



LAS VIRGENES MUNICIPAL WATER DISTRICT
4232 Las Virgenes Road, Calabasas, CA 91302

AGENDA
REGULAR MEETING

Members of the public wishing to address the Board of Directors are advised that a statement of Public Comment Protocols is available from the Clerk of the Board. Prior to speaking, each speaker is asked to review these protocols, complete a speakers' card, and hand it to the Clerk of the Board. Speakers will be recognized in the order the cards are received. A live webcast of the meeting will be available at LVMWD.com. Also, a web-based version of the speaker card is available for those who would like to submit written comments electronically or request to make public comment by telephone during the meeting.

The Public Comments agenda item is presented to allow the public to address the Board on matters not on the agenda. The public may also present comments on matters on the agenda; speakers for agendized items will be recognized at the time the item is called up for discussion.

Materials prepared by the District in connection with the subject matter on the agenda are available for public inspection at 4232 Las Virgenes Road, Calabasas, CA 91302. Materials prepared by the District and distributed to the Board during this meeting are available for public inspection at the meeting or as soon thereafter as possible. Materials presented to the Board by the public will be maintained as part of the records of these proceedings and are available upon request to the Clerk of the Board.

9:00 AM

December 17, 2019

PLEDGE OF ALLEGIANCE

- 1 **CALL TO ORDER AND ROLL CALL**
- 2 **APPROVAL OF AGENDA**
- 3 **PUBLIC COMMENTS**

Members of the public may now address the Board of Directors **ON MATTERS NOT APPEARING ON THE AGENDA**, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2

4 **CONSENT CALENDAR**

Matters listed under the Consent Calendar are considered to be routine, non-controversial and normally approved with one motion. If discussion is requested by a member of the Board on any Consent Calendar item, or if a member of the public wishes to comment on an item, that item will be removed from the Consent Calendar for separate action.

- A **List of Demands: December 17, 2019 (Pg.6)**
Receive and File
- B **Minutes: Regular Meeting of November 19, 2019 (Pg. 56)**
Approve
- C **Directors' Per Diem: November 2019 (Pg. 64)**
Ratify
- D **Monthly Cash and Investment Report: October 2019 (Pg. 71)**
Receive and file the Monthly Cash and Investment Report for October 2019.
- E **CIS Software: Annual Support and Maintenance Agreement (Pg. 84)**
Authorize the General Manager to execute an annual support and maintenance agreement with Advanced Utility Systems, in the amount of \$73,824.01 plus applicable taxes, for the District's Customer Information System software.
- F **Customer Service Front Office Area Remodel: Contract Amendment (Pg. 86)**
Authorize the General Manager to increase the contract with Bluespace Interiors by \$1,043.44, from \$35,000 to \$36,043.44, for the installation of noise-cancelling glass as part of the front office area remodel work.
- G **Standby Charge and Deferral Program Administration: Contract Award (Pg. 88)**
Accept the proposal from Harris and Associates and authorize the General Manager to execute a three-year professional services agreement, in an annual amount not to exceed \$28,790 plus postage costs, with an optional two-year extension at a maximum 5% increase to the annual amount for on-going administration of the standby charge and deferral program.
- H **LVUSD Science Team Water-Related Curriculum for 4th and 5th Grade Education: Grant Agreement (Pg. 97)**
Authorize the General Manager to execute a one-year agreement with Las Virgenes Unified School District, in the amount of \$107,000, for the Science Team Water-Related Curriculum for 4th and 5th Grade Education.

5 **ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS**

- A **Introduction of New District Employees**

- B **Recognition of Doug Barrow, Technical Services Support Supervisor, for 32 Years of Service**
- C **Recognition of Director Jay Lewitt, Board President, for Five Years of Service**
- D **Recognition of Director Lynda Lo-Hill, Treasurer, for One Year of Service**
- E **MWD Representative Report (Pg. 105)**
- F **Legislative and Regulatory Updates**
- G **Water Supply Conditions Update (Pg. 110)**

6 **TREASURER**

7 **GENERAL MANAGER**

- A **Salary Resolution and Management Handbook Update: Approval and Adoption (Pg. 112)**

Pass, approve and adopt proposed Resolution No. 2567, establishing salaries for employees; and approve the updated Management Handbook.

RESOLUTION NO. 2567

A RESOLUTION OF THE BOARD OF DIRECTORS OF LAS VIRGENES MUNICIPAL WATER DISTRICT ESTABLISHING SALARIES FOR EMPLOYEES

(Reference is hereby made to Resolution No. 2567 on file in the District's Resolution Book and by this reference the same is incorporated herein.)

8 **FACILITIES AND OPERATIONS**

- A **On-Call Pipeline Repair and Paving Services: Calls for Bids (Pg. 148)**

Authorize the issuance of two calls for bids, one for on-call pipeline repair and paving services and one for paving services only.

- B **Succession Planning: Limited-Term Staffing Augmentation at Tapia Water Reclamation Facility (Pg. 151)**

Approve the addition of one limited-term Water Reclamation Plant Operator I/II position (Salary Grade 42/62) at the Tapia Water Reclamation Facility for succession planning purposes.

9 **FINANCE AND ADMINISTRATION**

- A **Fiscal Year 2018-19 Comprehensive Annual Financial Report (Pg. 153)**

Receive and file the Fiscal Year 2018-19 Comprehensive Annual Financial Report.

10 **ENGINEERING AND EXTERNAL AFFAIRS**

A **2019 Local Hazard Mitigation Plan: Adoption (Pg. 249)**

Pass, approve and adopt proposed Resolution No. 2566, adopting the 2019 Hazard Mitigation Plan.

RESOLUTION NO. 2566

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE LAS VIRGENES MUNICIPAL WATER DISTRICT ADOPTING THE 2019 HAZARD MITIGATION PLAN

(Reference is hereby made to Resolution No. 2566 on file in the District's Resolution Book and by this reference the same is incorporated herein.)

B **Westlake Filtration Plant and Torchwood Tank Landscaping Project: CEQA Determination and Call for Bids (Pg. 432)**

Find that the work is exempt from the provisions of the California Environmental Quality Act and authorize the issuance of a Call for Bids for the Westlake Filtration Plant and Torchwood Tank Landscaping Project.

11 **INFORMATION ITEMS**

A **Reimbursable Expenses for Fiscal Year 2018-19 (Pg. 438)**

12 **NON-ACTION ITEMS**

A **Organization Reports**

B **Director's Reports on Outside Meetings**

C **General Manager Reports**

(1) General Business

(2) Follow-Up Items

D **Director's Comments**

13 **FUTURE AGENDA ITEMS**

14 **PUBLIC COMMENTS**

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15 **CLOSED SESSION**

A **Conference with Legal Counsel -- Liability Claim: Claimant: Mania, Jane (Government Code Section 54956.9(d)(2))**

**B Conference with Legal Counsel -- Liability Claim: Claimant: Bendler,
Kurt (Government Code Section 54956.9(d)(2))**

16 OPEN SESSION AND ADJOURNMENT

Pursuant to Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and applicable federal rules and regulations, requests for a disability-related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting, should be made to the Executive Assistant/Clerk of the Board in advance of the meeting to ensure availability of the requested service or accommodation. Notices, agendas, and public documents related to the Board meetings can be made available in appropriate alternative format upon request.

LAS VIRGENES MUNICIPAL WATER DISTRICT

To: LYNDA LO-HILL, TREASURER

Payments for Board Meeting of: December 17, 2019

Deputy Treasurer has verified that all checks and wire transfers were issued in conformance with LVMWD Administrative Code Section 2-6.203.

Wells Fargo Bank A/C No. 4806-994448

Checks Nos. 83580 through 83803 were issued less voids/stop payments in the total amount of \$ 2,040,735.80

Payments through wire transfers as follows:

11/27/2019 Metropolitan Water District Payment for water deliveries in the month of September 2019 \$ 2,326,517.23

Sub-Total Wires \$ 2,326,517.23

Total Payments \$ 4,367,253.03

(Reference is hereby to these demands on file in the District's Check Register and by this reference the same is incorporated herein and made a part hereof.)

**CHECK LISTING FOR BOARD MEETING
12/17/19**

Company Name	Company No.	Check No. 83580 thru 83629 11/19/19	Check No. 83630 thru 83695 11/26/19	Check No. 83696 thru 83741 12/03/19	Check No. 83742 thru 83803 12/10/19	Total
		Amount	Amount	Amount	Amount	
Potable Water Operations	101	12,100.62	116,491.74	29,008.52	56,373.48	213,974.36
Recycled Water Operations	102				5,070.00	
Sanitation Operations	130	60,099.82	3,166.87	101.16	2,950.00	66,317.85
Potable Water Construction	201	112.50		16,551.31		16,663.81
Water Conservation Construction	203					
Sani- Construction	230					
Potable Water Replacement	301	200,660.00	11,458.09	77,666.15	23,004.36	312,788.60
Reclaimed Water Replace	302					
Sanitation Replacement	330	2,800.00	87.50	1,500.00		4,387.50
Internal Service	701	85,402.08	47,528.37	59,138.21	75,099.69	267,168.35
JPA Operations	751	49,637.90	268,666.92	74,373.52	60,573.41	392,678.34
JPA Construction	752					
JPA Replacement	754	211,873.75	382,914.67	100,975.31	5,590.00	701,353.73
Total Printed		622,686.67	830,314.16	359,314.18	228,660.94	2,040,975.95
Voided Checks/ payment stopped:						
Check #83582	701	(70.00)				(70.00)
Check #83327	101	(170.15)				(170.15)
Total Voids		(240.15)				(240.15)
Net Total		622,446.52	830,314.16	359,314.18	228,660.94	2,040,735.80



MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
 700 North Alameda Street
 Los Angeles, CA, 90012-2944

INVOICE

Billed To:
 Las Virgenes Municipal Water District



Service Address
 4232 Las Virgenes Road
 Calabasas, CA 91302

September 2019	Page No. 1 of 1
Mailed: 10/10/2019	Due Date: 11/29/2019
Invoice Number: 9855	Revision: 0

NOTICE
 The MWD Administrative Code Section 4507 and 4508 require that payment must be made in "Good Funds" by the due date or the payment will be considered delinquent and an additional charge shall be assessed.

DELIVERIES	Volume (AF)
Total Water Treated Delivered	2,084.5
Total Water Untreated Delivered	

SALES	Type	Volume (AF)	Rate (\$ /AF)	Total (\$)
Full Service	Tier 1 Supply Rate	2,084.5	\$209.00	\$435,660.50
	System Access Rate	2,084.5	\$326.00	\$679,547.00
	Water Stewardship Rate	2,084.5	\$69.00	\$143,830.50
	System Power Rate	2,084.5	\$127.00	\$264,731.50
	Treatment Surcharge	2,084.5	\$319.00	\$664,955.50
SUBTOTAL				\$2,188,725.00

OTHER CHARGES AND CREDITS	Rate (\$ /AF)	
Capacity Charge(Payment Schedule: M)	\$32,465.00	
Readiness To Serve Charge(Payment Schedule: M)	\$113,153.02	
Miscellaneous Debit/Credit (See Detail)	(\$7,825.79)	
SUBTOTAL		\$137,792.23

ADDITIONAL INFORMATION	Volume (AF)	Tier 1 %	Peak Day	Flow (CFS)
Capacity Charge			7/26/2016	45.3
Purchase Order Firm Delivery To Date (Jan 2015 to Dec 2024)	91,777.8			
Tier 1 Annual Limit (For Current Calendar Year)	24,359.0			
Tier 1 YTD Deliveries (For Current Calendar Year)	12,986.2	53.3		
Tier 1 Current Month Deliveries	2,084.5			
Purchase Order Commitment (Jan 2015 to Dec 2024)	162,390.0			

INVOICE TOTAL	Volume AF 2,084.5	Amount Now Due \$2,326,517.23
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Note: Amount Due is based on highlighted fields

Revised:

Approved for Payment:

John Zhao Date 10/14/19

Approved for Payment

David W. Pedersen, P.E. 10/14/19

PAID
 wired on 11/27/19 JC 8

Batch Number - 276076

Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Item	Key Co	Amount	Invoice Number
83580	11/19/19	8680	ADS, LLC	OCT*19 FLOW MNTG	PV	167096	001	00701	745.00	22085.22-1019
83581	11/19/19	3077	AIRGAS USA, LLC	OCT*19 FLOW MNTG Payment Amount	PV	167096	002	00701	2,235.00	22085.22-1019
				GLOVES	PV	167099	001	00701	893.52	9094515034
				GLOVES	PV	167100	001	00701	1,005.21	9094515155
			Alt Payee							
			6658 AIRGAS USA, LLC							
			P. O. BOX 102289							
			PASADENA CA 91189-2289							
83582	11/19/19	2403	ASSOCIATION OF WATER AGENCIES	Payment Amount CCWUC EDU TRNG-BH & AA	PV	167173	001	00701	70.00	06-12109
									1,898.73	
83583	11/19/19	20695	AT&T	Payment Amount SRV 10/5-11/4/19	PV	167218	001	00101	51.72	0051/110519
				SRV 10/5-11/4/19	PV	167218	002	00101	50.65	0051/110519
				SRV 10/5-11/4/19	PV	167218	003	00101	226.17	0051/110519
				SRV 10/5-11/4/19	PV	167218	004	00101	1,571.30	0051/110519
				SRV 10/5-11/4/19	PV	167218	005	00101	517.00	0051/110519
				SRV 10/5-11/4/19	PV	167218	006	00101	53.92	0051/110519
				SRV 10/5-11/4/19	PV	167218	007	00101	220.10	0051/110519
				SRV 10/5-11/4/19	PV	167218	008	00101	211.92	0051/110519
				SRV 10/5-11/4/19	PV	167218	009	00101	211.92	0051/110519
				SRV 10/5-11/4/19	PV	167218	010	00101	211.92	0051/110519
				SRV 10/5-11/4/19	PV	167218	011	00101	211.92	0051/110519
				SRV 10/5-11/4/19	PV	167218	012	00101	49.26	0051/110519

Batch Number - 276076

Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
				SRV	PV	167218	013	00101	211.92	0051/110519
				10/5-11/4/19						
				SRV	PV	167218	014	00101	220.10	0051/110519
				10/5-11/4/19						
				SRV	PV	167218	015	00101	110.05	0051/110519
				10/5-11/4/19						
				SRV	PV	167218	016	00101	110.05	0051/110519
				10/5-11/4/19						
				Payment Amount				4,239.92		
83584	11/19/19	2869	AT&T	SRV	PV	167201	001	00101	33.03	0124/110719
				11/7-12/6/19						
				SRV	PV	167202	001	00101	67.07	0123/110719
				11/7-12/6/19						
				SRV	PV	167203	001	00101	200.82	2045/110719
				11/7-12/6/19						
				SRV	PV	167204	001	00101	405.67	2043/110719
				11/7-12/6/19						
				SRV	PV	167205	001	00101	237.65	9054/110519
				11/5-12/4/19						
				Payment Amount				944.24		
83585	11/19/19	20424	AT&T	RLV U VERSE	PV	167214	001	00751	58.85	5778/11019
				11/11-12/10/19						
				Payment Amount				58.85		
83586	11/19/19	9631	AT&T LONG DISTANCE	LONG DIST	PV	167191	001	00701	1.55	806368136/110419
				10/1-11/1/19						
				LONG DIST	PV	167191	002	00701	8.97	806368136/110419
				10/1-11/1/19						
				LONG DIST	PV	167191	003	00701	3.11	806368136/110419
				10/1-11/1/19						
				Payment Amount				13.63		
83587	11/19/19	16253	AT&T MOBILITY	PHONE BATTERY	PV	167190	001	00701	2.25	287294983987X11112019
				WIRELESS SRV	PV	167206	001	00701	209.67	11112019
				10/4-11/3/19						
				WIRELESS SRV	PV	167206	002	00701	3.66	9332/110319
				10/4-11/3/19						
				WIRELESS SRV	PV	167206	003	00701	43.23	9332/110319
				10/4-11/3/19						
				WIRELESS SRV	PV	167206	004	00701	158.63	9332/110319
				10/4-11/3/19						

