000	\$ 30,666,197	\$ 61,074,197	2018	\$ 472,775	\$ 594,536	\$ 1,067,311
2019	30,833,000	30,239,516	61,072,516	2019	963,853	870,861	1,834,714
2020	32,348,000	28,875,982	61,223,982	2020	1,368,517	1,067,742	2,436,259
2021	33,923,000	27,444,848	61,367,848	2021	2,501,349	1,074,077	3,575,426
2022	35,643,000	25,903,064	61,546,064	2022	2,559,466	1,015,960	3,575,426
2023	37,423,000	24,288,980	61,711,980	2023	2,618,965	956,461	3,575,426
2024	39,145,000	22,588,288	61,733,288	2024	2,679,880	895,546	3,575,426
2025	41,125,000	20,802,288	61,927,288	2025	2,742,246	833,180	3,575,426
2026	43,160,000	18,980,850	62,140,850	2026	2,806,096	769,330	3,575,426
2027	36,235,000	16,994,413	53,229,413	2027	2,871,468	703,958	3,575,426
2028	29,495,000	15,361,156	44,856,156	2028	2,938,399	637,027	3,575,426
2029	30,980,000	14,072,457	45,052,457	2029	3,006,925	568,501	3,575,426
2030	32,535,000	12,719,177	45,254,177	2030	3,077,087	498,339	3,575,426
2031	34,170,000	11,296,827	45,466,827	2031	3,148,923	426,503	3,575,426
2032	35,890,000	9,800,838	45,690,838	2032	3,222,475	352,951	3,575,426
2033	28,630,000	8,227,679	36,857,679	2033	3,297,784	277,642	3,575,426
2034	29,995,000	7,106,740	37,101,740	2034	3,374,893	200,533	3,575,426
2035	31,440,000	5,929,927	37,369,927	2035	2,724,071	121,580	2,845,651
2036	32,940,000	4,696,104	37,636,104	2036	2,046,883	68,993	2,115,876
2037	15,770,000	3,400,794	19,170,794	2037	1,577,944	24,699	1,602,643
2038	16,495,000	2,678,020	19,173,020	2038	-	-	-
2039	16,390,000	1,921,185	18,311,185	2039	-	-	-
2040	17,325,000	987,231	18,312,231	2040	-	-	-
2041	-	-	-	2041	-	-	-
2042	-	-	-	2042	-	-	-
2043	-	-	-	2043	-	-	-
2044	-	-	-	2044	-	-	-
2045	-	-	-	2045	-	-	-
2046	-	-	-	2046	-	-	-
2047	-	-	-	2047	-	-	-
2048	-	-	-	2048	-	-	-
Totals	\$ 712,298,000	\$ 344,982,558	\$ 1,057,280,558	Totals	\$ 50,000,000	\$ 11,958,417	\$ 61,958,417

Proposed Debt \$100 Million Bond ³				Existing & Proposed Combined			
Fiscal Year	Principal	Interest	Total	Fiscal Year	Principal	Interest	Total
2018	\$ 735,340	\$ 2,500,000	\$ 3,235,340	2018	\$ 31,616,115	\$ 33,760,733	\$ 65,376,847
2019	1,526,289	4,944,390	6,470,679	2019	33,323,143	36,054,766	69,377,909
2020	1,603,558	4,867,122	6,470,679	2020	35,320,074	34,810,845	70,130,919
2021	1,684,738	4,785,941	6,470,679	2021	38,109,087	33,304,866	71,413,953
2022	1,770,028	4,700,652	6,470,679	2022	39,972,493	31,619,675	71,592,169
2023	1,859,635	4,611,044	6,470,679	2023	41,901,600	29,856,484	71,758,085
2024	1,953,779	4,516,900	6,470,679	2024	43,778,659	28,000,733	71,779,393
2025	2,052,689	4,417,990	6,470,679	2025	45,919,935	26,053,458	71,973,393
2026	2,156,607	4,314,072	6,470,679	2026	48,122,703	24,064,252	72,186,955
2027	2,265,785	4,204,894	6,470,679	2027	41,372,253	21,903,264	63,275,518
2028	2,380,490	4,090,189	6,470,679	2028	34,813,889	20,088,372	54,902,261
2029	2,501,003	3,969,677	6,470,679	2029	36,487,928	18,610,634	55,098,562
2030	2,627,616	3,843,063	6,470,679	2030	38,239,703	17,060,579	55,300,282
2031	2,760,639	3,710,040	6,470,679	2031	40,079,562	15,433,370	55,512,932
2032	2,900,396	3,570,283	6,470,679	2032	42,012,872	13,724,072	55,736,943
2033	3,047,229	3,423,450	6,470,679	2033	34,975,013	11,928,771	46,903,784
2034	3,201,495	3,269,184	6,470,679	2034	36,571,388	10,576,457	47,147,845
2035	3,363,570	3,107,109	6,470,679	2035	37,527,641	9,158,617	46,686,258
2036	3,533,851	2,936,828	6,470,679	2036	38,520,735	7,701,924	46,222,659
2037	3,712,752	2,757,927	6,470,679	2037	21,060,696	6,183,420	27,244,116
2038	3,900,711	2,569,969	6,470,679	2038	20,395,711	5,247,988	25,643,699
2039	4,098,184	2,372,495	6,470,679	2039	20,488,184	4,293,681	24,781,865
2040	4,305,655	2,165,025	6,470,679	2040	21,630,655	3,152,256	24,782,911
2041	4,523,628	1,947,051	6,470,679	2041	4,523,628	1,947,051	6,470,679
2042	4,752,637	1,718,042	6,470,679	2042	4,752,637	1,718,042	6,470,679
2043	4,993,239	1,477,440	6,470,679	2043	4,993,239	1,477,440	6,470,679
2044	5,246,022	1,224,657	6,470,679	2044	5,246,022	1,224,657	6,470,679
2045	5,511,602	959,077	6,470,679	2045	5,511,602	959,077	6,470,679
2046	5,790,627	680,052	6,470,679	2046	5,790,627	680,052	6,470,679
2047	6,083,777	386,902	6,470,679	2047	6,083,777	386,902	6,470,679
2048	3,156,429	78,911	3,235,340	2048	3,156,429	78,911	3,235,340
Totals	\$ 100,000,000	\$ 94,120,375	\$ 194,120,375	Totals	\$ 862,298,000	\$ 451,061,351	\$ 1,313,359,351

¹ Excluding debt issued on behalf of SNWA

² State Revolving Fund Loans. Maximum of \$50 million to be drawn in three loans of \$20, \$15, and \$15 million.