Batch Number - 276076

Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key	Amount	Invoice Number
							Itm Co		
				WIRELESS SRV	PV	167206	005 00701	11.54	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	006 00701	14.93	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	007 00701	86.46	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	008 00701	27.19	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	009 00701	52.77	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	010 00701	220.65	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	011 00701	6.86	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	012 00701	43.23	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	013 00701	329.05	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	014 00701	3.66	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	015 00701	43.23	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	016 00701	211.04	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	017 00701	72.59	9332/110319
				10/4-11/3/19					
				WIRELESS SRV	PV	167206	018 00701	113.65	9332/110319
				10/4-11/3/19					
				Payment Amount			1,654.29		
83588	11/19/19	21056	BATTERY SYSTEMS INC	BATTERY STOCK	PV	167197	001 00701	135.89	5148723
				Payment Amount			135.89		
83589	11/19/19	3385	C A RASMUSSEN INC.	RFND BAL	PV	167164	001 00101	1,034.38	9998292-07117
				CLOSED A/C					0
				Payment Amount			1,034.38		
83590	11/19/19	21442	CALABASAS COLONY HOA	RFND BAL OPEN A/C	PV	167168	001 00101	4,765.71	0055587
				Payment Amount			4,765.71		
83591	11/19/19	2964	CA DEPARTMENT OF TAX&FEE ADMINISTRATIO	SALES/USE TAX-OCT'19	PV	167210	001 00701	731.00	097-817885/10
				Payment Amount			731.00		3119

Batch Number - 276076

Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
83592	11/19/19	20872	CANDU GRAPHICS	Payment Amount CONF SPC ENTRY PRMT PAD	PV	167169	001	00701	731.00 259.79	78647
83593	11/19/19	2786	CEDAR VALLEY PLUMBING SUPPLY	Payment Amount COPPER TUBING	PV	167179	001	00751	139.81	110227
83594	11/19/19	2534	CITY OF CALABASAS	VALVE SEAT BALL VALVES/UNIONS Payment Amount RFND BAL CLOSED A/C	PV	167180 167181	001	00701 00751	23.98 276.28	111145 111213
83595	11/19/19	2536	CITY OF LOS ANGELES	Payment Amount ASSSC 19/20 O&M-PMT#3 ASSSC 19/20 CAP-PMT#3	PV	167211 167212	001	00130 00130	440.07 75.15 33,059.00 26,019.00	74WP200000027 #3 74WP200000028 #3
83596	11/19/19	19033	DENOVO VENTURES, LLC	Payment Amount DEC'19 DIST RCVRY	PV	167195	001	00701	59,078.00 5,284.00	63328
83597	11/19/19	18111	ELECSYS INTERNATIONAL CORPORATION	Payment Amount OCT'19 MTR DVC MAINT	PV	167199	001	00701	310.00	SIP-E106860
83598	11/19/19	16131	FAIRFIELD SERVICE CO. OF INDIANA LLC	Payment Amount HYDRAULIC MOTOR	PV	167193	001	00701	310.00 9,806.75	80-40328-A REV1
83599	11/19/19	2658	FEDERAL EXPRESS CORP	Payment Amount PKG DLVRD 10/23	PV	167172	001	00701	9,806.75 25.74	6-778-59597
83600	11/19/19	2655	FERGUSON ENTERPRISES	Payment Amount VALVES GAUGES	PV	167142 167143	001	00701 00701	25.74 3,186.45 1,762.14	0690924 0690935

Batch Number - 276076

Bank Account - 00146807 Cash-General

Payment Number	Date	Address Number	Name	Payment Stlub Message	Ty	Document Number	Key ltm	Co	Amount	Invoice Number
P. O. BOX 740827										
LOS ANGELES CA 90074-0827										
83601	11/19/19	6770	G.I. INDUSTRIES	Payment Amount SHOP BLDG 10/1-10/15/19	PV	167182	001	00701	4,948.59 964.78	2919874-0283-6
				11/19 DISP HQ/SHOP	PV	167183	001	00701	712.04	2919961-0283-1
				11/19 DISP-WLK	PV	167207	001	00701	314.49	2476895-0283-6
				SHOP BLDG 10/16-10/31/19	PV	167213	001	00701	1,546.31	2920119-0283-3
9										
Alt Payee 6771 G.I. INDUSTRIES P. O. BOX 541065 LOS ANGELES CA 90054-1065										
83602	11/19/19	21443	IRVIN GOLDMAN	Payment Amount RFND BAL CLOSED A/C	PV	167165	001	00101	3,537.62 11.83	033075
83603	11/19/19	21168	GRANICUS	Payment Amount NOVUS HOSTG 120119-113020	PV	167184	001	00701	1,500.00	119276
83604	11/19/19	9646	GRAYBAR ELECTRIC CO.	Payment Amount UNITY PRO 10/25/19-10/24/20	PV	167139	001	00101	1,500.00 557.84	9312913570
83605	11/19/19	7421	HAMNER, JEWELL AND ASSOCIATES	Payment Amount CNTRL EXPERT SFTWR LIC PROCESSOR TWN LKS 9/16-10/15/19	PV	167140	001	00101	1,074.94 2,743.49 1,110.71 112.50	9312693637 9312685263 190042
83606	11/19/19	4525	HARRINGTON INDUSTRIAL PLASTICS INC.	Payment Amount PVC FLANGE	PV	167198	001	00701	30.55	005C6736
Alt Payee 7132 HARRINGTON INDUSTRIAL PLASTICS LLC P. O. BOX 5128 CHINO CA 91708-5128										

Batch Number - 276076

Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Item Co	Amount	Invoice Number
83607	11/19/19	2727	IDEXX LABORATORIES	ENTERO MEDIA	PV	167176	001 00701	221.89	3055153822
				Payment Amount				30.55	
83608	11/19/19	20662	INPLANT SALES, LLC	PIPE-RPR FM2	PV	167194	001 00701	1,443.21	16073
				RECIR SYS					
				PIPE-RPR FM2	PV	167194	002 00701	171.95	16073
				RECIR SYS					
83609	11/19/19	20823	INVOICE CLOUD INC.	IC TRAN	PV	167093	001 00701	6,688.00	964-2019_10
				Payment Amount				1,615.16	
				FEE-OCT19					
83610	11/19/19	21197	JACOBS ENGINEERING GROUP INC.	P/E 9/27-PH2	PV	167208	001 00701	23,682.63	W8Y23500-006
				WHT PAPER					
				Payment Amount				6,688.00	
83611	11/19/19	21444	JOEY KABOSIUS	RFND BAL	PV	167166	001 00101	43.59	044091
				CLOSED A/C					
				Payment Amount				23,682.63	
83612	11/19/19	21445	FARSHAD KASHANI	RFND BAL	PV	167167	001 00101	85.35	068362
				CLOSED A/C					
				Payment Amount				43.59	
83613	11/19/19	18940	MINUTEMAN PRESS	PSTG-FALL	PV	167209	001 00701	5,813.70	70920
				CONSRV MAILER					
				Payment Amount				85.35	
83614	11/19/19	2302	OFFICE DEPOT	LABELS	PV	167125	001 00701	43.79	388708252001
				PAPER/MISC	PV	167126	001 00701	620.72	388700563001
				OFFICE SPLY					
				FILES/MONITOR	PV	167127	001 00701	63.70	388708250001
				RISER					
				Payment Amount				5,813.70	
				FOOTREST	PV	167128	001 00701	25.72	388708250001
				TOTE/SHARPIE	PV	167129	001 00701	77.56	389490519001
				PENS					
				PAPER	PV	167130	001 00701	50.36	393550348001
				PAPER/MISC	PV	167131	001 00701	483.87	393558691001
				OFFICE SPLY					
				HEATER	PV	167132	001 00701	126.44	393558692001

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Item	Co	Key	Amount	Invoice Number
83615	11/19/19	16372	OLIN CORPORATION - CHLOR ALKALI	WALL SIGN Payment Amount 4,754 GAL HYPOCHLORITE	PV	167133	001	00701	1,518.42	26.26	393558693001
				4,744 GAL HYPOCHLORITE	PV	167092	001	00701		3,829.68	2751640
					PV	167092	001	00701		3,821.62	2753436
			All Payee	OLIN CORPORATION - CHLOR ALKALI P.O. BOX 402766 ATLANTA GA 30384-2766							
83616	11/19/19	18874	PACIFIC HYDROTECH CORPORATION	Payment Amount PMT #2-PWP DEMO CONST	PV	167097	001	00701	7,651.30	202,025.00	10638/PMT#2
				RTN#2-PWP DEMO CONST	PD	167098	001	00754		10,101.25-	10638/RTN#2
				Payment Amount					191,923.75		
83617	11/19/19	20334	PRUDENTIAL OVERALL SUPPLY	10/19 UNFRMS/MATS/T WLS 10/19 UNFRMS/MATS/T WLS 10/19 UNFRMS/MATS/T WLS 10/19 UNFRMS/MATS/T WLS 10/19 UNFRMS/MATS/T WLS 10/19 UNFRMS/MATS/T WLS 10/19 UNFRMS/MATS/T WLS 10/19 UNFRMS/MATS/T WLS	PV	167103	001	00701	61.50	61.50	170946442
					PV	167103	002	00701		61.87	170946442
					PV	167104	001	00701		61.50	170948229
					PV	167104	002	00701		61.87	170948229
					PV	167105	001	00701		61.50	170949777
					PV	167105	002	00701		61.87	170949777
					PV	167106	001	00701		61.50	170951255
					PV	167106	002	00701		61.87	170951255

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Item	Key Co	Amount	Invoice Number
				WLS						
	10/19			UNFRMS/MATS/T	PV	167107	001	00701	61.50	170952724
				WLS						
	10/19			UNFRMS/MATS/T	PV	167107	002	00701	61.87	170952724
				WLS						
	10/19			UNFRMS/MATS/T	PV	167108	001	00701	9.80	170946437
				WLS						
	10/19			UNFRMS/MATS/T	PV	167108	002	00701	21.44	170946437
				WLS						
	10/19			UNFRMS/MATS/T	PV	167109	001	00701	9.80	170948224
				WLS						
	10/19			UNFRMS/MATS/T	PV	167109	002	00701	21.44	170948224
				WLS						
	10/19			UNFRMS/MATS/T	PV	167110	001	00701	9.80	170949772
				WLS						
	10/19			UNFRMS/MATS/T	PV	167110	002	00701	21.44	170949772
				WLS						
	10/19			UNFRMS/MATS/T	PV	167111	001	00701	9.80	170951250
				WLS						
	10/19			UNFRMS/MATS/T	PV	167111	002	00701	21.44	170951250
				WLS						
	10/19			UNFRMS/MATS/T	PV	167112	001	00701	9.80	170952719
				WLS						
	10/19			UNFRMS/MATS/T	PV	167112	002	00701	21.44	170952719
				WLS						
	10/19			UNFRMS/MATS/T	PV	167113	001	00701	222.38	170946440
				WLS						
	10/19			UNFRMS/MATS/T	PV	167114	001	00701	240.41	170948227

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Payment Number	Date	Address Number	Name	Payment Stub Message	Ty	Document . . .	Key itm Co	Amount	Invoice Number
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167115	001	00701	225.78	170949775
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167116	001	00701	240.92	170951253
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167117	001	00701	222.78	170952722
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167118	001	00701	29.20	170946441
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167118	002	00701	30.83	170946441
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167119	001	00701	34.00	170948228
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167119	002	00701	30.83	170948228
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167120	001	00701	34.00	170949776
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167120	002	00701	30.83	170949776
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167121	001	00701	124.84	170951254
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167121	002	00701	30.83	170951254
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167122	001	00701	34.00	170952723
				UNFRMS/MATS/T					
				WLS					
	10/19			PV	167122	002	00701	30.83	170952723
				UNFRMS/MATS/T					
				WLS					

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Tr	Document Number	Key Item	Co	Amount	Invoice Number
83623	11/19/19	15427	THE GATEKEEPER	GATE RPR-RLV	PV	167177	001	00751	747.23	16550
				Payment Amount					747.23	
83624	11/19/19	17645	TORO ENTERPRISES INC.	J BRIDGER-PIPE REPLC	PV	167094	001	00701	200,660.00	12988
				PR VALVE-1900	PV	167095	001	00701	17,300.00	12988
				RAMBLA						
				Payment Amount					217,960.00	
83625	11/19/19	21252	TYLER TECHNOLOGIES, INC.	10/14-10/15 ERP IMPLTN	PV	167102	001	00701	2,800.00	045-281041
				Payment Amount					2,800.00	
83626	11/19/19	2780	VALLEY NEWS GROUP	DISPLAY AD-TAP	PV	167174	001	00701	220.00	10-24-19
				IN-10/24						
				DISPLAY AD-TAP	PV	167175	001	00701	220.00	10-31-19
				IN-10/31						
				Payment Amount					440.00	
83627	11/19/19	19685	W. LITTEN INC.	SPRYFLD	PV	167089	001	00701	5,298.45	19058
				10/21-10/25/19						
				SPRYFLD	PV	167090	001	00701	3,554.21	19059
				10/28-11/1/19						
				Payment Amount					8,852.66	
83628	11/19/19	8510	WORK BOOT WAREHOUSE	SFTY FWEAR-K HAYNIE	PV	167171	001	00701	152.21	1-71658
				Payment Amount					152.21	
83629	11/19/19	3067	XEROX CORPORATION	LEASE-10/19	PV	167087	001	00701	146.63	098577373
				5945-OPS	PV	167087	002	00701	14.60	098577373
				LEASE-10/19	PV	167087	003	00701	15.32	098577373
				5945-OPS	PV	167087	004	00701	11.29	098577373
				LEASE-10/19	PV	167088	001	00701	442.41	702344237
				5945-OPS	PV	167088	002	00701	44.03	702344237

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Payment Number	Date	Address Number	Name	Payment Stub Message	Document		Key	Amount	Invoice Number
					Ty	Number			
				9/19 LEASE-HQ & TAPIA	PV	167088	003 00701	46.19	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	004 00701	85.17	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	005 00701	559.53	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	006 00701	55.71	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	007 00701	58.45	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	008 00701	3.58	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	009 00701	159.41	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	010 00701	34.59	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	011 00701	18.41	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	012 00701	5.75	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	013 00701	591.53	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	014 00701	58.90	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	015 00701	61.79	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	016 00701	215.34	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	017 00701	125.51	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	018 00701	12.50	702344237
				9/19 LEASE-HQ & TAPIA	PV	167088	019 00701	13.12	702344237
Payment Amount								2,779.76	
Total Amount of Payments Written								622,686.67	
Total Number of Payments Written								50	

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key	Item	Co	Amount	Invoice Number
83630	11/26/19	17361	ACCURATE FIRST AID SERVICES	1ST AID SITE SERV-TAPIA	PV	167237	001	00701		231.70	B-3088
83631	11/26/19	2317	ACORN NEWSPAPER	1ST AID SITE SRV-RLV Payment Amount AD-BEYOND MAG-NOV'19 AD-TAP-IN 2019-10/3 AD-TAP-IN 2019-10/17 AD-TAP-IN 2019-10/24 AD-TAP-IN 2019-10/31 Payment Amount	PV	167244	001	00701	697.39	465.69	B-3087
83632	11/26/19	18661	ACTION AUTO GLASS	RPLC WINDSHIELD #819 Payment Amount	PV	167228	001	00701	6,620.00	495.09	4-265966
83633	11/26/19	3077	AIRGAS USA, LLC	OCT-19 CYLINDER RENT Payment Amount	PV	167266	001	00701	495.09	989.77	9966228738
83634	11/26/19	2397	AQUATIC BIOASSAY & CONSULTING	OCT CHRNC NPDES BIOASS Payment Amount	PV	167272	001	00701	989.77	4,300.00	LVS1119.0930
83635	11/26/19	5625	ASSOC. OF WATER AGENCIES OF VENTURA CO	CCWUC EDU TRNG-BH/AA Payment Amount	PV	167294	001	00701	4,300.00	70.00	06-12109
83636	11/26/19	2964	CA DEPARTMENT OF TAX&FEE ADMINISTRATION	WWTR RIGHTS-FY19-2 Payment Amount	PV	167345	001	00101	70.00	386.70	002 8467 894

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Item	Co	Amount	Invoice Number
83637	11/26/19	18739	CALIFORNIA HAZARDOUS SERVICES, INC.	NOV'19 SITE VISIT	PV	167257	001	00701	105.00	65027
				Payment Amount					386.70	
				10/15 FUEL	PV	167317	001	00701	237.50	64984
				SYS SRV						
				10/29 FUEL	PV	167318	001	00701	427.50	65029
				SYS SRV						
				Payment Amount					770.00	
83638	11/26/19	20655	CANNON CORPORATION	PI/E 10/31 TANK REHAB	PV	167338	001	00701	674.50	70541
				PI/E 10/31 TANK REHAB	PV	167338	002	00701	674.50	70541
				Payment Amount					1,349.00	
83639	11/26/19	2513	CAPCO ANALYTICAL SERVICES	OCT'19 SAMPLING	PV	167320	001	00701	605.00	191936
				Payment Amount					605.00	
83640	11/26/19	18860	CHEMTREAT, INC.	NOV'19 WTR TRMNT	PV	167258	001	00701	693.62	2863031
				Payment Amount					693.62	
83641	11/26/19	4586	CONSOLIDATED ELECTRICAL DISTRIBUTORS	WIRE	PV	167251	001	00701	456.04	9009-799740
				Payment Amount					456.04	
83642	11/26/19	2547	COUNTY SANITATION DISTRICTS OF LA COUNTY	TAPIA GRIT HAULING-OCT'19	PV	167301	001	00751	1,039.08	48892/103119
				Payment Amount					456.04	
83643	11/26/19	2605	DELTA PACIFIC INDUSTRIES	BTRY TERM CLNR/ACF 50	PV	167308	001	00701	498.66	5419
				Payment Amount					1,039.08	
83644	11/26/19	11330	DIAL SECURITY	SRV MOTION SNR-WLK	PV	167280	001	00701	654.74	361803
				Payment Amount					498.66	
83645	11/26/19	2658	FEDERAL EXPRESS CORP	PKGS DLVRD 10/25 & 10/28	PV	167337	001	00701	90.83	6-826-12399
				Payment Amount					654.74	
83646	11/26/19	2660	FISHER	USB DOCK	PV	167300	001	00701	118.03	1794047
				Payment Amount					90.83	

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Number	Key	Item	Co	Amount	Invoice Number
SCIENTIFIC											
Alt Payee	3202	FISHER SCIENTIFIC FILE #50129 LOS ANGELES CA 90074-0129									
83647	11/26/19	6770	G.I. INDUSTRIES	Payment Amount 25 YD @ RLV-10/16-10/ 31	PV	167302	001	00751		85.00	2923631-0283-4
Alt Payee	6771	G.I. INDUSTRIES P. O. BOX 541065 LOS ANGELES CA 90054-1065									
83648	11/26/19	20970	GARDA CL WEST, INC.	Payment Amount 11/19 ARMORED TRNSPRT SRV EXCESS TIME FEE 10/18	PV	167267	001	00701		318.85	10525159
83649	11/26/19	2701	GRAINGER, INC.	Payment Amount HAND SANITIZER BATTERIES PLUMBING SUPPLIES SOLENOID VLV/LABEL TAPE TRANSMITTER PUSH BUTTON LOCKOUT DOLLY HOSE/COUPLER/ ADPTRS	PV	167154	001	00701		93.56	9335958915
83650	11/26/19	19548	GRM INFORMATION MANAGEMENT SERVICES-CA	Payment Amount OCT'19 RECORDS STORAGE OCT'19	PV	167263	001	00701		310.92	0391672

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Item	Co	Amount	Invoice Number
RECORDS										
STORAGE										
				Payment Amount					429.56	
83651	11/26/19	20188	JOSEPHINE GUZMAN	MLG-ATHENAIN DLG 11/15	PV	167297	001	00701	31.09	111519
				Payment Amount					31.09	
83652	11/26/19	4525	HARRINGTON INDUSTRIAL PLASTICS INC.	DIES-CHEM PROLINE PIPE	PV	167242	001	00751	318.44	005C6921
				REPLC CHEM PIPES	PV	167243	001	00751	2,134.45	005C6869
All Payee 7132 HARRINGTON INDUSTRIAL PLASTICS LLC P. O. BOX 5128 CHINO CA 91708-5128										
				Payment Amount					2,452.89	
83653	11/26/19	21133	H2O INNOVATION USA, INC.	PWP DEMO-EOP 50%	PV	167265	001	00701	245,666.92	PJ200244
				Payment Amount					245,666.92	
83654	11/26/19	10102	INFOSEND INC.	9/5-9/26 BILL PMT/MLNG	PV	167271	001	00701	9,347.70	160589
				10/2-10/31 BILL PMT/MLNG	PV	167314	001	00701	11,285.40	162363
				Payment Amount					20,633.10	
83655	11/26/19	20856	INTERNATIONAL PRINTING & TYPESETTING INC	IRRGTN CONSRV BANNERS	PV	167311	001	00701	410.63	22226
				PUBLIC ED BOOKLETS	PV	167312	001	00701	2,352.16	22227
				"TAP IN" PRGM CARDS	PV	167316	001	00701	229.95	22234
				Payment Amount					2,992.74	
83656	11/26/19	2611	LA DWP	RECTIFIER 10/16-11/13/19	PV	167238	001	00101	42.20	503850/111419
				RECTIFIER 10/15-11/12/19	PV	167239	001	00101	47.48	017698/111319
				Payment Amount					89.68	

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Item	Co	Amount	Invoice Number
83657	11/26/19	15749	LAWRENCE ROLL-UP DOORS, INC.	AUTO ENTRY GATE-WLK	PV	167148	001	00701	40,140.00	1954847
83658	11/26/19	3514	LOS ANGELES COUNTY REGISTRAR-REC ORDER	RPR GARAGE GATE-BLDG8 Payment Amount NOE-CRDLR TNK REHAB	PV	167227 167339	001 001	00701 00754	426.70 40,566.70 75.00	1955043 10665/NOE
83659	11/26/19	3514	LOS ANGELES COUNTY REGISTRAR-REC ORDER	Payment Amount CEQA-NOE/SDL PEAK TNK	PV	167340	001	00301	75.00	10671/CEQA-NOE
83660	11/26/19	6934	MANHOLE ADJUSTING CONTRACTORS, INC.	Payment Amount ADJ MANHOLE/TRAFF IC RVW	PV	167319	001	00701	4,380.00	6827-REV
83661	11/26/19	2814	MCMaster-CARR SUPPLY CO	Payment Amount FLANGE GASKETS HARDWARE-RANC HO PVC FITTINGS	PV	167231 167232 167233	001 001 001	00101 00751 00751	39.86 32.48 61.89	20109835 20081904 20828562
83662	11/26/19	13689	MR. SHIMS	Payment Amount FULL KIT SHIMS	PV	167246	001	00701	585.33	63248
83663	11/26/19	2365	MUNITEmps-MUN ICIPAL STAFFING SOLUTIONS	Payment Amount PIE 9/30-PLC DSGN/PRGM Payment Amount TEMP SRV 10/28-10/31-R	PV	167149	001	00701	5,550.00	6330
83664	11/26/19	16529	MUNITEmps-MUN ICIPAL STAFFING SOLUTIONS	Payment Amount TEMP SRV 10/28-10/31-R	PV	167262	001	00701	1,015.00	129561

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Item	Key Co	Amount	Invoice Number
83655	11/26/19	2842	NAPA-AUTO PARTS	Payment Amount	PV	167303	001	00701	507.26	4206-924142
				BATTERIES						
				CR-#4206-9241	PD	167304	001	00701	77.22	4206-924162
				42						
				BLUE DEF	PV	167305	001	00701	96.33	4206-925547
				BELTS	PV	167306	001	00701	18.51	4206-923601
				CR	PD	167307	001	00701	281.91	4206-917172
				RET-#4206-901						
				930						
				Payment Amount					1,015.00	
83656	11/25/19	20772	NATIONAL PAYMENT CORP.	Payment Amount	PV	167147	001	00701	70.57	826389
				OCT'19 ELECT						
				PAYSTUBS						
				Payment Amount					262.97	
83657	11/25/19	2846	NATIONAL PLANT SERVICES INC	Payment Amount	PV	167323	001	00701	3,025.00	14605
				CLR						
				DRAIN-5895						
				WOODGLEN						
				CLEAN L/S 2	PV	167324	001	00701	2,800.00	15163
				CCTV	PV	167325	001	00701	1,000.00	15173
				INSPECTION						
				Payment Amount					70.57	
83658	11/25/19	16754	NATURAL SURROUNDINGS	Payment Amount	PV	167270	001	00701	295.00	7302
				NOV'19 FLORAL						
				MAINT						
				Payment Amount					6,825.00	
83659	11/26/19	20604	NOAH'S CLEANERS, INC.	Payment Amount	PV	167220	001	00701	175.00	95146
				DRYCLEAN (7)						
				TABLECLOTHS						
				Payment Amount					235.00	
83670	11/26/19	16575	OAKSTONE GLASS CORPORATION	Payment Amount	PV	167234	001	00751	1,245.00	67515
				SHWR						
				DOOR-WOMENS						
				LCKR-TP						
				Payment Amount					175.00	
83671	11/25/19	16372	OLIN CORPORATION - CHLORALKALI	Payment Amount	PV	167247	001	00701	4,063.38	2757041
				4,824 GAL						
				HYPOCHLORITE						
				Payment Amount					1,245.00	
				4,512 GAL	PV	167248	001	00701	3,800.57	2757866
				HYPOCHLORITE						
				4,920 GAL	PV	167321	001	00701	4,144.24	2759436
				HYPOCHLORITE						

All Payee 16373 OLIN CORPORATION - CHLORALKALI

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key	Amount	Invoice Number
Number	Date	Number				Number	Item Co		
83675	11/26/19	21449	PIERRES CATERING COMPANY & DELIVERIES	Payment Amount LUNCH/TAP-IN 19/BAL	PV	167295	001 00701	3,585.00	321
								756.70	
83676	11/26/19	2585	PURETEC	Payment Amount 11/1/19-1/31/ 20 DI RNTL 11/1/19-1/31/ 20 DI RNTL	PV	167273	001 00701	82.03	1756784
								265.77	1756591
83677	11/26/19	21195	RACHIO INC.	Payment Amount IRGTN INSTALLS-OCT 19	PV	167252	001 00701	61,962.30	322910
								347.80	
83678	11/26/19	9134	ROTO-ROOTER PLUMBERS	Payment Amount CLEAR TOILET DRAIN-BLDG8	PV	167229	001 00701	399.00	518-21355161
								399.00	
83679	11/26/19	15800	SAFE AND BEAUTIFUL TREE CO., INC.	Payment Amount WEED ABTMT-IND HILLS	PV	167293	001 00101	2,300.00	110119
								2,300.00	
83680	11/26/19	20898	SDI PRESENCE LLC	Payment Amount PIE 10/31 ERP CONSULT SRV	PV	167269	001 00701	87.50	3537
								2,300.00	
			Alt Payee						
			20936 SDI PRESENCE LLC 29290 NETWORK PLACE CHICAGO IL 60673-1292						
				Payment Amount				87.50	
83681	11/26/19	2969	STATE WATER RESOURCES CONTROL BOARD	PRMT FY19-20 TWRF#00037	PV	167296	001 00751	8,953.00	WD-0166837
								14,073.00	WD-0162706
								86,613.00	WD-0162213
								67,148.00	WD-0167471

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Item	Key Co	Amount	Invoice Number
83682	11/26/19	21428	TERRA FORM, INC.	Payment Amount PMT#2-DEMO GARDEN/PWP	PV	167310	001	00701	117,000.00	10638/PMT#2
									176,787.00	
83683	11/26/19	12149	THATCHER CO. OF CALIFORNIA	Payment Amount 4,018 GAL BISULFITE	PV	167322	001	00701	5,906.09	270462
83684	11/26/19	17645	TORO ENTERPRISES INC.	Payment Amount VALVE RPR-KANAN/TO	PV	167153	001	00701	40,903.52	12994
									5,906.09	
83685	11/26/19	18651	TOYOTA-LIFT OF LOS ANGELES	Payment Amount PM SERV-VEH#202	PV	167309	001	00701	121.90	PSI-0149479
									40,903.52	
83686	11/26/19	20880	TPX COMMUNICATION S	Payment Amount SRV 11/16-12/15/1	PV	167344	001	00701	493.41	123280335-0
									121.90	
									200.00	
									182.87	
									166.87	
									200.00	
									1,100.40	
									1,102.10	
									1,334.35	

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Item	Key Co	Amount	Invoice Number
				SRV 11/16~12/15/1	PV	167344	009	00701	215.70	123280335-0
				9						
				SRV 11/16~12/15/1	PV	167344	010	00701	200.00	123280335-0
				9						
				SRV 11/16~12/15/1	PV	167344	011	00701	951.00	123280335-0
				9						
				Payment Amount						
83687	11/26/19	19135	TRANSUNION RISK & ALTERNATIVE DATA SOLUT	BAD DEBT SRCH-OCT'19	PV	167219	001	00701	123.00	974571/OCT'19
				6,146.70						
				Payment Amount						
83688	11/26/19	3006	UNDERGROUND SERVICE ALERT	284 TICKETS-OCT'1	PV	167240	001	00101	478.60	1020190410
				9						
				DIG SAFE PERMIT FEE	PV	167241	001	00101	200.76	18DSBFE5790
				Payment Amount						
83689	11/26/19	21154	UTILIWORCS CONSULTING, LLC	P/E 10/31 AMR/AMI	PV	167249	001	00701	10,708.59	5744
				9						
				Payment Amount						
83690	11/26/19	3026	VENTURA COUNTY STAR	DIGITAL SUB 10/31~11/29/1	PV	167226	001	00701	4.99	010790555/NOV '19
				9						
				Payment Amount						
83691	11/26/19	18604	VENTURA PEST CONTROL	PEST CNTRL SRV-NOV*19	PV	167256	001	00701	135.00	694376
				9						
				Payment Amount						
83692	11/26/19	21295	VERTICAL ELEVATOR SOLUTIONS, INC.	PEST CNTRL SRV-NOV*19	PV	167256	002	00701	100.00	694376
				9						
				Payment Amount						
				NOV*19-ELEV SRV	PV	167259	001	00701	290.00	6965
				9						
				Payment Amount						
				575.00						
				Payment Amount						
				290.00						