³ Proposed \$100 million bond in fiscal year 2017-18

**Las Vegas Valley Water District
Operating and Capital Budget
Debt Management Policy
Fiscal Year Ending June 30, 2018**

Existing Debt Service by Company

As of June 30, 2017

Supported by LVVWD Pledged Revenues			
Fiscal Year	Principal	Interest	Total
2018	\$ 31,616,115	\$ 33,760,733	\$ 65,376,847
2019	33,323,143	36,054,766	69,377,909
2020	35,320,074	34,810,845	70,130,919
2021	38,109,087	33,304,866	71,413,953
2022	39,972,493	31,619,675	71,592,169
2023	41,901,600	29,856,484	71,758,085
2024	43,778,659	28,000,733	71,779,393
2025	45,919,935	26,053,458	71,973,393
2026	48,122,703	24,064,252	72,186,955
2027	41,372,253	21,903,264	63,275,518
2028	34,813,889	20,088,372	54,902,261
2029	36,487,928	18,610,634	55,098,562
2030	38,239,703	17,060,579	55,300,282
2031	40,079,562	15,433,370	55,512,932
2032	42,012,872	13,724,072	55,736,943
2033	34,975,013	11,928,771	46,903,784
2034	36,571,388	10,576,457	47,147,845
2035	37,527,641	9,158,617	46,686,258
2036	38,520,735	7,701,924	46,222,659
2037	21,060,696	6,183,420	27,244,116
2038	20,395,711	5,247,988	25,643,699
2039	20,488,184	4,293,681	24,781,865
2040	21,630,655	3,152,256	24,782,911
2041	4,523,628	1,947,051	6,470,679
2042	4,752,637	1,718,042	6,470,679
2043	4,993,239	1,477,440	6,470,679
2044	5,246,022	1,224,657	6,470,679
2045	5,511,602	959,077	6,470,679
2046	5,790,627	680,052	6,470,679
2047	6,083,777	386,902	6,470,679
2048	3,156,429	78,911	3,235,340
Totals	\$ 862,298,000	\$ 451,061,351	\$ 1,313,359,351

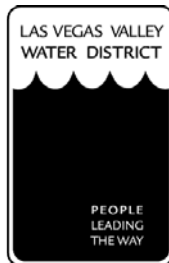
Supported by SNWA Pledged Revenues			
Fiscal Year	Principal	Interest	Total
2018	\$ 470,035,000	\$ 103,888,863	\$ 573,923,863
2019	73,645,000	95,899,013	169,544,013
2020	76,890,000	92,577,840	169,467,840
2021	82,585,000	88,997,398	171,582,398
2022	86,865,000	85,144,269	172,009,269
2023	91,390,000	80,890,466	172,280,466
2024	95,810,000	76,474,263	172,284,263
2025	91,000,000	71,781,735	162,781,735
2026	95,645,000	67,050,281	162,695,281
2027	89,600,000	62,280,109	151,880,109
2028	56,170,000	58,220,588	114,390,588
2029	45,670,000	55,732,563	101,402,563
2030	46,965,000	53,497,563	100,462,563
2031	38,140,000	51,188,350	89,328,350
2032	56,510,000	49,303,250	105,813,250
2033	73,165,000	46,488,250	119,653,250
2034	76,815,000	42,795,980	119,610,980
2035	80,605,000	38,958,480	119,563,480
2036	84,550,000	34,977,055	119,527,055
2037	88,675,000	30,800,900	119,475,900
2038	117,500,000	26,421,110	143,921,110
2039	144,500,000	20,095,840	164,595,840
2040	42,160,000	11,836,350	53,996,350
2041	44,205,000	9,788,000	53,993,000
2042	46,355,000	7,640,150	53,995,150
2043	25,000,000	5,387,750	30,387,750
2044	26,250,000	4,137,750	30,387,750
2045	27,565,000	2,825,250	30,390,250
2046	28,940,000	1,447,000	30,387,000
2047	-	-	-
2048	-	-	-
Totals	\$ 2,403,205,000	\$ 1,376,526,415	\$ 3,779,731,415

LVVWD & SNWA Combined Debt Service			
Fiscal Year	Principal	Interest	Total
2018	\$ 501,651,115	\$ 137,649,596	\$ 639,300,711
2019	106,968,143	131,953,780	238,921,922
2020	112,210,074	127,388,685	239,598,760
2021	120,694,087	122,302,264	242,996,351
2022	126,837,493	116,763,944	243,601,438
2023	133,291,600	110,746,950	244,038,551
2024	139,588,659	104,474,996	244,063,656
2025	136,919,935	97,835,192	234,755,127
2026	143,767,703	91,114,533	234,882,236
2027	130,972,253	84,183,373	215,155,626
2028	90,983,889	78,308,960	169,292,849
2029	82,157,928	74,343,197	156,501,125
2030	85,204,703	70,558,142	155,762,845
2031	78,219,562	66,621,720	144,841,282
2032	98,522,872	63,027,322	161,550,193
2033	108,140,013	58,417,021	166,557,034
2034	113,386,388	53,372,437	166,758,825
2035	118,132,641	48,117,097	166,249,738
2036	123,070,735	42,678,979	165,749,714
2037	109,735,696	36,984,320	146,720,016
2038	137,895,711	31,669,098	169,564,809
2039	164,988,184	24,389,521	189,377,705
2040	63,790,655	14,988,606	78,779,261
2041	48,728,628	11,735,051	60,463,679
2042	51,107,637	9,358,192	60,465,829
2043	29,993,239	6,865,190	36,858,429
2044	31,496,022	5,362,407	36,858,429
2045	33,076,602	3,784,327	36,860,929
2046	34,730,627	2,127,052	36,857,679
2047	6,083,777	386,902	6,470,679
2048	3,156,429	78,911	3,235,340
Totals	\$ 3,265,503,000	\$ 1,827,587,766	\$ 5,093,090,766

SECTION 8

STATISTICAL INFORMATION

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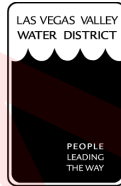


LAS VEGAS VALLEY WATER DISTRICT

FISCAL YEAR 2017-18

OPERATING AND CAPITAL BUDGET

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**Las Vegas Valley Water District
Statistical Summary**

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8-4	Clark County New Home Sales, Median Home Price
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**Las Vegas Valley Water District
Operating and Capital Budget
Statistical Information**

Fiscal Year Ending June 30, 2018

**Demographic Statistics
Clark County, Nevada
Five Calendar Years**

Calendar Year	Clark County Population ⁽¹⁾	Per Capita Income ⁽²⁾	Clark County Personal Income (In Million \$) ⁽²⁾	Median Household Income ⁽³⁾
2016	2,205,207	56,258	N/A	N/A
2015	2,114,801	51,575	85,970.0	51,575
2014	2,069,450	39,533	81,821.0	60,168
2013	2,034,140	37,424	76,125.7	52,394
2012	2,000,759	36,542	70,289.1	51,159

Calendar Year	LVVWD Service Area Population	School Enrollment ⁽⁴⁾	Total Labor Force ⁽⁵⁾	Unemployment Rate ⁽⁶⁾
2016	1,475,458	321,308	1,324,600	5.1%
2015	1,436,617	319,172	1,042,587	6.9%
2014	1,405,583	314,598	990,900	6.2%
2013	1,379,760	311,429	992,000	10.1%
2012	1,343,599	308,447	980,700	12.1%

Sources:

(1) Nevada State Demographer.

(2) U.S. Bureau of Economic Analysis as reported for the Las Vegas-Paradise MSA (which is comprised of Clark County).