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Doc. Ty	Document Number	Key Item	Key Co	Amount	Invoice Number
83693	11/26/19	2435	VINCE BARNES AUTOMOTIVE	OIL/FILTERS-#90	PV	167327	001	00701	98.49	024235
				1 FRNT MOTOR	PV	167328	001	00701	692.50	024257
				MOUNTS-#909						
				RPLC INFO	PV	167329	001	00701	531.58	024266
				CENTER-#876						
				Payment Amount					1,322.57	
83694	11/26/19	18914	WECK LABORATORIES, INC.	MALIBU	PV	167144	001	00701	477.36	W9J2163-LV
				CREEK-9J16091						
				TAPIA	PV	167145	001	00701	1,163.34	W9J2356-LV
				INFLNT-9I1712						
				2 TAPIA	PV	167146	001	00701	3,690.03	W9J2357-LV
				EFFLNT-9I1712						
				4 MALIBU	PV	167275	001	00701	5,842.60	W9K0103-LV
				CREEK-9I17117						
				MALIBU	PV	167276	001	00701	2,097.75	W9K0330-LV
				CREEK-9J08122						
				WESTLAKE-9J01	PV	167277	001	00701	41.38	W9K0331-LV
				070						
				WESTLAKE-9J08	PV	167278	001	00701	41.38	W9K0467-LV
				115						
				DIONIZED	PV	167279	001	00701	26.52	W9K0723-LV
				WATER-9K06005						
				Payment Amount					13,370.36	
83695	11/26/19	3048	WEST COAST AIR CONDITIONING	PM/FILTERS-BL	PV	167253	001	00701	650.00	S104329
				DG 8						
				PM/FILTERS-TA	PV	167254	001	00701	160.00	S104352
				PIA						
				RPLC 2	PV	167261	001	00701	1,610.00	S104363
				MOTORS-RLV						
				REFRIGERANT-T	PV	167281	001	00701	262.80	S105052
				APIA						
				ANNL BOILER	PV	167326	001	00701	1,942.00	S104671
				CLNG-BD8						
				Payment Amount					4,624.80	
				Total Amount of Payments Written					830,314.16	

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Payment Number	Date	Address Number	Name	Payment Stub Message	Ty	Document . . .	Key	Co	Amount	Invoice Number
Total Number of Payments Written										
										66

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	TY	Document Number	Item	Co	Key	Amount	Invoice Number
83696	12/03/19	19269	ACC BUSINESS	INTERNET 10/11-11/10/1 9	PV	167376	001	00701		913.82	193176303
83697	12/03/19	19269	ACC BUSINESS	Payment Amount LATE CHARGE	PV	167377	001	00701		913.82 1.06	193192163
83698	12/03/19	2363	AMERICAN WATER WORKS ASSOC	Payment Amount 2020 MEMBERSHIP DUES	PV	167403	001	00701		1.06 4,269.00	7001720907
83699	12/03/19	21451	MAHIYAR ARJOMAND,	Payment Amount RFND BAL-CLOSED A/C	PV	167336	001	00101		4,269.00 92.38	082194
83700	12/03/19	2869	AT&T	Payment Amount SRV 11/14-12/13/1 9	PV	167397	001	00701		92.38 211.95	4639/111419
83701	12/03/19	2425	BANK OF AMERICA	Payment Amount VISA CHG-FIN ADM-OCT*19	PV	167346	001	00701		211.95 354.04	8772/110719
				VISA CHG-FIN ADM-OCT*19	PV	167346	002	00701		180.00	8772/110719
				VISA CHG-FIN ADM-OCT*19	PV	167346	003	00701		493.85	8772/110719
				VISA CHG-FIN ADM-OCT*19	PV	167346	004	00701		375.00	8772/110719
				VISA CHG-ARENAS-OC T*19	PV	167347	001	00701		153.70	9030/110719
				VISA CHG-BAIRD-OCT *19	PV	167348	001	00701		45.00	7536/110719
				VISA CHG-BOCKELMAN -OCT*19	PV	167349	001	00701		382.16	8102/110719
				VISA CHG-BOCKELMAN -OCT*19	PV	167349	002	00701		168.00	8102/110719
				VISA CHG-BOCKELMAN -OCT*19	PV	167349	003	00701		175.20	8102/110719

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Payment Number	Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key I/m Co	Amount	Invoice Number
				VISA	PV	167349	004 00701	489.31	8102/110719
				CHG-BOCKELMAN -OCT'19					
				VISA	PV	167350	001 00701	1,206.40	6167/110719
				CHG-BOSSON-OC T'19					
				VISA	PV	167350	002 00701	694.77	6167/110719
				CHG-BOSSON-OC T'19					
				VISA	PV	167351	001 00701	10.00	7651/110719
				CHG-CASPARY-O CT'19					
				VISA	PV	167352	001 00701	28.45	6377/110719
				CHG-CLARK-OCT '19					
				VISA	PV	167353	001 00701	71.21	3954/110719
				CHG-GARMAN-OC T'19					
				VISA	PV	167354	001 00101	164.53	5151/110719
				CHG-GIL-OCT'1 9					
				VISA	PV	167354	002 00101	9.11	5151/110719
				CHG-GIL-OCT'1 9					
				VISA	PV	167354	003 00101	65.80	5151/110719
				CHG-GIL-OCT'1 9					
				VISA	PV	167354	004 00101	264.44	5151/110719
				CHG-GIL-OCT'1 9					
				VISA	PV	167354	005 00101	473.96	5151/110719
				CHG-GIL-OCT'1 9					
				VISA	PV	167354	006 00101	496.36	5151/110719
				CHG-GIL-OCT'1 9					
				VISA	PV	167354	007 00101	67.52	5151/110719
				CHG-GIL-OCT'1 9					
				VISA	PV	167354	008 00101	25.17	5151/110719
				CHG-GIL-OCT'1					

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Payment Number	Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Firm	Key Co	Amount	Invoice Number
9				VISA CHG-GIL-OCT1	PV	167354	009	00101	9.79	5151/110719
9				VISA CHG-GIL-OCT1	PV	167354	010	00101	195.61	5151/110719
9				VISA CHG-GIL-OCT1	PV	167354	011	00101	635.10	5151/110719
9				VISA CHG-GUZMAN-OC T19	PV	167355	001	00701	32.50	6935/110719
9				VISA CHG-GUZMAN-OC T19	PV	167355	002	00701	82.69	6935/110719
9				VISA CHG-GUZMAN-OC T19	PV	167355	003	00701	75.00	6935/110719
9				VISA CHG-GUZMAN-OC T19	PV	167355	004	00701	29.50	6935/110719
9				VISA CHG-JOHNSON-O CT19	PV	167356	001	00701	748.20	7572/110719
9				VISA CHG-JONES-OCT '19	PV	167357	001	00101	144.05	3713/110719
9				VISA CHG-JONES-OCT '19	PV	167357	002	00101	421.19	3713/110719
9				VISA CHG-JONES-OCT '19	PV	167357	003	00101	37.27	3713/110719
9				VISA CHG-JONES-OCT '19	PV	167357	004	00101	339.83	3713/110719
9				VISA CHG-JONES-OCT '19	PV	167357	005	00101	561.02	3713/110719
9				VISA CHG-JONES-OCT '19	PV	167357	006	00101	207.85	3713/110719

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Item	Key Co	Amount	Invoice Number
				CHG-JONES-OCT						
				'19						
				VISA	PV	167357	007	00101	164.34	3713/110719
				CHG-JONES-OCT						
				'19						
				VISA	PV	167357	008	00101	20.35	3713/110719
				CHG-JONES-OCT						
				'19						
				VISA	PV	167358	001	00701	58.04	0544/110719
				CHG-KORKOSZ-O						
				CT*19						
				VISA	PV	167358	002	00701	22.00	0544/110719
				CHG-KORKOSZ-O						
				CT*19						
				VISA	PV	167358	003	00701	170.56	0544/110719
				CHG-KORKOSZ-O						
				CT*19						
				VISA	PV	167358	004	00701	514.66	0544/110719
				CHG-KORKOSZ-O						
				CT*19						
				VISA	PV	167359	001	00701	725.00	4758/110719
				CHG-LO-HILLO						
				CT*19						
				VISA	PV	167360	001	00751	237.68	1975/110719
				CHG-MCDERMOTT						
				-OCT*19						
				VISA	PV	167360	002	00751	143.60	1975/110719
				CHG-MCDERMOTT						
				-OCT*19						
				VISA	PV	167360	003	00751	142.31	1975/110719
				CHG-MCDERMOTT						
				-OCT*19						
				VISA	PV	167360	004	00751	955.54	1975/110719
				CHG-MCDERMOTT						
				-OCT*19						
				VISA	PV	167360	005	00751	15.98	1975/110719
				CHG-MCDERMOTT						
				-OCT*19						
				VISA	PV	167360	006	00751	335.96	1975/110719
				CHG-MCDERMOTT						
				-OCT*19						

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Payment Number	Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Firm	Key Co	Amount	Invoice Number
				VISA	PV	167361	001	00701	150.00	6549/110719
				CHG-MCNUUTT-OC T*19						
				VISA	PV	167361	002	00701	325.00	6549/110719
				CHG-MCNUUTT-OC T*19						
				VISA	PV	167361	003	00701	13.06	6549/110719
				CHG-MCNUUTT-OC T*19						
				VISA	PV	167361	004	00701	148.24	6549/110719
				CHG-MCNUUTT-OC T*19						
				VISA	PV	167361	005	00701	39.97	6549/110719
				CHG-MCNUUTT-OC T*19						
				VISA	PV	167361	006	00701	250.00	6549/110719
				CHG-MCNUUTT-OC T*19						
				VISA	PV	167362	001	00701	52.54	5953/110719
				CHG-MEREDITH- OCT*19						
				VISA	PV	167362	002	00701	221.28	5953/110719
				CHG-MEREDITH- OCT*19						
				VISA	PV	167362	003	00701	275.63	5953/110719
				CHG-MEREDITH- OCT*19						
				VISA	PV	167362	004	00701	42.62	5953/110719
				CHG-MEREDITH- OCT*19						
				VISA	PV	167363	001	00701	324.28	5458/110719
				CHG-PANIAGUA- OCT*19						
				VISA	PV	167363	002	00701	86.06	5458/110719
				CHG-PANIAGUA- OCT*19						
				VISA	PV	167363	003	00701	75.80	5458/110719
				CHG-PANIAGUA- OCT*19						
				VISA	PV	167363	004	00701	189.00	5458/110719
				CHG-PANIAGUA- OCT*19						

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Payment Number	Date	Address Number	Name	Payment Stub Message	Document Number	Key Item	Key Co	Amount	Invoice Number
				OCT19					
				VISA	167363	005	00701	156.68	5458/110719
				CHG-PANIAGUA-					
				OCT19					
				VISA	167363	006	00701	81.45	5458/110719
				CHG-PANIAGUA-					
				OCT19					
				VISA	167363	007	00701	70.97	5458/110719
				CHG-PANIAGUA-					
				OCT19					
				VISA	167363	008	00701	1,180.43	5458/110719
				CHG-PANIAGUA-					
				OCT19					
				VISA	167363	009	00701	89.34	5458/110719
				CHG-PANIAGUA-					
				OCT19					
				VISA	167363	010	00701	37.00	5458/110719
				CHG-PANIAGUA-					
				OCT19					
				VISA	167363	011	00701	628.03	5458/110719
				CHG-PANIAGUA-					
				OCT19					
				VISA	167364	001	00701	500.00	6347/110719
				CHG-PATTERSON					
				-OCT19					
				VISA	167364	002	00701	30.00	6347/110719
				CHG-PATTERSON					
				-OCT19					
				VISA	167365	001	00701	16.00	1924/110719
				CHG-PEDERSEN-					
				OCT19					
				VISA	167365	002	00701	10.00	1924/110719
				CHG-PEDERSEN-					
				OCT19					
				VISA	167365	003	00701	81.65	1924/110719
				CHG-PEDERSEN-					
				OCT19					
				VISA	167365	004	00701	52.02	1924/110719
				CHG-PEDERSEN-					
				OCT19					
				VISA	167366	001	00701	237.03	5664/110719
				CHG-PEDERSEN-					
				OCT19					
				VISA					

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Lim	Key Co	Amount	Invoice Number
				CHG-POLAN-OCT '19						
				VISA	PV	167367	001	00701	75.00	8400/110719
				CHG-ROBERTS-OCT '19						
				VISA	PV	167368	001	00701	823.29	6442/110719
				CHG-SACCARECC IA-OCT '19						
				VISA	PV	167368	002	00701	823.29	6442/110719
				CHG-SACCARECC IA-OCT '19						
				VISA	PV	167368	003	00701	575.00	6442/110719
				CHG-SACCARECC IA-OCT '19						
				VISA	PV	167368	004	00701	110.00	6442/110719
				CHG-SACCARECC IA-OCT '19						
				VISA	PV	167369	001	00701	88.86	0615/110719
				CHG-TRIPLETT-OCT '19						
				VISA	PV	167369	002	00701	300.00	0615/110719
				CHG-TRIPLETT-OCT '19						
				VISA	PV	167369	003	00701	63.02	0615/110719
				CHG-TRIPLETT-OCT '19						
				VISA	PV	167369	004	00701	3.93	0615/110719
				CHG-TRIPLETT-OCT '19						
				VISA	PV	167370	001	00101	2.38	0751/110719
				CHG-VOLLMAR-OCT '19						
				VISA	PV	167370	002	00101	87.15	0751/110719
				CHG-VOLLMAR-OCT '19						
				VISA	PV	167370	003	00101	5.37	0751/110719
				CHG-VOLLMAR-OCT '19						
				VISA	PV	167370	004	00101	164.05	0751/110719
				CHG-VOLLMAR-OCT '19						

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Item	Key Co	Amount	Invoice Number
				VISA	PV	167370	005	00101	258.00	0751/110719
				CHG-VOLLMAR-O CT*19						
				VISA	PV	167370	006	00101	656.98	0751/110719
				CHG-VOLLMAR-O CT*19						
				VISA	PV	167370	007	00101	114.97	0751/110719
				CHG-VOLLMAR-O CT*19						
				VISA	PV	167371	001	00751	73.43	8239/110719
				CHG-WINK-OCT 19						
				VISA	PV	167371	002	00751	22.95	8239/110719
				CHG-WINK-OCT 19						
				VISA	PV	167371	003	00751	27.58	8239/110719
				CHG-WINK-OCT 19						
				VISA	PV	167371	004	00751	64.61	8239/110719
				CHG-WINK-OCT 19						
				VISA	PV	167371	005	00751	46.78	8239/110719
				CHG-WINK-OCT 19						
				VISA	PV	167372	001	00701	399.74	6218/110719
				CHG-ZHAO-OCT 19						
				VISA	PV	167372	002	00701	88.41	6218/110719
				CHG-ZHAO-OCT 19						
				Payment Amount				23,542.39		
83702	12/03/19	18071	BLUE DIAMOND MATERIALS	2.98 TN A/C	PV	167382	001	00701	161.55	1720774
				FINE 1/2						
				Payment Amount				161.55		
83703	12/03/19	20655	CANNON CORPORATION	P/E 9/30-DSGN SRV INTRCNT	PV	167424	001	00701	3,464.06	70345
				P/E 10/31-DSGN SRV INTRCNT	PV	167425	001	00701	10,427.25	70532
				P/E 10/31 J BRIDGER	PV	167426	001	00701	10,804.71	70546

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key	Item	Co	Amount	Invoice Number
				PIPELN							
				P/E 10/31	PV	167427	001	00701		6,299.75	70527
				CORNELL P/S							
				UPGD							
				P/E 10/31	PV	167432	001	00701		7,373.00	70525
				MULHLND BRDG							
				Payment Amount					38,368.77		
83704	12/03/19	19266	CHICAGO BLOWER CORPORATION	MOTOR	PV	167383	001	00701		2,889.71	195322
				BASE-TAPIA FANS							
				Payment Amount					2,889.71		
83705	12/03/19	21201	CUSHMAN CONTRACTING CORPORATION	50% RTN RELEASE-AIR PROC	PV	167429	001	00754		89,728.86	10626/RTN-RLS -PRTL
				Payment Amount					89,728.86		
83706	12/03/19	2601	DELL COMPUTER CORP	COMPUTERS & MONITORS	PV	167434	001	00701		20,853.13	010348521207
				Alt Payee 7819 DELL MARKETING LP P.O. BOX 910916 PASADENA CA 91110-0916							
				Payment Amount					20,853.13		
83707	12/03/19	20848	E&M ELECTRIC AND MACHINERY, INC.	WDRWR SPPT JAN-DEC'20	PV	167375	001	00701		14,286.00	343751
				WDRWR SPPT JAN-DEC'20							
				Payment Amount					14,286.00		
83708	12/03/19	14591	EMISSION COMPLIANT CONTROLS CORP.	EMMSN TEST CORNELL 9/16	PV	167381	001	00701		1,379.00	PSO4661
				Payment Amount					23,810.00		
				Alt Payee 15750 EMISSION COMPLIANT CONTROLS CORP. P. O. BOX 16727 IRVINE CA 92623-6727							
				Payment Amount					1,379.00		
83709	12/03/19	4843	ENVICOM CORPORATION	P/E 10/25-TWNLKS P/S DSGN	PV	167423	001	00701		5,631.89	00015251
				Payment Amount					5,631.89		

Las Virgenes Municipal Water
A/P Auto Payment Register

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key	Amount	Invoice Number
83710	12/03/19	2654	FAMCON PIPE	BALL VALVES	PV	167373	001 00701	3,833.20	S100012927-00
				Payment Amount				3,833.20	3
83711	12/03/19	21055	FIRESTONE COMPLETE AUTO CARE	(4) TIRE/ALIGN-#9	PV	167385	001 00701	836.81	189703
				21 BRIDGESTONE					
				(4) TIRE/ALIGN-#9	PV	167386	001 00701	986.83	189910
				03					
			Alt Payee	FIRESTONE COMPLETE AUTO CARE					
				1100 E. THOUSAND OAKS BLVD.					
				THOUSAND OAKS CA 91362-2815					
				Payment Amount				1,823.64	
83712	12/03/19	2661	FLO-SYSTEMS INC	HYDORGRITTER SKIRT	PV	167401	001 00751	330.18	F17661-19X278
				Payment Amount				330.18	-2
83713	12/03/19	21452	STEVE GUBNER	RFND	PV	167332	001 00101	546.98	054082
				BAL-CLOSED A/C					
				Payment Amount				546.98	
83714	12/03/19	2705	HACH COMPANY	CHLORINE	PV	167384	001 00701	263.32	11720491
			Alt Payee	6442 HACH COMPANY					
				2207 COLLECTIONS CENTER DR					
				CHICAGO IL 60693					
				Payment Amount				263.32	
83715	12/03/19	6777	CAL-COAST MACHINERY	TRACTOR RPR PARTS	PV	167395	001 00751	143.13	580278
				TRACTOR CANOPY	PV	167396	001 00751	808.13	584311
			Alt Payee	7133 JOHN DEERE FINANCIAL					
				PO BOX 4450					
				CAROL STREAM IL 60197-4450					
				Payment Amount				951.26	
83716	12/03/19	5230	KENNEDY/JENKS CONSULTANTS	P/E	PV	167422	001 00701	2,660.00	134187
				10/25-TWNLKS PS DSGN					
				Payment Amount				2,660.00	
83717	12/03/19	2611	LA DWP	TWIN LAKES	PV	167419	001 00101	9,703.12	875698/111919
				P/S					

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key lfm	Key Co	Amount	Invoice Number
83723	12/03/19	21134	NEW EARTH USA, LLC	Payment Amount DISP	PV	167421	001	00701	27,812.79	12
				BIOSOLIDS-OCT '19						
83724	12/03/19	2652	NEW PIG CORP	Payment Amount ABSORBENT MAT	PV	167404	001	00701	111.30	4875985-00
				PADS						
				ABSORBENT MAT					439.40	4876008-00
				PADS						
83725	12/03/19	21457	IVO C. NKWENJI	Payment Amount REIMB-MISAC	PV	167393	001	00701	130.00	300003947
				MBRSHIP						
83726	12/03/19	3110	GLEN PETERSON	Payment Amount MWD REP	PV	167420	001	00701	1,980.00	12
				FEE-NOV'19						
83727	12/03/19	21454	LYNDSAY POSEY	Payment Amount RFND	PV	167334	001	00101	6.75	071795
				BAL-CLOSED						
				A/C						
83728	12/03/19	10238	R C BECKER & SON INC.	Payment Amount RFND	PV	167330	001	00101	257.03	9999702
				BAL-CLOSED						
				A/C						
83729	12/03/19	16022	ROLLS SCAFFOLD & EQUIPMENT, INC	Payment Amount SCFFLD-WLK	PV	167389	001	00701	2,266.02	6081711S1C
				10/14-11/10/19						
83730	12/03/19	20124	RON'S PORTABLE WELDING	Payment Amount WELD SRV	PV	167402	001	00101	220.00	6466
				CONNECTIONS						
83731	12/03/19	21455	MICHAEL SARDO	Payment Amount RFND	PV	167335	001	00101	111.06	066757
				BAL-CLOSED						
				A/C						
83732	12/03/19	2957	SOUTHERN CALIFORNIA EDISON	Payment Amount RLV CMPST	PV	167394	001	00751	17,344.35	5165-46/11231
				10/23-11/22						9

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key	Amount	Invoice Number
							Item Co		
83733	12/03/19	2957	SOUTHERN CALIFORNIA EDISON	Payment Amount RLV CMPST-DL 10/23~11/22/1 9	PV	167431	001 00751	269.91	3293-30/11231 9
83734	12/03/19	2958	SOUTHERN CALIFORNIA GAS CO	Payment Amount CONDUIT 10/18~11/19	PV	167418	001 00101	76.03	8400/112119
83735	12/03/19	20646	STANTEC CONSULTING SERVICES INC.	Payment Amount PIE 11/1 SMR SSN WST LD	PV	167433	001 00701	11,246.45	1582376
83736	12/03/19	2499	STATE OF CA - DEP OF PARKS & RECREATION	Payment Amount ROE PERMIT-SADL PEAK TNK	PV	167430	001 00301	1,450.00	PERMIT/10671
83737	12/03/19	9082	THE BANK OF NEW YORK MELLON	Payment Amount BND REDEMP TN & LEGAL RVW	PV	167392	001 00330	1,500.00	252-2242783
83738	12/03/19	9505	TIRE MAN AGOURA	Payment Amount RPR FLAT TIRE-#923	PV	167400	001 00701	25.00	2084395
83739	12/03/19	3035	VWR SCIENTIFIC	Payment Amount FILTER FLASKS	PV	167398	001 00701	266.44	808828241
				GRAD TIPS,KIM WIPES,TUBES	PV	167399	001 00701	343.58	8088280610
			Alt Payee 3216 VWR INTERNATIONAL, INC P. O. BOX 640169 PITTSBURGH PA 15264-0169	Payment Amount SPRYFLD 11/4~11/7	PV	167397	001 00701	4,639.06	19060
83740	12/03/19	19685	W. LITTEN INC.	Payment Amount SPRYFLD 11/12~11/14	PV	167388	001 00701	3,513.78	19061
				Payment Amount	PV	167391	001 00701	2,086.50	D35100
83741	12/03/19	3044	WATEREUSE ASSOCIATION	Payment Amount	PV	167391	001 00701	2,086.50	D35100

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Payment Number	Date	Address Number	Name	Payment Stub Message	Document Number	Key Item	Co	Amount	Invoice Number
Total Amount of Payments Written									
359,314.18									
Total Number of Payments Written									
46									

Las Virgenes Municipal Water
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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Item	Key Co	Amount	Invoice Number
83742	12/10/19	2317	ACORN NEWSPAPER	AD-MTG NOTICE-11/14	PV	167442	001	00701	815.00	143308
83743	12/10/19	2339	AGOURA LOCK TECHNOLOGIES	Payment Amount KEYS-BLDG8	PV	167462	001	00701	39.38	88430
83744	12/10/19	19264	A TO Z LAW	Payment Amount JPA COUNSEL SRV-OCT'19	PV	167495	001	00701	660.00	56874
83745	12/10/19	2869	AT&T	Payment Amount SRV 11/20-12/19	PV	167459	001	00101	211.96	2150/112019
83746	12/10/19	7770	AUTOMATIONDIR ECT.COM	Payment Amount PANEL METER-RANCHO	PV	167463	001	00751	176.29	10497972
83747	12/10/19	20698	BATTERIES PLUS	Payment Amount 12V BATTERIES	PV	167468	001	00751	316.60	P20742903
83748	12/10/19	20481	BEST BEST & KRIEGER LLP	Payment Amount PIE 10/31-STATE LBBY	PV	167469	001	00751	158.30	P21156912
83749	12/10/19	21392	BLUESPACE INTERIORS	Payment Amount CARPET INSTALL-C S BD8	PV	167529	001	00701	5,000.00	864153
83750	12/10/19	2516	CALIFORNIA ASSOC. OF SANI AGENCIES	Payment Amount MEMBERSHP DJE 2020	PV	167448	001	00701	7,500.00	864152
83751	12/10/19	4586	CONSOLIDATED ELECTRICAL	Payment Amount WIRE	PV	167514	001	00701	6,541.36	I-01675607
				INSTALL-C.S. BD8	PV	167538	001	00701	23,004.36	I-01677866
				Payment Amount 29,545.72						
				Payment Amount 20,053.00						
				Payment Amount 20,053.00						
				Payment Amount 964.28						

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key Item Co	Amount	Invoice Number
DISTRIBUTORS									
83752	12/10/19	16364	D&H WATER SYSTEMS INC.	Payment Amount PARTS-W&T ANALZERS	PV	167455	001 00751	1,851.05	I 2019-1357
83753	12/10/19	19033	DENOVO VENTURES, LLC	Payment Amount SERVER SETUP FEE	PV	167494	001 00701	105.00	63452
83754	12/10/19	11330	DIAL SECURITY	Payment Amount 10/15 SRV CALL-HQ	PV	167509	001 00701	125.00	363757
83755	12/10/19	20685	DOCUMENT SYSTEMS INC	Payment Amount 10/24-11/23 CANON MINT CS	PV	167503	001 00701	50.59	116320
83756	12/10/19	8612	DURHAM SCHOOL SERVICES	Payment Amount BUS-TAPIA TOUR-10/8	PV	167443	001 00751	410.66	91761504
83757	12/10/19	18441	EMPLOYEE RELATIONS NETWORK	Payment Amount EE BACKGROUND CHECK	PV	167453	001 00701	128.20	86667
83758	12/10/19	2658	FEDERAL EXPRESS CORP	Payment Amount PKG DLVRD 11/27	PV	167452	001 00701	29.97	6-854-01384
83759	12/10/19	6770	G.I. INDUSTRIES	Payment Amount 12/19 DISP-HQ & SHOP SHOP BLDG 11/1-11/15 12/19 DISP W/LK	PV	167456	001 00701	712.04	2925991-0283-0 2925720-0283-3 2479440-0283-8
Alt Payee 6771 G.I. INDUSTRIES P. O. BOX 541065 LOS ANGELES CA 90054-1065									
83760	12/10/19	2701	GRAINGER, INC.	Payment Amount LUB/PAINT/SHO VELS JOB SITE TOOL CHEST LIFELINE AED BATTERIES	PV	167480	001 00701	852.15	9350657368
								585.25	9341200799
								365.42	9346132393

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key	Amount	Invoice Number		
							ltm Co				
				LIFELINE AED BATTERIES	PV	167519	002 00701	730.85	9346132393		
				PVC PIPE & FLANGE	PV	167520	001 00701	161.42	9346269807		
				PAINT SUPPLIES	PV	167521	001 00701	22.50	9347232515		
				LIFELINE AED BATTERY	PV	167522	001 00701	182.71	9351333316		
				LIFELINE AED BATTERY	PV	167522	002 00701	182.71	9351333316		
				Alt Payee 5453 GRAINGER, INC. DEPT 805178142 PALATINE IL 60038-0001							
				Payment Amount 3,083.01							
83761	12/10/19	2705	HACH COMPANY	ANLN INST SRV-TAPIA	PV	167531	001 00701	20,294.00	11719077		
				Alt Payee 6442 HACH COMPANY 2207 COLLECTIONS CENTER DR CHICAGO IL 60693							
				Payment Amount 20,294.00							
83762	12/10/19	20708	HAMPTON TEDDER ELECTRIC COMPANY	STANDBY GENRTR-1 WEEK	PV	167504	001 00701	2,984.00	31866		
				Alt Payee 4525 HARRINGTON INDUSTRIAL PLASTICS INC.							
				Payment Amount 2,984.00							
83763	12/10/19	4525	HARRINGTON INDUSTRIAL PLASTICS INC.	HYPO FILL LINE REPLCMNT	PV	167460	001 00751	1,655.52	005C7077		
				Alt Payee 7132 HARRINGTON INDUSTRIAL PLASTICS LLC P. O. BOX 5128 CHINO CA 91708-5128							
				Payment Amount 1,655.52							
83764	12/10/19	21458	WILLIAM KEHALY	RFND BAL-CLOSED A/C	PV	167473	001 00101	827.76	037360		
				Alt Payee 21419 WILLIAM KIMBLE							
				Payment Amount 827.76							
83765	12/10/19	21419	WILLIAM KIMBLE	RFND BAL-CLOSED A/C	PV	166601	001 00101	170.15	053081		
				Payment Amount 170.15							