(3) U.S. Census Bureau, American Community Survey.

(4) Clark County School District, Average Daily Membership.

(5) The Department of Employment, Training & Rehabilitation.

(6) Bureau of Labor Statistics (annual averages).

Las Vegas Valley Water District
Operating and Capital Budget
Statistical Information
Fiscal Year Ending June 30, 2018

Top Ten Employers⁽¹⁾
Clark County, Nevada
Calendar Year 2016

Employer Trade name	Employees ⁽²⁾	Ranking	% of Total Labor Force ⁽³⁾
Clark County School District	30,000 to 39,999	1	3.5%
Clark County	8,000 to 8,499	2	0.8%
Wynn Las Vegas	8,000 to 8,500	3	0.8%
Bellagio LLC	8,000 to 8,500	4	0.8%
MGM Grand Hotel & Casino	8,000 to 8,500	5	0.8%
Aria Resort & Casino LLC	7,000 to 7,499	6	0.7%
Mandalay Bay Resort & Casino	7,000 to 7,499	7	0.6%
Ceasars Palace	5,000 to 5,499	8	0.6%
University of Nevada Las Vegas	5,000 to 5,499	9	0.5%
Las Vegas Metropolitan Police	4,500 to 4,999	10	0.5%

Total Labor Force 1,043,127

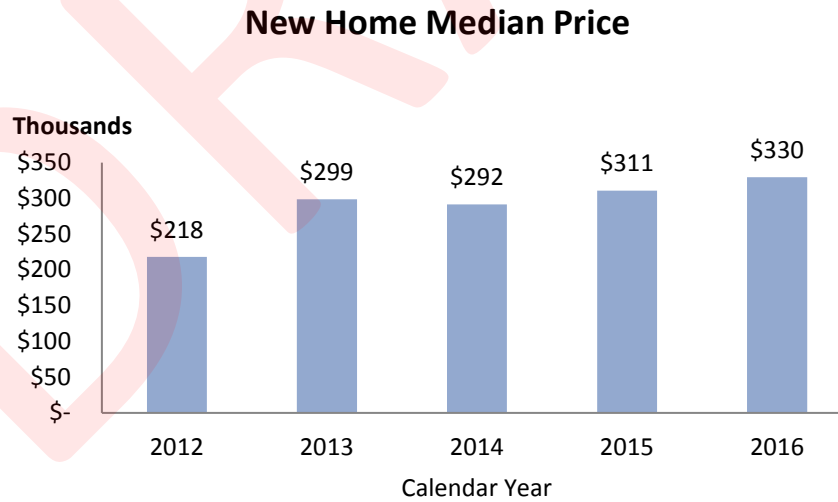
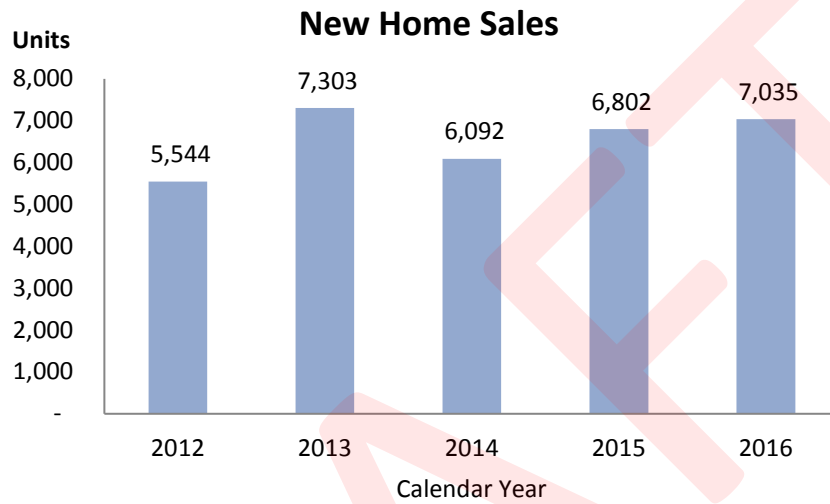
Sources:

(1) Nevada Workforce Informer, Nevada Employer Directory, GASB 44 report as of June, 2016. Most recent figures available. Trade names are as described in the source document. No attempt has been made to trace corporate name changes if any.

(2) Nevada law prohibits the disclosure of exact employee counts. All employee counts are shown in ranges. Calculations of total labor force per employer (column (4)) are estimates.

(3) US Census Bureau and Las Vegas Global Economic Alliance (LVGEA).

Residential Real Estate Clark County, Nevada



Las Vegas Valley Water District
Operating and Capital Budget
Statistical Information
Fiscal Year Ending June 30, 2018

Secured Tax Roll
Clark County, Nevada
2016 - 17

<u>Taxpayer</u>	<u>Taxable Assessed</u>	<u>Taxable Appraised</u>
1. MGM Resorts International	\$ 3,586,896,698	\$ 10,248,276,280
2. NV Energy	1,982,725,527	5,664,930,077
3. Caesar's Entertainment Corp.	1,859,895,091	5,313,985,974
4. Las Vegas Sands Corporation	972,201,925	2,777,719,786
5. Wynn Resorts Limited	926,778,374	2,647,938,211
6. Station Casinos Incorporated	705,871,212	2,016,774,891
7. Nevada Property 1 LLC	382,335,596	1,092,387,417
8. Eldorado Energy LLC	380,134,297	1,086,097,991
9. Boyd Gaming Corporation	328,880,459	939,658,454
10. Howard Hughes Corporation	327,790,058	936,543,023
	<u>\$ 11,453,509,237</u>	<u>\$ 32,724,312,104</u>

SOURCE: Clark County Assessor's Report Dated October 31, 2016

Las Vegas Valley Water District
Operating and Capital Budget
Statistical Information
Fiscal Year Ending June 30, 2018

2011 - 2016 Temperature and Rainfall

Average Maximum and Minimum Daily Temperature
in Degrees Fahrenheit and Monthly Rainfall in Inches

Month	2011			2012			2013		
	Temperature			Temperature			Temperature		
	Max.	Min.	Rainfall	Max.	Min.	Rainfall	Max.	Min.	Rainfall
January	74	27	0.0	68	34	0.0	65	23	0.4
February	71	26	0.1	74	38	0.1	71	35	0.0
March	88	39	0.2	86	37	0.2	87	44	0.2
April	93	41	0.0	99	44	0.0	99	48	0.0
May	96	51	0.0	107	52	0.0	102	58	0.0
June	110	60	0.0	108	68	0.0	117	73	0.0
July	112	74	0.8	114	71	0.2	115	75	0.3
August	112	74	0.0	112	68	2.3	109	70	0.3
September	105	64	0.8	102	68	1.2	102	57	0.4
October	95	49	0.2	99	50	0.9	92	47	0.0
November	79	38	0.1	83	37	0.0	79	42	1.4
December	65	28	0.1	72	30	0.5	69	26	0.1
Average Annual Temperature/ Total Rainfall	91.7	47.6	2.3	93.7	49.8	5.3	92.3	49.8	3.0