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
83766	12/10/19	21459	KINGDOM OF MIND LLC	RFND BAL-CLOSED A/C	PV	167472	001	00101	812.98	082775
				Payment Amount					812.98	
83767	12/10/19	19199	VERA KLEYNBERG	RFND BAL-CLOSED A/C	PV	167478	001	00101	112.04	1100070-06792 6
				Payment Amount					112.04	
83768	12/10/19	17447	KONECRANES INC.	QTLY CRANE/HOIST INSP	PV	167536	001	00701	853.75	154208240
				Payment Amount					112.04	
				QTLY CRANE/HOIST INSP	PV	167536	002	00701	1,500.00	154208240
				QTLY CRANE/HOIST INSP	PV	167536	004	00701	450.00	154208240
				QTLY CRANE/HOIST INSP	PV	167536	005	00701	125.00	154208240
				Payment Amount					2,928.75	
83769	12/10/19	2611	LA DWP	RECTIFIER 10/24-11/25/19	PV	167458	001	00101	42.20	851260/112519 9
				Payment Amount					42.20	
83770	12/10/19	3352	LAS VIRGENES MUNICIPAL WATER DISTRICT	RWPS 10/23-11/21	PV	167435	001	00701	131.49	2545/112719
				BD#8/RECL 10/23-11/21	PV	167436	001	00701	193.18	2546/112719
				BD#8/RW 10/23-11/21	PV	167437	001	00701	163.39	2652/112719
				BD#7/RW 10/23-11/21	PV	167438	001	00701	189.98	2655/112719
				IND HILLS 10/23-11/21	PV	167439	001	00751	25.01	0558/112719
				10/24-11/22 MORRSN P/S	PV	167440	001	00751	25.01	0331/112719
				Payment Amount					728.06	
83771	12/10/19	21450	STEVE	RFND	PV	167474	001	00101	49.88	014616

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Payment Number	Date	Address Number	Name	Payment Stub Message	Ty	Document Number	Key	Amount	Invoice Number
Number							Item Co		
			LIEBERMAN	BAL-CLOSED					
				A/C					
83772	12/10/19	2590	LOS ANGELES DAILY NEWS	Payment Amount DISPLAY AD-TAP-IN 10/3	PV	167444	001 00701	49.88 175.00	0011321251
				DISPLAY AD-TAP-IN 10/31	PV	167445	001 00701	175.00	0011330413
83773	12/10/19	2800	LOS ANGELES TIMES	Payment Amount WLKY/DGTL THRU 11/10/20	PV	167446	001 00701	350.00 372.00	100049938571 9-20
83774	12/10/19	2814	MCMMASTER-CARR SUPPLY CO	Payment Amount FLTRS/SCREWS- AGTRS	PV	167471	001 00751	372.00 302.22	22673344
			Alt Payee 3197 MC MASTER-CARR P. O. BOX 7690 CHICAGO IL 60680-7690						
83775	12/10/19	21243	DENNIS/JANE MCCOY	Payment Amount RFND BAL-CLOSED A/C	PV	167479	001 00101	302.22 800.00	850146-013185
83776	12/10/19	2839	MOTION INDUSTRIES, INC.	Payment Amount V-BELTS	PV	167523	001 00701	800.00 82.48	CA22-641374
			Alt Payee 10317 MOTION INDUSTRIES INC. FILE 749376 LOS ANGELES CA 90074						
83777	12/10/19	2365	MSO TECHNOLOGIES	Payment Amount PIE 10/31-NEW PRCSR-WLFP	PV	167510	001 00701	82.48 1,540.00	6359
83778	12/10/19	2846	NATIONAL PLANT SERVICES INC	Payment Amount CLEAR MANHOLES-2352 7 CLBS	PV	167493	001 00701	2,825.00	15220
83779	12/10/19	13586	ORACLE AMERICA, INC.	Payment Amount JDE MAINT 8/23-11/22	PV	167502	001 00701	18,481.30 18,481.30	44481003

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Number	Key ltm	Co	Amount	Invoice Number
83789	12/10/19	19169	SJM INDUSTRIAL RADIO	Payment Amount UNIT CHARGERS	PV	167466	001	00701	1,469.46	248714
									264.74	
83790	12/10/19	2969	STATE WATER RESOURCES CONTROL BOARD	Payment Amount RW FEE #1995001 FY18-19	PV	167447	001	00102	1,080.00	RW-1018676
									2,746.82	
83791	12/10/19	14479	STEPHEN'S VIDEO PRODUCTIONS	Payment Amount VIDEO SRV LV MTGS-NOV'19	PV	167500	001	00701	1,642.50	11-19-19
									1,080.00	
83792	12/10/19	12149	THATCHER CO. OF CALIFORNIA	Payment Amount 3,993 GAL BISULFITE	PV	167528	001	00701	5,869.57	270729
									2,190.00	
83793	12/10/19	17645	TORO ENTERPRISES INC.	Payment Amount MAIN RPR-105 BOX CYN	PV	167485	001	00701	6,340.87	13038
									5,869.57	
83794	12/10/19	19038	VALVE AUTOMATION & CONTROLS	Payment Amount PUMP SEAL	PV,	167515	001	00701	2,543.69	2040628
									6,340.87	
83795	12/10/19	21196	VERNE'S PLUMBING, INC.	Payment Amount BACKFLOW TESTS 11/18	PV	167486	001	00701	4,085.00	5885607
									13.82	2040628
									2,557.51	
									760.00	5885607
									6,935.00	5887221
									1,520.00	5887221
									1,995.00	5887904

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Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Ltm	Key Co	Amount	Invoice Number
83796	12/10/19	2436	VINCE BARNES AUTOMOTIVE	BACKFLOW TESTS 11/18 BACKFLOW TESTS 11/18 BACKFLOW TESTS 11/18	PV	167489	002	00701	1,235.00	5887904
				Payment Amount				20,140.00		
				SRV&FRONT	PV	167532	001	00701	352.65	024282
				BRKS #899						
				SRV&FRONT	PV	167533	001	00701	691.86	024296
				BRKS #325						
				DOOR	PV	167534	001	00701	538.33	024302
				ASMBLY/BRKS#3 24						
				Payment Amount				1,582.84		
83797	12/10/19	18521	WALTON MOTORS & CONTROLS, INC.	RAS MOTOR REPAIR	PV	167506	001	00701	4,638.46	41377
				Payment Amount				4,638.46		
83798	12/10/19	3025	WATER & SANITATION SRV/VENTURA COUNTY	PCH WTR 10/15-11/19	PV	167538	001	00101	22,810.30	1887269
				Payment Amount				22,810.30		
83799	12/10/19	3044	WATEREUSE ASSOCIATION	SILVER CONF SPNSR 2020	PV	167449	001	00701	2,500.00	CONF SPNSR/2020
				Payment Amount				2,500.00		
83800	12/10/19	18914	WECK LABORATORIES, INC.	TAPIA EFLNT-9J08117	PV	167524	001	00701	613.60	W9K1291-LV
				TP EFLNT/INFLNT GRAB TAPIA EFLNT-9K06011 TAPIA INFLNT-9K0600 6	PV	167525	001	00701	500.00	W9K1292-LV
				Payment Amount				1,346.98		
83801	12/10/19	3047	WESCO DISTRIBUTION,	WIRE	PV	167507	001	00701	435.39	949195

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Payment Number	Date	Address Number	Name	Payment Stub Message	Ty	Number	Key	Item	Co	Amount	Invoice Number
			INC.								
			DISCNT SWITCHES/RELA YS		PV	167508	001	00701		536.51	951341
			WESCO DISTRIBUTION, INC PO BOX 31001-0465 PASADENA CA 91110-0465								
			Payment Amount							971.90	
83802	12/10/19	8510	WORK BOOT WAREHOUSE	SFTY FWEAR-RA	PV	167450	001	00701		225.00	2-60312
			SFTY FWEAR-ER		PV	167451	001	00701		225.00	2-60481
			Payment Amount							450.00	
83803	12/10/19	19537	WUNDERLICH-MA LEC SYSTEMS, INC.	P/E 10/31 TAPIA PLC UPGD	PV	167496	001	00701		5,580.00	61853
			Payment Amount							5,580.00	
			Total Amount of Payments Written							228,660.94	
			Total Number of Payments Written							62	



LAS VIRGENES MUNICIPAL WATER DISTRICT
4232 Las Virgenes Road, Calabasas CA 91302

MINUTES
REGULAR MEETING

9:00 AM

November 19, 2019

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance to the Flag was led by Mike McNutt.

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at **9:03 a.m.** by Board President Lewitt in the Board Room at Las Virgenes Municipal Water District headquarters at 4232 Las Virgenes Road, Calabasas, CA 91302. Josie Guzman, Clerk of the Board, conducted the roll call.

Present: Directors Charles Caspary, Jay Lewitt, Lynda Lo-Hill, Len Polan, and Lee Renger.

Absent: None

Staff Present: David Pedersen, General Manager
Joe McDermott, Director of Engineering and External Affairs
Don Patterson, Director of Finance and Administration
John Zhao, Director of Facilities and Operations
Josie Guzman, Clerk of the Board
Keith Lemieux, District Counsel

2. APPROVAL OF AGENDA

Director Polan moved to approve the agenda. Motion seconded by Director Renger. Motion carried unanimously.

3. PUBLIC COMMENTS

None.

4. CONSENT CALENDAR

Director Polan pulled Item 4A from the Consent Calendar

B Minutes: Regular Meeting of November 5, 2019 and Special Meeting of November 7, 2019: Approve

C Directors' Per Diem – October 2019: Ratify

D Lower Colorado River Tour 2020: Board Member Attendance

Authorize Board Member attendance and per diem compensation for the Lower Colorado River Tour to be held by the Water Education Foundation from March 11 through 13, 2020.

Director Polan moved to approve the Consent Calendar as amended. Motion seconded by Director Renger. Motion carried unanimously.

4. CONSENT CALENDAR – SEPARATE ACTION ITEM

A List of Demands: November 19, 2019: Receive and file

Director Polan inquired whether the payment to Alliance Environmental Group in the amount of \$16,325 for debris removal was eligible for reimbursement as a result of the Woolsey Fire. John Zhao, Director of Facilities and Operations, responded that the payment was related to removal of asbestos pipe, which had accumulated at District facilities for several years, not due to damages from the Woolsey Fire.

Director Polan inquired regarding the payment made to California Lutheran University in the amount of \$1,975 for ongoing supervisory skills training. Don Patterson, Director of Finance and Administration, responded that District supervisors have been attending the Leadership Development and Supervisory Skills Program at California Lutheran University for the past three years.

Director Polan inquired regarding the payment made to Astound Group in the amount of \$51,267. Joe McDermott, Director of Engineering and External Affairs, responded that payment was made towards the Pure Water Demonstration Project visitor experience. He noted that fabrication would begin in December and installation would occur in January.

Director Polan moved to approve Item 4A. Motion seconded by Director Caspary. Motion carried unanimously.

5. ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A MWD Representative Report

Glen Peterson, MWD Representative, reported that the MWD Board held a two-day retreat on October 21st and 22nd. He noted that a book entitled *The Five Dysfunctions of a Team* was given to the MWD Board, which he donated to the District's library. He also noted that the MWD Board discussed groundwater wells and perfluoroalkyl and polyfluoroalkyl substances (PFAS). He commented that he had a discussion with MWD Director John Murray, representing the City of Los Angeles, regarding the need for the City of Los Angeles to develop water resources and plan for future droughts. He noted that water is brought to Los Angeles from the State Water Project and the Eastern Sierra during a drought, which could impact water supplies to the District. He also reported that the State Water Project Inspection Trip was held October 25th through 27th, which included attendance by several long-time MWD employees and former Senator Fran Pavley. He stated that he would encourage more MWD employees to attend these trips. He also reported that the MWD Board authorized the General Manager to co-sponsor legislation to create a statewide program to identify and evaluate drinking water quality constituents of emerging concern based on science. He provided an update regarding the MWD Board's offer to compromise to resolve the lawsuits filed by the San Diego County Water Authority regarding water rates. He also reported that he attended a tour of the Iron Mountain Pumping Plant where he viewed the new sand collection device.

B Legislative and Regulatory Updates

Joe McDermott, Director of Engineering and External Affairs, reported that H.R. 1497, the Water Quality Protection and Job Creation Act of 2019, would reauthorize approximately \$14 billion in Clean Water State Revolving Funds, including \$150 million in grants for alternative water source projects. He noted that the District's lobbyist, Best Best & Kreiger, was successful in amending the language regarding the alternative water source program to ensure agencies that received Title XVI funding for feasibility studies would still be eligible to apply for an alternative water source grant. He also reported that Congress was continuing to hold hearings regarding PFAS, and the Senate Environment and Public Works Committee expressed dissatisfaction with the Environmental Protection Agency's pace in setting standards for the presence of PFAS in water.

General Manager David Pedersen reported that he provided testimony during the Committee on Energy, Utilities, and Communications oversight hearing on November 18th regarding electric utility power shutoffs, specifically Public Safety Power Shutoff (PSPS) events, the extreme red flag conditions experienced throughout the State in October, and investor-owned utilities. He noted that a copy of his testimony was provided to the Board. He stated that his testimony focused on the importance of electricity for operating the District's water and wastewater systems and for fire protection. He also stated that the main points of his testimony included: (1) the need for investor-owned utilities to standardize and enhance their communications; (2) the importance of emergency backup generators and the need for flexibility with air quality regulations; and (3) the need for financial assistance for water and wastewater utilities in purchasing backup power for PSPS events. He noted that Governor Gavin Newsom launched the Local Government PSPS Resiliency Program, which would set aside \$75 million for assistance to state and local government. He stated that local government is narrowly defined as county, municipalities, and incorporated cities, and does not include

independent special districts such as LVMWD. He addressed concerns regarding backup power systems that are not appropriate for commercial or industrial levels, and microgrids and the use of distributed energy solutions. He stated that he did not believe microgrids and the use of distributed energy would be viable solutions for water and wastewater utilities due to higher power demands and due to microgrids requiring connectivity from where the power is produced to where the power is needed.

C Water Supply Conditions Update

Joe McDermott, Director of Engineering and External Affairs, presented the report.

6. TREASURER

Director Lo-Hill stated that the Treasurer's report was in order.

7. GENERAL MANAGER

A Proposal to Co-Sponsor State Legislation with California Municipal Utilities Association on Emergency Backup Generators

Approve a proposal to co-sponsor state legislation with the California Municipal Utilities Association to provide additional flexibility for water and wastewater agencies to operate, maintain, and test emergency backup generators.

General Manager David Pedersen presented the report.

Director Caspary moved to approve Item 7A. Motion seconded by Director Renger.

Director Caspary expressed concern with air quality permit emissions standards, and he asked staff to determine how many pounds of fine particulates are released from a house fire compared to emissions released from a generator pumping water for emergency fire protection.

A discussion ensued regarding the complex air quality regulations emissions standards, local air permits that limit running emergency generators to 20 hours annually for maintenance and testing and 200 hours annually during emergencies, and the cost of over \$100 million to retrofit the District's older generators to improve particulate removal.

Motion carried unanimously.

8. FACILITIES AND OPERATIONS

A Carbon Tower Carbon Replacement: Authorization of Purchase Order

Authorize the General Manager to issue a purchase order to Carbon Activated Corporation, in the amount of \$41,624, for carbon tower media replacement at the Tapia Water Reclamation Facility and Lift Station Nos. 1 and 2.

General Manager David Pedersen presented the report.

Director Lo-Hill moved to approve Item 8A. Motion seconded by Director Polan. Motion carried unanimously.

9. FINANCE AND ADMINISTRATION

A Multi-Site Security Assessment Project: Request for Proposals

Authorize the General Manager to issue a Request for Proposals for the Multi-Site Security Assessment Project.

General Manager David Pedersen presented the report.

Director Caspary moved to approve Item 9A. Motion seconded by Director Polan.

Ivo Nkwenji, Information Systems Manager, responded to a question regarding the availability of maps showing the names and locations of all District facilities and pump stations by stating that a map was available on the District's Geographic Information System (GIS). He stated that he would email a copy of the map to the Board.

Motion carried unanimously.

10. ENGINEERING AND EXTERNAL AFFAIRS

A Saddle Peak and Cordillera Tank Rehabilitation Project: CEQA Determination and Call for Bids

Find that the work is exempt from the provisions of the California Environmental Quality Act and authorize the issuance of a Call for Bids for the Saddle Peak and Cordillera Tank Rehabilitation Project.

Eric Schlageter, Principal Engineer, presented the report.

Director Renger moved to approve Item 10A. Motion seconded by Director Caspary. Motion carried unanimously.

B Roadside Drive Bridge Widening Project: Water Main Relocation

Appropriate \$136,448 to fund the construction cost for relocation of a District-owned 10-inch water main and associated appurtenances along Roadside Drive in the City of Agoura Hills; and authorize the General Manager to execute a Utility Agreement with the City of Agoura Hills subject to non-substantive changes and in a form approved by Legal Counsel, and accept the lowest responsible construction bid identified by the City to allow for the water main relocation work to be performed together with the Roadside Drive Bridge Widening Project.

Eric Schlageter, Principal Engineer, presented the report.

Director Lo-Hill moved to approve Item 10B. Motion seconded by Director Polan.

A discussion ensued regarding the use of isolation valves to maintain water service during construction.

Motion carried unanimously.

11. NON-ACTION ITEMS

A Organization Reports

None.

B Director's Reports on Outside Meetings

Director Lo-Hill reported that she attended the Association of Water Agencies of Ventura County Annual Ventura County Water Tour on November 4th.

Board President Lewitt reported that he attended the Las Virgenes/Conejo Valley Business Water Summit: Tap-in 2019 on November 7th. He suggested including large commercial water users, homeowners' associations, and the school district should the District sponsor an annual summit.

C General Manager Reports

(1) General Business

General Manager David Pedersen reported that District staff would provide a presentation at the Westlake Village Civic Center regarding the Calleguas-Las Virgenes Interconnection Project and traffic impacts to Lindero Canyon Road and Thousand Oaks Boulevard during construction. He also reported that MWD staff would meet with Senator Henry Stern on November 20th to discuss water supply reliability and conveyance, 2020 legislative priorities, Public Safety Power Shutoffs, and water priorities. He noted that he was invited to attend the meeting.

(2) Follow-Up Items

D Directors' Comments

Director Polan addressed concerns regarding backwater issues, and stated that the District does not experience backwater issues because all of the lateral sewers are operated by Los Angeles County. He noted that he distributed a copy of an article from the *Los Angeles Times* regarding the Westlands Water District proposed legislation to receive water from the Central Valley Project. He also addressed concerns regarding

Business Email Compromise activity where hackers monitor confidential email for financial transactions, and he expressed his concern with the District's vulnerability.

Board President Lewitt acknowledged General Manager David Pedersen and Director of Engineering and External Affairs Joe McDermott for attending the Westlake Lake Management Association Board meeting to discuss their water needs. Director Renger suggested that staff explore whether the Westlake Lake Management Association could use water from the District's wells that are located in that area.

12. FUTURE AGENDA ITEMS

None.

13. PUBLIC COMMENTS

None.

14. CLOSED SESSION

None.

15. OPEN SESSION AND ADJOURNMENT

Seeing no further business to come before the Board, the meeting was duly adjourned at **10:33 a.m.**

Jay Lewitt, President
Board of Directors
Las Virgenes Municipal Water District

ATTEST:

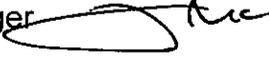
Charles Caspary, Secretary
Board of Directors
Las Virgenes Municipal Water District

(SEAL)

December 2, 2019

To: Payroll

From: David W. Pedersen
General Manager



RE: Per Diem Request – November 2019

Attached are the Director statements of attendance for meetings, conferences and miscellaneous functions, which are summarized in the table below. If you have any questions, please contact me. Thank you.

On April 25, 2017, the Board adopted Resolution No. 2513, amending the per diem rate to \$220.

	<u>Director</u>	<u>No. of Meetings</u>	<u>Rate</u>	<u>Total</u>
8014	Charles Caspary	5	\$220.00	\$1,100.00
19447	Jay Lewitt	5	\$220.00	\$1,100.00
21169	Lynda Lo-Hill	5	\$220.00	\$1,100.00
18856	Leonard Polan	5	\$220.00	\$1,100.00
14702	Lee Renger	5	\$220.00	\$1,100.00

*LVMWD Code Section 2-2.106(a): "not exceeding a total of ten (10) days in any calendar month"

**LVMWD Code Section 2-2.106(b): MWD director "not exceeding a total of ten (10) additional days in any calendar month."

Attached is a copy of MWD Representative Glen Peterson's invoice for November 2019.

RECEIVED
 NOV 26 2019
 BY: _____

17238 DJ

INVOICE

Glen Peterson, Director

Metropolitan Water District of Southern California
 2936 Triunfo Canyon Rd
 Agoura, CA. 91301
 email: glenpsop@icloud.com

DATE: 11/25/19
 INVOICE # 12
 FOR: Director fees

Bill To:
Las Virgenes Municipal Water District
 4232 Las Virgenes Canyon Rd
 Calabasas, CA. 91302
 attn: Josie Guzman, Clerk of the Board
 818-251-2100

Paul M. Sullivan
 11/26/19

Date	Description	fee
11/4/2019	MWD committee meetings	\$220.00
11/5/2019	MWD Board meeting	\$220.00
11/7/2019	LVMWD/ Chamber event Agoura Hills	\$220.00
11/12/2019	Special Board Meeting MWD	\$220.00
11/13/2019	Colorado River Board of California Ontario	\$220.00
11/14-15/19	E and O Inspection to Gene Camp	\$440.00
11/19/2019	Report to LVMWD Board	\$220.00
11/20/2019	Briefing w/ Senator Stern	\$220.00
TOTAL		\$1,980.00

Make Check payable to Glen Peterson

Thank you for the opportunity to serve



December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Finance & Administration

Subject : Monthly Cash and Investment Report: October 2019

SUMMARY:

During the month of October, the value of the District's investment portfolio increased from \$92,926,932, held on September 30, 2019, to \$92,970,452. There were three investments that matured or were called in October, and one investment was purchased, decreasing the book value to \$52,449,764. The value of the District's Local Agency Investment Fund (LAIF) account increased to \$37,608,037.

RECOMMENDATION(S):

Receive and file the Monthly Cash and Investment Report for October 2019.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

DISCUSSION:

As of October 31, 2019, the District held \$92,970,452, up 7.50% year-over-year. The portfolio was virtually flat from the previous month's total of \$92,926,932. The majority of the funds were held in the District's investment account, which had a October 31st book value of \$52,449,764. LAIF held the majority of the remaining funds, in the amount of \$37,608,037. A significant portion of the balance, \$2,818,490, was held in LAIF as required reserves for the bond refunding. The annualized yield for the District's investment portfolio was 2.08% in October 2019, down two basis points from September. The annualized yield on the District's LAIF funds was 2.19% in October, down as compared to September's 2.28%. The total yield on the District's accounts was 2.13%, up from 2.09% year-over-year.

Two investments were called during October 2019:

- FFCB callable agency, in the amount of \$1,000,000, with an original maturity of 07/01/24 was called on 10/11/19; YTM 2.47%.
- FFCB callable agency, in the amount of \$1,000,000, with an original maturity of 10/15/21 was called on 10/15/19; YTM 2.55%.

One investment matured during October 2019:

- Discover Bank insured CD, in the amount of \$245,000, matured on 10/04/19; YTM 1.70%.

The following investment was purchased during October 2019:

- FHLB callable agency, in the amount of \$1,000,000, maturing on 10/02/24; YTM 2.00%.

The following transactions occurred in the District's LAIF account:

- 10/11/19 – Deposit in the amount of \$1,200,000.
- 10/15/19 – Interest in the amount of \$207,225.84.
- 10/15/19 – Deposit in the amount of \$1,000,000.
- 10/17/19 – Deposit in the amount of \$1,200,000.
- 10/25/19 – Withdraw in the amount of \$600,000.
- 10/30/19 – Withdraw in the amount of \$1,500,000.

The District's investments are in compliance with the adopted Investment Policy, and the District has sufficient funds to meet expenditures during the next six months from funds held in LAIF.

Cash Analysis:

Another important aspect of the Monthly Cash and Investment Report is to monitor the District's performance as compared to its adopted Financial Policies. Attachment B shows the District's total cash and investments as of October 31, 2019 and compares the balances to the adopted Financial Policies. As shown for October, the Potable Water Enterprise was \$2.9 million below the levels set forth in the District's Financial Policies. The Sanitation Enterprise had cash and investments available for capital projects or bond redemption in the amount of \$6.9 million, and the Recycled Water Enterprise had cash and investments available for capital projects in the amount of \$7.7 million. The Board has assigned \$5 million in funds from the Recycled Water Enterprise and \$10 million in funds from the Sanitation Enterprise for use on the Pure Water Project Las Virgenes-Triunfo. Cash in excess of required reserves and assignments is available for capital projects.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Donald Patterson, Director of Finance and Administration

ATTACHMENTS:

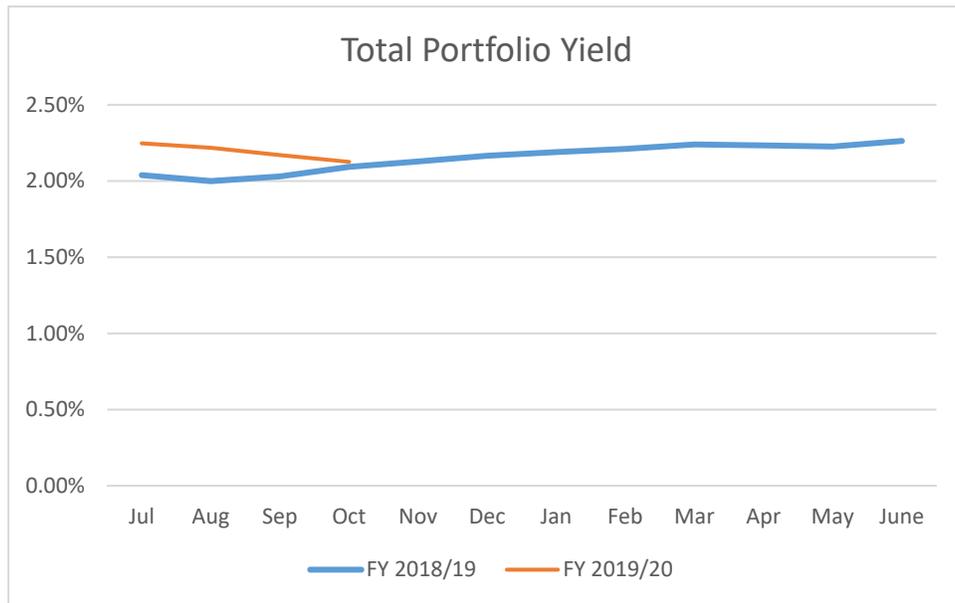
Charts

October 2019 Investment Report

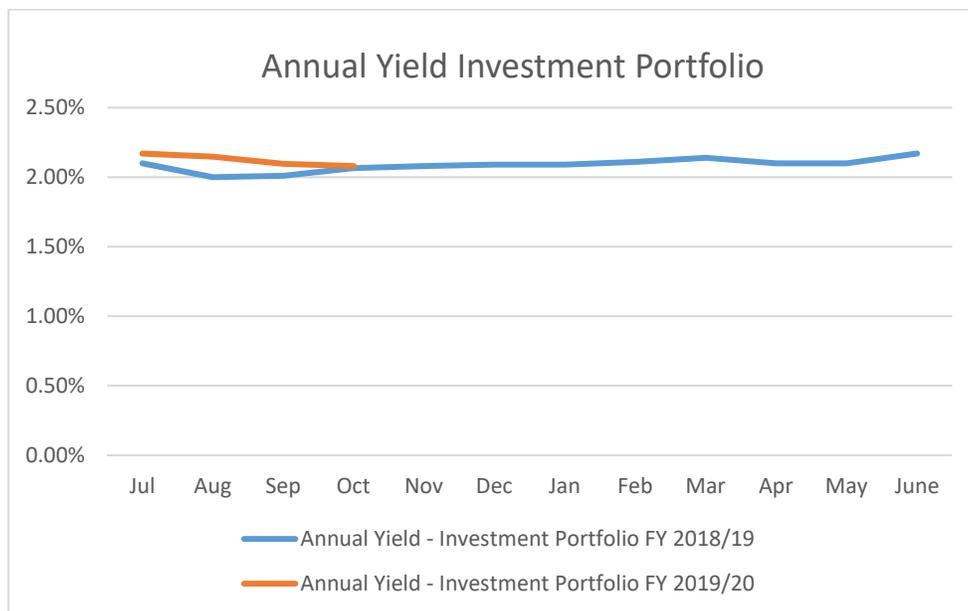
Definitions

October Cash Report

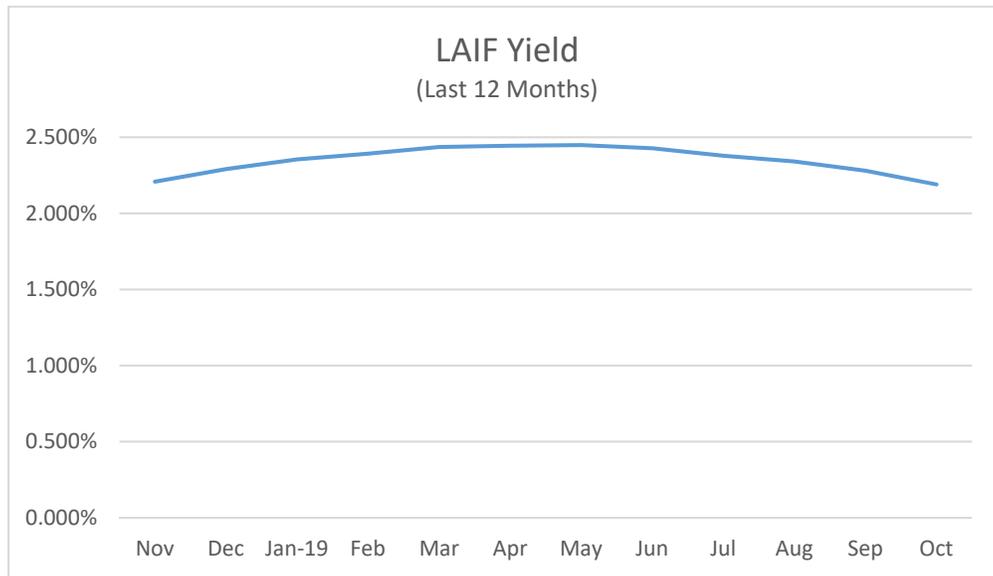
As of October 31, 2019, at Book Value, LAIF held 40.45% of the District’s portfolio, the investment portfolio held 56.42%, and the refunding revenue bond held 3.03%, with the remainder in a money market account. As can be seen in the chart below, the total yield in October 2019 was 2.13%, down four basis point from September and up from 2.09% one year ago.