Month	2014			2015			2016		
	Temperature			Temperature			Temperature		
	Max.	Min.	Rainfall	Max.	Min.	Rainfall	Max.	Min.	Rainfall
January	64	42	0.0	62	44	0.9	57	40	0.5
February	68	46	0.0	71	49	0.5	70	46	0.1
March	74	52	0.0	78	56	0.3	75	53	0.0
April	81	59	0.0	80	58	0.3	79	58	2.3
May	90	67	0.0	85	64	0.2	86	65	0.4
June	101	77	0.0	104	80	0.0	105	81	0.5
July	105	83	0.2	101	80	0.2	107	84	0.2
August	99	78	0.4	104	82	0.7	102	80	0.2
September	96	74	0.6	98	76	0.0	93	71	0.0
October	86	63	0.0	84	65	1.2	84	64	0.2
November	70	49	0.0	64	45	0.0	71	51	0.0
December	58	44	0.3	56	38	0.0	57	40	0.8
Average Annual Temperature/ Total Rainfall	82.6	61.3	1.5	82.2	61.3	4.25	82.1	61.0	5.1

Las Vegas Valley Water District
Operating and Capital Budget
Statistical Information
Fiscal Year Ending June 30, 2018

2012 - 2016 Average Monthly Consumption Per Active Service By Month Thousands of Gallons

Month	2012	2013	2014	2015	2016	Average
January	13.8	14.0	13.9	13.3	14.8	14.0
February	15.6	13.7	15.0	14.2	13.5	14.4
March	17.8	17.9	18.1	17.6	19.3	18.1
April	22.1	22.5	22.3	22.8	22.2	22.4
May	27.2	26.9	26.3	25.8	21.7	25.6
June	36.0	34.7	33.8	29.5	30.7	32.9
July	30.5	34.8	35.2	34.3	33.6	33.7
August	35.2	33.3	34.7	31.6	33.1	33.6
September	31.9	28.5	27.2	28.1	29.7	29.1
October	23.1	24.9	21.2	23.5	25.5	23.6
November	18.6	18.1	20.5	20.6	17.3	19.0
December	14.6	15.7	13.1	14.2	14.5	14.4
Total for Year	286.4	285.0	281.3	275.5	275.9	280.8
Average Month	23.9	23.8	23.4	23.0	23.0	23.4
Maximum Month	36.0	34.8	35.2	34.3	33.6	33.7
Minimum Month	13.8	13.7	13.1	13.3	13.5	14.0

Las Vegas Valley Water District
Operating and Capital Budget
Statistical Information
Fiscal Year Ending June 30, 2018

2012 - 2016 Average Annual Water Billed Per Active Service By Class of Service
Thousands of Gallons

Class of Service	2012	2013	2014	2015	2016
Residential - single service	141	139	137	133	131
Residential - duplex/tri&fourplex	258	244	242	242	240
Apts. Condos, & townhomes	3,441	3,477	3,505	3,475	3,587
Residential, other	3,797	3,771	1,336	6,535	3,990
Hotels	39,189	39,248	41,179	39,408	40,893
Motels	3,962	4,050	4,172	4,716	4,797
Community facilities	1,783	1,952	1,948	1,828	1,922
Schools	2,571	2,497	2,166	2,503	2,510
Fireline	83	83	104	107	119
Irrigation	2,350	2,301	2,313	2,114	2,117
Commercial/business	986	999	1,042	991	1,021
Recreational	3,155	2,692	2,784	3,139	2,983
Industrial	857	938	987	997	1,033
Construction water	192	252	253	299	310
Other	958	1,959	2,368	2,261	1,723
TOTAL ALL CLASSES	63,721	64,602	64,535	68,748	67,375

Las Vegas Valley Water District
Operating and Capital Budget
Statistical Information
Fiscal Year Ending June 30, 2018

2012 - 2016 Percent of Total Water Billed by Class or Service

Class of Service	2012	2013	2014	2015	2016
Residential - Single Service	44.6%	44.6%	44.6%	44.1%	44.3%
Residential - Duplex/Triplex/Fourplex	0.7%	0.7%	0.7%	0.7%	0.7%
Apts. Condos, & Townhomes	14.5%	14.7%	14.4%	14.8%	14.9%
Residential, Other	1.0%	1.0%	1.9%	1.7%	1.0%
Subtotal (Residential)	60.9%	61.0%	61.6%	61.3%	60.9%
Hotels	9.3%	9.2%	9.0%	9.1%	9.2%
Motels	1.1%	1.1%	1.0%	1.2%	1.2%
Community Facilities	1.8%	1.9%	1.8%	1.9%	1.9%
Schools	1.7%	1.6%	1.6%	1.6%	1.7%
Fireline	0.4%	0.4%	0.5%	0.5%	0.6%
Irrigation	14.2%	14.0%	13.8%	13.3%	13.5%
Commercial/Business	8.1%	8.1%	8.0%	8.1%	8.2%
Recreational	0.2%	0.2%	0.2%	0.2%	0.2%
Industrial	1.1%	1.2%	1.2%	1.2%	1.3%
Construction Water	0.9%	0.7%	0.9%	1.0%	1.2%
Other	0.5%	0.6%	0.6%	0.5%	0.6%
Subtotal (Non-Residential)	39.1%	39.0%	38.4%	38.7%	39.6%
TOTAL	100%	100%	100%	100%	100%

Las Vegas Valley Water District
Operating and Capital Budget
Statistical Information
Fiscal Year Ending June 30, 2018

**2011 - 2016 Average Consumption and Monthly Revenue from Water Sales
Per Active Account (kgal - million)**

Month	2011		2012		2013	
	<u>Avg. Use</u>	<u>Avg. Revenue</u>	<u>Avg. Use</u>	<u>Avg. Revenue</u>	<u>Avg. Use</u>	<u>Avg. Revenue</u>
January	13.7	\$48.6	13.8	\$51.5	14.0	\$65.0
February	14.3	53.7	15.6	56.0	13.7	61.8
March	18.1	64.2	17.8	63.2	17.9	76.9
April	22.6	78.1	22.1	81.0	22.5	91.2
May	26.5	92.3	27.2	121.4	26.9	106.0
June	36.0	122.5	36.0	150.5	34.7	143.5
July	30.5	115.4	34.8	137.5	35.2	134.9
August	35.2	128.5	33.3	137.3	34.7	140.1
September	31.9	115.2	28.5	115.6	27.2	110.5
October	23.1	80.8	24.9	98.0	21.2	87.2
November	18.6	65.5	18.1	76.9	20.5	85.4
December	14.6	52.0	15.7	69.5	13.1	60.5
Monthly Average	23.8	\$84.7	24.0	\$96.5	23.5	\$96.9

Month	2014		2015		2016	
	<u>Avg. Use</u>	<u>Avg. Revenue</u>	<u>Avg. Use</u>	<u>Avg. Revenue</u>	<u>Avg. Use</u>	<u>Avg. Revenue</u>
January	13.9	\$65.5	13.3	\$65.0	15.1	\$72.3
February	15.0	67.7	14.2	64.6	13.8	72.4
March	18.1	79.1	17.6	79.4	19.7	89.7
April	22.3	92.2	22.8	95.6	22.7	98.4
May	26.3	106.7	25.8	106.7	22.1	97.7
June	33.8	142.0	29.5	131.7	31.3	140.8
July	34.3	132.5	33.6	127.3	34.7	135.4
August	31.6	129.8	33.1	137.1	32.8	149.4
September	28.1	116.0	29.7	123.8	30.2	128.3
October	23.5	96.7	25.5	105.5	24.6	105.8
November	20.6	86.5	17.3	77.4	19.9	89.7
December	14.2	65.5	14.5	68.0	15.6	75.7
Monthly Average	23.5	\$98.3	23.1	\$98.5	23.5	\$104.6

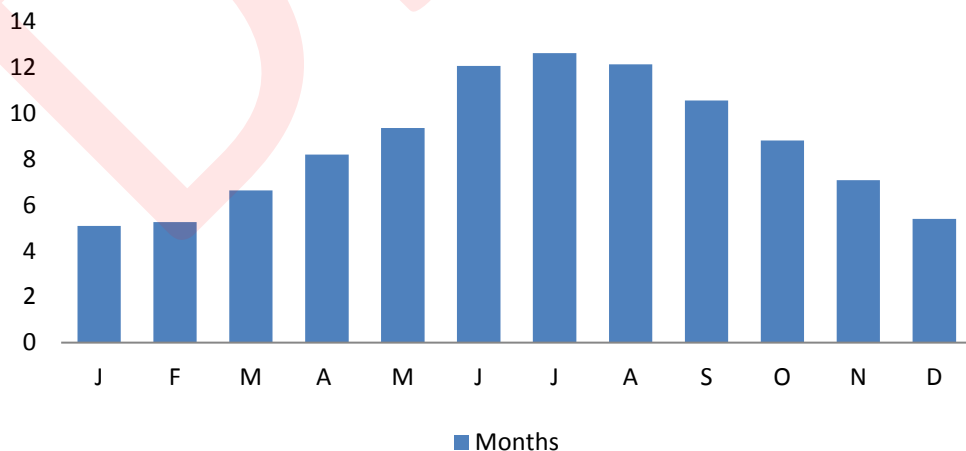
Las Vegas Valley Water District
Operating and Capital Budget
Statistical Information
Fiscal Year Ending June 30, 2018

2012 - 2016 Water Billed by Month
(Millions of Gallons)

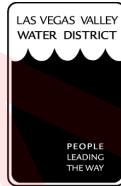
Month	2012	2013	2014	2015	2016
January	4,914	5,000	5,063	4,928	5,577
February	5,546	4,887	5,475	5,275	5,107
March	6,337	6,426	6,605	6,546	7,302
April	7,878	8,071	8,159	8,487	8,448
May	9,726	9,654	9,632	9,618	8,231
June	12,843	12,487	12,405	10,988	11,681
July	12,406	12,703	12,612	12,534	12,956
August	11,876	12,529	11,660	12,373	12,272
September	10,173	9,842	10,374	11,138	11,319
October	8,906	7,690	8,689	9,594	9,242
November	6,458	7,442	7,608	6,495	7,486
December	5,601	4,776	5,253	5,475	5,881
Total	102,664	101,507	103,535	103,451	105,502

Billion
Gallons

2012 - 2016 Average Water Billed by Month



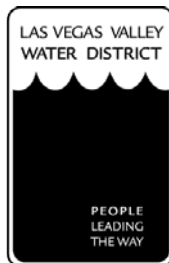
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SECTION 9

FINANCIAL POLICIES

Financial Policy.....	9-1
Reserve Policy	9-5



LAS VEGAS VALLEY WATER DISTRICT

FISCAL YEAR 2017-18

OPERATING AND CAPITAL BUDGET

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Financial Policy

The Las Vegas Valley Water District (LVVWD) conducts a process to update and improve its operating policies and procedures on an ongoing basis. The attached financial policies represent a portion of the approved operating policies of the LVVWD.

DRAFT

LAS VEGAS VALLEY WATER DISTRICT DEPARTMENT POLICY	SUBJECT: FINANCIAL POLICY	NUMBER: 1
	APPROVED BY: <i>Lina Neilson</i>	ISSUE: 1
ISSUING DEPARTMENT: FINANCE	DIRECTOR OF FINANCE June 1, 2015	PAGE: 1 OF 3

I. PURPOSE

The purpose of this policy is to establish guidelines for the planning and monitoring of financial activities in a responsible manner.

II. SCOPE

This policy applies to the Las Vegas Valley Water District (LVVWD) and other entities for which the LVVWD has fiduciary responsibility i.e., Southern Nevada Water Authority (SNWA).

III. FINANCIAL PLANNING

A. BALANCED BUDGET – Under normal circumstances, the organization shall strive to prepare and adhere to a balanced operating budget, meaning sources of funds are greater than or equal to the uses of funds.

B. LONG-TERM PLANNING – A long-term, entity-wide Strategic Plan shall be adopted and maintained to guide the decisions of the organization. Preparation of operating and capital budgets, as well as other financial planning activities, shall consider their long-term financial implications and reflect the Strategic Plan. Also, the organization shall strive to obtain the highest credit ratings.

C. ASSET INVENTORY – The organization shall maintain an inventory of major capital assets and periodically assess the condition of those assets to plan for ongoing financial commitments necessary to ensure services in support of the Strategic Plan.

IV. REVENUE

- A. REVENUE DIVERSIFICATION – To the extent reasonable, revenues shall be diversified in order to improve the ability to handle fluctuations in individual sources.
- B. FEES AND CHARGES – Fees and charges are set to cover the cost of the services provided. For example:
- Water Rates pay for current water system operation and maintenance.
 - Connection Fees pay for water system infrastructure expansion to support population growth.
 - Fees pay for the annual inspection and maintenance of system facilities.
 - Fees pay for any additional administrative or operating cost burden generated by certain customer activities.
 - Deposits assure customer payment of financial obligations.
- C. USE OF ONE-TIME REVENUES – One-time revenues shall generally be matched to one-time expenditures. Ongoing financial commitments shall not be dependent upon anticipated one-time revenues.
- D. USE OF UNPREDICTABLE REVENUES – Ongoing programs or expenditure commitments shall not be dependent upon revenues that cannot be reasonably predicted. Reasonable prediction involves the use of historical data, projected data, and prudent judgment.

V. EXPENDITURES

- A. DEBT CAPACITY – The organization has no fixed aggregate monetary debt limit. The ability to issue debt is governed by state law allowing for the pledge of revenues and the assessment of ad valorem taxes with the requirement that the Board of Directors establish reasonable rates and charges for the products and services provided. The assessment of ad valorem taxes shall be avoided and emphasis shall be placed on the reliance of revenues to pay debt obligations.

- B. DEBT ISSUANCE AND MANAGEMENT – Debt shall be issued by either negotiated or competitive sale in accordance with Nevada law. Competitive sale awards shall be made to the underwriter(s) presenting bids resulting in the lowest interest rate. Negotiated sales may be utilized and underwriters will be selected in accordance with specific criteria specified in the Debt Management Policy. The Debt term shall not exceed the useful life of the project or equipment being financed and bond insurance may be utilized.
- C. RESERVES – The organization shall maintain sufficient reserves to protect against the need to reduce service levels or raise rates and fees due to temporary revenue shortfalls or unpredicted one-time expenditures. ‘Sufficient reserve’ is defined as 180 days of operating expenditures. A reserve study shall be conducted at least once every five years to determine if 180 days remains sufficient.
- D. OPERATING/CAPITAL EXPENDITURE ACCOUNTABILITY – Actual expenditures shall be periodically compared to the budget. Each department Director shall be primarily responsible for keeping their actual expenditures from exceeding their budget. Department Directors shall provide timely notification to the Director of Finance when it appears that their actual expenditures for the fiscal year will exceed their budget. Also, the Director of Finance shall monitor the actual expenditures of the entire organization and provide timely notification to the General Manager when it appears that the actual expenditures for the fiscal year may exceed the Board approved budget.

LAS VEGAS VALLEY WATER DISTRICT	SUBJECT:	NUMBER:
	LAS VEGAS VALLEY WATER DISTRICT RESERVE POLICY	11
BOARD POLICY	APPROVED BY:	ISSUE:
ISSUING DEPARTMENT:	BOARD OF DIRECTORS	1
FINANCE	January 5, 2016	PAGE:
		1 OF 2

Purpose

The purpose is to establish a policy for maintaining adequate reserves of cash and investments. Maintaining adequate and prudent cash reserves is an important tool in mitigating the risks of significant and unexpected decreases in sources of funds and/or increases in the uses of funds. The benefits include stable services and fees. This policy applies to all unrestricted cash and investments of the Las Vegas Valley Water District (LVVWD).

Authority

The Government Finance Officers Association (GFOA) recommends local governments adopt a target amount of working capital to maintain in each of their enterprise funds. Because the purposes, customers, and other characteristics of enterprise funds can vary widely, the GFOA recommends that governments develop a target amount of reserves that best fits local conditions for each fund. The following are some of the key considerations for the LVVWD's reserve policy:

1. Volatility in Sources of Funds – Some of the LVVWD's sources of funds have experienced significant volatility; for example, connection charges and sales tax, in periods where the local economy suffers.
2. Likelihood of Successful Rate Increases – Although the LVVWD has enjoyed tremendous support from its Board of Directors and the community, it is possible that these conditions could change in the future, thus impacting the LVVWD's ability to adjust rates to meet increasing costs.
3. Asset Age and Condition – As the infrastructure ages, maintenance and replacement costs will increase. Also, there is the possibility of unexpected failures that can be quite expensive. Such failures could result from age-related causes, terrorism, or natural disasters.

4. Control Over Expenses – Although most of the LVVWD's expenses are predictable, there remains the possibility of large, unexpected expenditures; for example, litigation, natural disasters, increases in water, energy and chemical costs.

Reserve Components

The following four components identified for the LVVWD's reserves listed by funding priority:

1. Base Operating Reserve – Adequate reserves to fund 180 days of operating and maintenance expenses. This will help insulate the LVVWD and its customers from volatility in operating revenues and expenses, as well as from other casual factors that could interrupt cash flow or impose unforeseen costs.
2. Debt Service Reserve – Adequate reserves to fund one year of the maximum annual debt service. For both credit rating considerations and prudent financial practices, the LVVWD should strive to achieve this level of reserves to ensure access to lower cost capital in future years, help mitigate the impact of disruptions in the credit markets on operations, and provide assurances to investors that the LVVWD has the financial resources necessary to make its ongoing debt service payments.
3. Capital Related Reserve – Adequate reserves to fund a one year average of future capital needs. As a method to determine future capital needs, a capital improvement plan may be used. This reserve will fluctuate over time as projects change. This level of capital reserve will enable the LVVWD to better react to capital needs as they may arise and to properly address the timing of infrastructure improvements relative to system needs. This reserve will also enable the LVVWD to continue with uninterrupted critical capital improvements during times of difficulty within the capital markets.
4. Unforeseen Events Reserve – Adequate reserves to fund one percent of assets subject to depreciation. This is to mitigate one-time, unforeseen infrastructure or major capital equipment failures and other significant non-recurring impacts to operating revenues and expenses.

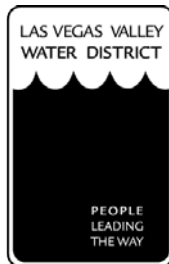
Reporting

The General Manager shall notify the Board of Directors of the status of reserves at least annually and more often as significant changes occur.

SECTION 10

GLOSSARY

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LAS VEGAS VALLEY WATER DISTRICT
FISCAL YEAR 2017-18
OPERATING AND CAPITAL BUDGET

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**Las Vegas Valley Water District
Operating and Capital Budget
Glossary**

Fiscal Year Ending June 30, 2018

Accrual. The act of recognizing a revenue or expense incurred in one accounting period that has not been paid by the end of it.

Acre-Foot (AF). A water measurement equating to 325,851 gallons. An acre foot will supply the annual water needs of approximately 2 single family homes in the District's service area.

Alfred Merritt Smith Water Treatment Facility (AMSWTF). Built in 1971, the Alfred Merritt Smith Water Treatment Facility currently treats most of the Las Vegas Valley's drinking water. The facility can treat up to 600 million gallons a day (MGD).

American Water Works Association (AWWA). A 50,000 member nonprofit dedicated to science, technology, education and the managing and treating of water.

Amortization. Amortization is the paying off of debt with a fixed repayment schedule in regular installments over a period of time.

Automated Mapping / Facilities Management. (AM/FM) The term AM/FM/GIS mostly refers to Geographic Information Software (GIS) that allows utility users to digitize, manage and analyze their utility network data. This data is stored in an underlying GIS database which also maintains the associations between the graphical entities and the attributes.

Automatic Vehicle Locator. (AVL) An automatic vehicle locator (AVL) is a device that makes use of the Global Positioning System (GPS) to enable a business or agency to remotely track the location of its vehicle fleet by using the Internet.

Balanced Budget. A budget where sources of funds are equal to uses of funds. LVVWD is not required to issue a balanced budget.

Beginning Balance. Cash and cash equivalent balances at the beginning of an accounting period. For budget years this amount is an estimate. For actual years this amount is the actual amount of cash either in demand deposits or investments.

Bond. A certificate of debt issued by a government or corporation guaranteeing payment of the original investment plus agreed upon interest by a specified future date.

Bond Funds. Monies raised through debt issuance that are used for the acquisition or construction of major capital projects.

Budget. Proposed plan of revenue and expenditures over a given period of time, usually one year.

Budget Calendar. The schedule of key dates or milestones that the District follows in the preparation and adoption of the budget.

Budgetary Control. The control or management of a governmental unit or enterprise in accordance with an approved budget for the purpose of keeping expenditures within the limitations of available appropriations and available revenues.

Budget Document. The official written document prepared by the District and approved by the LVVWD's Board of Directors.

**Las Vegas Valley Water District
Operating and Capital Budget
Glossary**

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Budget Message. A general discussion of the proposed budget included as a part of the budget document. The budget message explains principal budget issues with the background of the financial experience in recent years.

Budgeted Positions. A position that has been authorized (created by action of the LVVWD Board of Directors) and may be specifically funded through the budget process.

U.S Bureau of Reclamation (BOR). A federal agency under the U.S. Department of the Interior, which oversees water resource management, specifically as it applies to the oversight and operation of the diversion, delivery, and storage projects that it has built throughout the western United States for irrigation, water supply, and attendant hydroelectric power generation.

Capital Budget. Fixed assets to be acquired during a fiscal year, with a value of over \$10,000 and an estimated life of over three years.

Capital Expenditure. Fixed assets to be acquired during a fiscal year, generally with a value of over \$10,000 and an estimated life of over three years.

Capitalized Expenses. This classification contains expenses such as professional services, rental expenses, research and studies, etc. that are projected to be spent in the acquisition and improvement of capital items. These costs are identical to Operating Expenses in form but are paid for with capital revenues and bond proceeds. On a GAAP prepared financial statement, these costs

can appear on the Statement of Revenues, Expenses and Changes in Net Position if they are paid by the New Expansion Debt Service sub fund -- otherwise they would merely appear as a cash expenditure for a capital asset.

Comprehensive Annual Financial Report. (CAFR). A set of U.S. government financial statements comprising the financial report of a state, municipal or other governmental entity that complies with the accounting requirements promulgated by the Governmental Accounting Standards Board (GASB).

Computer Maintenance Management System. (CMMS)

Computerized Work Order Maintenance Management System. (CWOMMS)

Colorado River Commission (CRC). The CRC is an executive agency of the State of Nevada responsible for acquiring and managing Nevada's share of water and hydropower resources from the Colorado River.

Conservation. The act of using less water in a more efficient manner. LVVWD achieves the benefits of conservation through education of the end user, promoting water efficient hardware, and pricing signals.

Construction Expenditures. Generally, construction expenses that are spent on third party vendors who build, supervise, or provide materials used in the construction of capital assets.

Construction in Progress (CIP). An accountancy term that records the cost of

**Las Vegas Valley Water District
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construction work, which is not yet completed (typically, applied to capital budget items). A CIP item is not depreciated until the asset is placed in service. Normally, upon completion, a CIP item is reclassified, and the reclassified asset is capitalized and depreciated.

Debt Issuance Proceeds. Principal amount of debt issues. These proceeds are used to pay for major construction expenditures incurred by the District.

Debt Service Payments. Funds used to pay annual principal and interest payments on debt the District has issued.

Department. A basic organizational unit of the District that is functionally unique in its delivery of services.

Depreciation. A recognition decrease in value of physical assets due to use and the passage of time.

Disbursements. Funds actually expended.

Division. Organizational component of a department.

Endangered Species Act (ESA). Signed into law by President Richard Nixon on December 28, 1973, it was designed to protect critically imperiled species from extinction as a "consequence of economic growth and development un-tempered by adequate concern and conservation."

Ending Balance. Cash and cash equivalent balances at the ending of an accounting period. For budget years this amount is an estimate. For actual years this amount is the

actual amount of cash either in demand deposits or investments.

Energy. Collective name for electricity and natural gas purchases used to treat and distribute water throughout the District's service area as well as power office buildings and other ancillary locations.

Engineering Department Management System. (EDMS)

Engineering Project Management. (EPM)

Engineering Project Scheduling and Management System. (ESPM)

Enterprise Funds. Funds used to account for operations: 1) that are financed and operated in a manner similar to private business enterprises - where the intent of the governing body is that the costs (expenses, including depreciation) of providing goods and services to the general public on a continuing basis be financed or recovered primarily through user charges; or 2) where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes.

Environmental Protection Agency (EPA). An agency of the U.S. federal government which was created for the purpose of protecting human health and the environment by writing and enforcing regulations based on laws passed by Congress.

Expenditure. The payment of cash on the transfer of property or services for the

**Las Vegas Valley Water District
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Fiscal Year Ending June 30, 2018

purpose of acquiring an asset, service or settling a loss.

Fiscal Year (FY). For the Las Vegas Valley Water District, the 12-month period begins with July 1, and ends with June 30 of the designated fiscal year; e.g. FY 2017-18 ends on June 30, 2018.

Fringe Benefits. Various types of non-wage compensation provided to employees in addition to their normal wages or salaries.

Full-Time Equivalent (FTE). The number of positions that equate to a 40-hour work week for 52 weeks, or one full year. For example two part-time positions, each working 20 hours per week, equals one FTE.

Fund. A fiscal and accounting tool with a self-balancing set of accounts to record revenue and expenditures.

Fund Balance. Also known as beginning balance and ending balance. This represents the estimated cash balance in a specific fund at the beginning or ending of an accounting period.

Fund Equity. The excess of an entity's assets over its liabilities.

General Obligation Debt. Bonds where the full faith and credit of the issuer is pledged to the repayment of the bonds.

Generally Accepted Accounting Principles (GAAP). A body of accounting and financial reporting standards set by the Governmental Accounting Standards Board (GASB) for state and local governments, and

by the Financial Accounting Standards Board (FASB) for private sector organizations.

Geographical Information Systems. (GIS) Geographical Information System is a system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data.

Global Positioning System. (GPS) The Global Positioning System is a space-based navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites

Government Finance Officers Association. (GFOA). A professional association of approximately 17,500 state, provincial, and local government finance officers in the United States and Canada. In 1984, the GFOA signed an agreement with the Financial Accounting Foundation that gave them a voice and appointments in the creation of the Governmental.

Governmental Funds. The General Fund, Special Revenue Funds, Debt Service Funds, and Capital Projects Funds.

Grant. A contribution by a government or other organization to support a particular function. Grants may be classified as categorical or block, depending upon the amount of discretion allowed the grantee.

Great Recession. A global economic decline which began in the late-2000's and lasted roughly through the end of that decade.

**Las Vegas Valley Water District
Operating and Capital Budget
Glossary**

Fiscal Year Ending June 30, 2018

Groundwater Management Fees. Fees imposed on municipalities and individual well owners. The proceeds of these fees are used to implement artificial recharge to benefit well users, provide financial assistance to well owners who are required to connect to municipal water by the Nevada State Engineer, and pay for general maintenance costs of the groundwater management program.

Intake No. 3. One of the largest municipal water projects in the United States designed to draw water from Lake Mead at levels as low as 1,000 feet, 75 feet lower than SNWA's highest intake.

Intentionally Created Surplus. A type of surplus water that has been created or credited to a water agency through actions that conserve water and increase Lake Mead storage.

Interest Earned. Monies earned by investing idle funds in the open market.

Intergovernmental Revenue. Revenue received from other governments in the form of grants, entitlements, shared revenues or payments in lieu of taxes.

Investment. Securities and real estate purchased and held for the production of income in the form of interest, dividends, rentals or base payments.

Labor. A budget category that includes all District employee salaries including overtime, longevity pay, and benefits. Labor can either be paid by operating funds or capital funds according to the project in which it was expended.

Laboratory Information Management System. (LIMS) A laboratory information management system is a software-based laboratory and information management system with features that support a modern laboratory's operations.

Las Vegas Metropolitan Statistical Area. (MSA) Las Vegas metropolitan area, is in the southern part of the U.S. state of Nevada, coextensive since 2003 with Clark County, Nevada. A central part of the metropolitan area is the Las Vegas Valley, a 600 sq. mi (1,600 km²) basin that includes the metropolitan area's largest city, Las Vegas

Las Vegas Valley Groundwater Management Program (LVVGMP). In 1997, the Nevada Legislature directed the Southern Nevada Water Authority (SNWA) to develop the Las Vegas Valley Groundwater Management Program to protect and manage the valley's primary groundwater supply. The program protects the local groundwater basin from over-drafting and potential sources of contamination.

Las Vegas Valley Water District (LVVWD). The major water retailer in southern Nevada. The District is the operating agent of the Southern Nevada Water Authority although the two companies are autonomous and produce financial records and statements independent of each other.

Las Vegas Wash Comprehensive Adaptive Management Plan. (LVWCAMP)

Line Item. Unique identification number and title for an expenditure category;

Las Vegas Valley Water District
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represents the most detailed level of budgeting and recording expenditures.

Lower Colorado River Multi-Species Conservation Program (LCRMSCP).

Maintenance Improvement Team. (MIT)

Major Construction and Program (MCP). A schedule of approved capital projects, their estimated costs, and funding sources.

Megawatt Hour (MWh). A unit of power equal to one million watt hours. Energy in watt hours is the multiplication of power in watts and time in hours.

Million-Gallon per Day (MGD). A unit of flow measurement. MGD is a standard measurement in the water utility industry.

Mission. A description of the basic purpose and responsibility of the budget unit.

Mobile Data Dispatch System and Mobile Data Terminals. (MDT)

Mobile Workforce Management System. (MWFMS)

Mobile Workforce Management Team. (MWM)

Modified Accrual Accounting. A basis of accounting in which expenditures are accrued when liability is incurred, but revenues are recognized only when they are measurable and available as net current assets. This method of accounting is statutorily required in Nevada.

National Environmental Policy Act (NEPA).

A United States environmental law that established a U.S. national policy promoting the enhancement of the environment.

Net Position. The excess of an entity's assets over its liabilities. Net position was originally known as fund equity until the application of GASB 65.

Nevada Revised Statutes (NRS). The current codified laws of the State of Nevada.

Occupational Health and Safety Administration (OSHA). An agency of the United States Department of Labor. OSHA's mission is to "assure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance".

Operating Budget. Authorized expenditures for on-going day-to-day services; e.g., maintenance, materials, supplies, etc.

Operating Expenses. This classification contains expenses such as professional services, rental expenses, research and studies, etc. that are projected to be spent in the course of operations. On a GAAP prepared financial statement, these costs will appear on the Statement of Revenues, Expenses and Changes in Net Position.

Payroll and Related. For net position purposes, this classification includes all non-capitalized labor costs.

Period. The date (usually a 12 month span) that expenditures, encumbrances, etc. are recorded for reporting purposes.

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Period Ending. The last date any expenditures, encumbrances, etc. are recorded for reporting purposes. Any data received after this date will be reflected in the next report. A Period Ending may be the end of a pay period, the end of the last pay period of a month, or the end of a calendar month.

Positions. Authorized (created by the LVVWD Board of Directors) employee slots (either currently filled or vacant) that are specifically funded through the budget process.

Potable water. Water that has been treated and meets or exceeds standards set by the Safe Water Drinking Act.

Power. Electricity and natural gas costs that are used for the transportation and transmission of water throughout the SNWA distribution system.

Proprietary Funds. Enterprise Funds and Pension Funds.

Rate-of-Flow Control Systems. (ROFCS) Flow control in a hydraulic system is to regulate speed. The device control the speed of an actuator by regulating the flow rate.

Recharge. Lake water injected directly into the aquifer by wells for the purpose of storing it for future use.

Reclaimed Water Distributions. (RWDS) This is wastewater that has been treated to specific standards.

Revenues. Funds received from various sources and treated as income to LVVWD to finance expenditures.

Revenue Bonds. Bonds where pledges are made to dedicate specific revenue sources to repay the bonds.

Rights-of-Way. (ROW) A right of way is a type of easement granted or reserved over the land for transportation purposes, this can be for a highway, public footpath, rail transport, canal, as well as electrical transmission lines, oil and gas pipelines.

Risk Management. An organized attempt to protect organization's assets against accidental loss in the most economical method.

River Mountains Treatment Plant (RMTP). Facility treats up to 300 million gallons of water per day. The facility provides additional reliability and capacity to Southern Nevada's municipal water treatment and distribution capabilities. It began delivering treated water in October 2002.

Safe Drinking Water Act (SDWA). Act is the principal federal law in the United States intended to ensure safe drinking water for the public. Pursuant to the act, the Environmental Protection Agency (EPA) is required to set standards for drinking water quality and oversee all states, localities, and water suppliers who implement these standards.

Salaries & Wages. A budget category that includes District employee salaries including overtime, longevity pay, and benefits.

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Significant financial impact. Five years immediately following when a capital item is placed into service. The term is required by the Government Finance Officers Association.

Supervisory Control and Data Acquisition (SCADA). Water operations control systems

Southern Nevada Water Authority (SNWA). Was formed in 1991 to manage Southern Nevada's water needs on a regional basis. The Authority comprises seven member agencies including the city of Henderson, city of Las Vegas, city of North Las Vegas, Big Bend Water District (Laughlin), the Clark County Water Reclamation District and the Las Vegas Valley Water District. SNWA provides wholesale water treatment and delivery for the greater Las Vegas Valley and is responsible for acquiring and managing long-term water resources for Southern Nevada.

Southern Nevada Water System (SNWS). Refers to the system of distribution facilities that delivers raw Colorado River water from Lake Mead and delivers potable water to Southern Nevada's municipal water providers.

Special Assessments. Fees that are charged to property owners in certain geographical areas for improvements. A fee is levied only to those property owners that receive direct benefit.

Streamlined Reliability Centered Maintenance. (SRCM) A systematic evaluation of plant equipment and maintenance requirements.

Tax Exempt Commercial Paper Program. (TECP) Tax-exempt commercial paper is short-term debt for which the interest payments are tax-exempt at the federal, state or local level.

Uniform Design and Construction Standards. (UDACS) The Uniform Design and Construction Standards For Potable Water Distribution Systems represent the minimum design and construction criteria for water distribution systems within the participating Agency's jurisdiction.

Water Quality Process Improvement Team. (WQPIT)

Wholesale Delivery Charge (WDC). The per acre-foot charge that SNWA charges purveyor members for the treatment and delivery of treated, potable water.