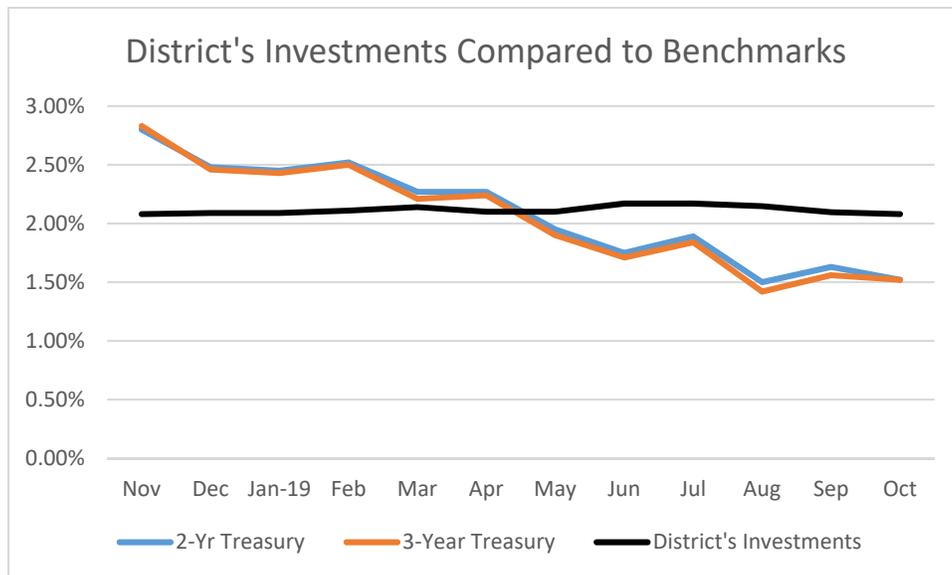
In October, the annualized yield for the District’s Investment Portfolio was down from September at 2.08% and up from 2.07% a year ago. The chart below shows annualized monthly yield of the current fiscal year compared with the same monthly yield over the previous year.



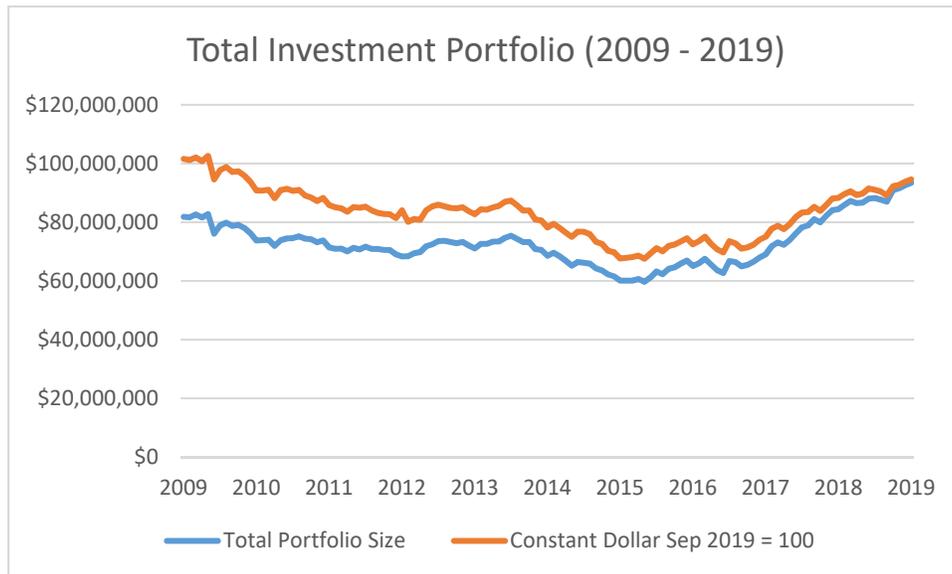
The following chart shows the average annualized LAIF yields over the past twelve months. In October, the LAIF yield was 2.19%, down from September's 2.28% and up from 2.14% a year ago.



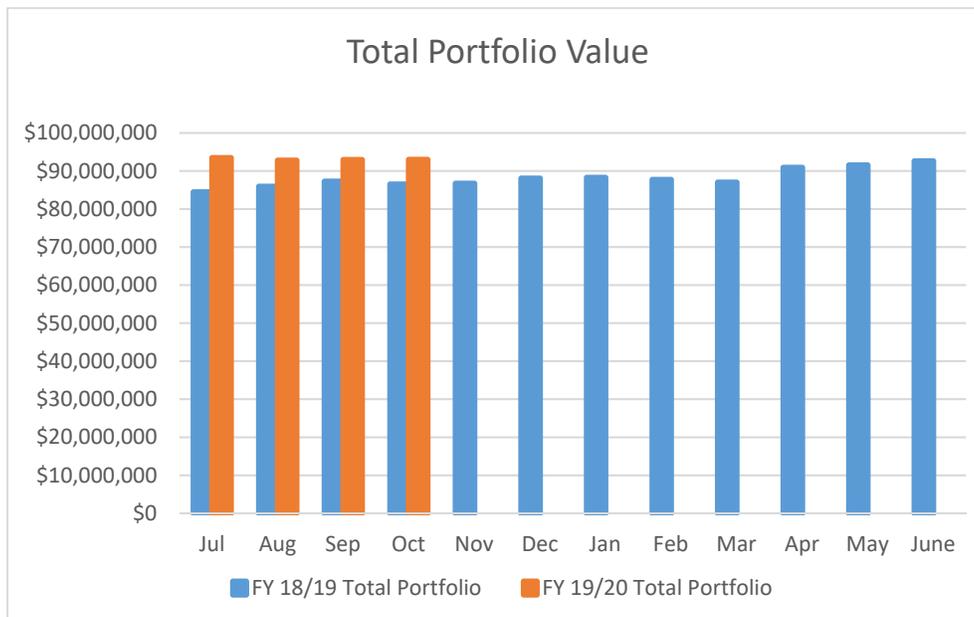
In order to benchmark how the District's portfolio is performing, it is useful to compare its investment portfolio with a comparable index. The District has historically compared its investment portfolio returns to the 2-Year and 3-Year Treasury notes. Because the District buys and holds its investments, the average portfolio yield should generally be flatter and trail the 2 and 3-year Treasuries.



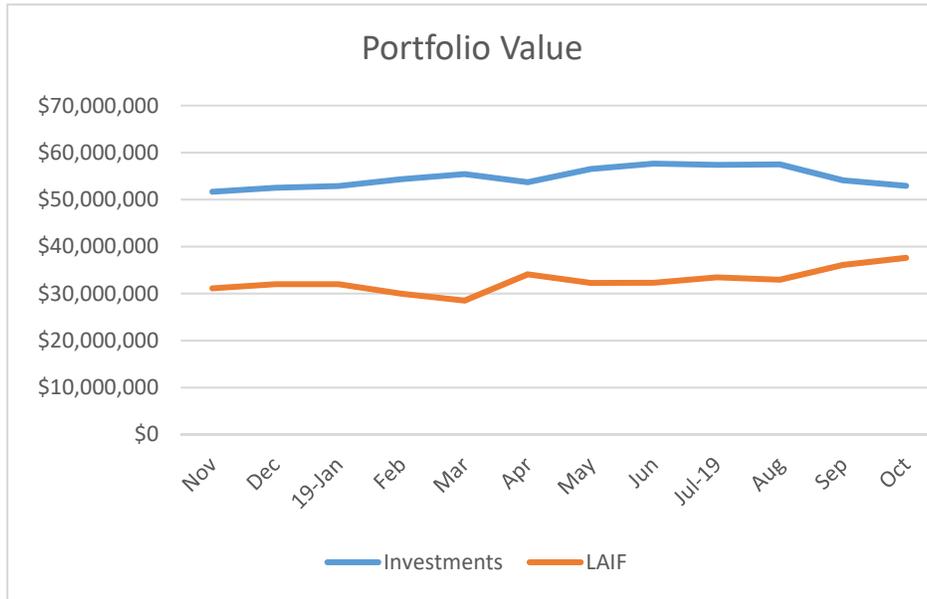
Equally important to monitoring performance is to monitor total portfolio value that includes the District's Investment Portfolio and LAIF accounts. The chart below shows the total portfolio value between 2009 and 2019. In October, the District's portfolio was virtually flat from September at \$92,970,452.



The chart below compares total portfolio value in the current Fiscal Year, compared to the same period in the previous fiscal year.



The chart below shows the value of the District’s Investment and LAIF portfolios over the past twelve-month period. The District’s Investment Policy requires an amount equal to 6 months of operating budget to be kept in LAIF, which is \$28.8 million. During October, staff started increasing the LAIF balance in anticipation of potential calling of the outstanding 2009 Refunding Sanitation Revenue Bonds.



Date: November 22, 2019
 To: David W. Pedersen, General Manager
 From: Finance and Administration Department
 Subject: Investment Report for the Month of October 2019

Summary of Investments

Investments Maturing Within Six Months:

Disc./Opn Rate	Yield To Maturity	Yield To Call	Investment Type	Date Invested	Next Call Date	Date Matures	Book Value	Par Value	Market Value	Market Value Source
1.400%	1.400%	1.400%	FHLMC-Bullet	06/27/16		12/27/19	1,000,000	1,000,000	999,670	Custodian
1.610%	1.610%		FHLMC-Bullet	03/27/17		12/27/19	1,000,000	1,000,000	1,000,000	Custodian
1.300%	1.300%		FNMA-Bullet	02/24/16		02/24/20	1,000,000	1,000,000	998,990	Custodian
1.800%	1.800%		MDS-Muni Bond	03/22/17		03/15/20	1,000,000	1,000,000	1,000,450	Custodian
			Sub-Total				4,000,000	4,000,000	3,999,110	

Investments Maturing After Six Months:

1.600%	1.600%	1.600%	FNMA-Bullet	05/19/15		05/19/20	1,000,000	1,000,000	999,690	Custodian
2.250%	1.732%		CONNECTICUT ST-MuniBo	02/17/16		09/01/20	1,119,649	1,095,000	1,098,876	Custodian
2.427%	1.779%		NEWSCD-MuniBond	03/17/16		08/01/20	934,688	910,000	915,214	Custodian
1.400%	1.400%	1.400%	FFCB-Callable Coupon	04/13/16	Cont. 4/13/17	04/13/20	1,000,000	1,000,000	998,870	Custodian
1.500%	1.500%		CAL ST-MuniBond	04/28/16		04/01/21	1,000,000	1,000,000	995,830	Custodian
2%-Up	1.866%	1.625%	FHLMC-Callable Coupon	06/16/16	09/16/19	06/16/21	1,000,000	1,000,000	1,000,270	Custodian
2.387%	1.392%		SCVWTR-MuniBond	06/21/16		06/01/21	1,047,370	1,000,000	1,010,520	Custodian
1.5%-Up	2.014%	1.000%	FHLB-Callable Coupon	06/30/16	09/30/19	06/30/21	1,000,000	1,000,000	998,830	Custodian
1.960%	1.960%	1.960%	MOUSCD-MuniBond	07/14/16		08/10/21	600,000	600,000	600,054	Custodian
1.550%	1.550%		CAPITAL ONE BANK - CD	08/10/16		08/10/21	245,000	245,000	243,697	Custodian
1.580%	1.501%	0.700%	FNMA-Callable Coupon	08/15/16	09/15/19	06/15/20	1,002,920	1,000,000	999,690	Custodian
1.400%	1.400%	1.400%	FNMA-Callable Coupon	08/24/16	08/24/19	08/24/20	1,000,000	1,000,000	998,010	Custodian
1.450%	1.450%		JP Morgan Chase BK-CD	09/16/16	09/16/19	09/16/20	245,000	245,000	244,184	Custodian
1.713%	1.713%		CASPWR-Muni Bond	09/28/16		05/01/21	944,684	944,684	946,101	Custodian
1.480%	1.480%	1.483%	FNMA-Callable Coupon	09/29/16	09/29/19	12/29/20	1,000,000	1,000,000	997,930	Custodian
1.5%-Up	2.115%	1.250%	FHLB-Callable Coupon	11/17/16	08/17/19	11/17/21	1,000,000	1,000,000	998,590	Custodian
1.5%-Up	2.116%	1.300%	FHLMC-Callable Coupon	11/22/16	08/22/19	11/22/21	1,000,000	1,000,000	997,170	Custodian
1.6%-Up	1.875%	1.600%	FHLB-Callable Coupon	12/09/16	09/09/19	12/09/21	1,000,000	1,000,000	998,840	Custodian
2.000%	2.046%	2.018%	FHLMC-Bullet	01/30/17		01/26/22	997,850	1,000,000	1,006,290	Custodian
2.350%	2.350%		Goldman Sachs Bank - CD	06/21/17		06/21/22	245,000	245,000	248,121	Custodian
2.350%	2.350%		Sallie Mae Bank/Salt LK-CD	06/21/17		06/21/22	245,000	245,000	248,121	Custodian
2.125%	2.124%	2.084%	FHLMC-Callable Coupon	08/09/17	09/29/19	06/29/22	1,000,050	1,000,000	1,000,710	Custodian
2.000%	2.000%	2.000%	FHLB-Callable Coupon	08/10/17	08/10/20	08/10/22	1,000,000	1,000,000	1,002,590	Custodian
2.250%	2.104%	1.465%	FHLMC-Bullet	08/16/17		06/29/22	1,000,300	1,000,000	1,017,750	Custodian
2.400%	2.400%	2.400%	American Express - CD	08/29/17		08/29/22	245,000	245,000	247,504	Custodian
2.400%	2.400%	2.400%	Capital One NA - CD	08/30/17		08/30/22	245,000	245,000	248,516	Custodian
1.750%	1.766%		FFCB-Bullet	09/13/17		09/13/22	999,250	1,000,000	1,007,390	Custodian
2.500%	2.604%		SFOFAC-Muni Bond	11/09/17		09/01/22	497,650	500,000	507,550	Custodian
2.050%	2.050%		BMW Bank - CD	11/29/17		11/30/20	245,000	245,000	245,899	Custodian
2.500%	2.500%		Wells Fargo Bank - CD	12/08/17		12/08/22	245,000	245,000	249,236	Custodian
2.550%	2.550%		NYSDEV-Muni Bond	12/21/17		03/15/22	1,000,000	1,000,000	1,016,880	Custodian

LVMWD Investment Report for the Month Ending October 31, 2019

Disc./Cpn Rate	Yield To Maturity	Yield To Call	Investment Type	Date Invested	Next Call Date	Date Matures	Book Value	Par Value	Market Value	Market Value Source
Investments Maturing After Six Months (continued):										
2.300%	2.300%		FHLMC-Callable Coupon	12/27/17	12/27/19	12/27/22	1,000,000	1,000,000	1,000,920	Custodian
2.200%	2.200%		Merrick Bank-CD	01/09/18		01/11/21	245,000	245,000	246,411	Custodian
2.650%	2.650%		Morgan Stanley Bank-CD	01/11/18		01/11/23	245,000	245,000	250,674	Custodian
2.130%	2.338%		FAMCA-Bullet	01/24/18		01/24/23	990,240	1,000,000	1,013,740	Custodian
2.650%	2.650%	2.650%	FHLB-Callable Coupon	02/28/18	02/28/20	02/28/23	1,000,000	1,000,000	1,002,800	Custodian
2.700%	2.700%		FFCB-Bullet	04/11/18		04/11/23	1,000,000	1,000,000	1,040,170	Custodian
3.150%	3.150%		CitiBank NA - CD	05/11/18		05/11/23	245,000	245,000	255,410	Custodian
3.297%	3.297%	3.297%	UNVHGR-Muni Bond	06/05/18	Cont. 6/5/18	05/15/23	930,000	930,000	977,244	Custodian
2.900%	2.980%		FAMCA-Bullet	08/01/18		07/24/23	996,263	1,000,000	1,043,330	Custodian
2.000%	3.063%		CASPWV-Muni Bond	09/24/18		05/01/22	963,980	1,000,000	1,007,900	Custodian
2.250%	3.092%		CAS-Muni Bond	10/31/18		10/01/23	961,850	1,000,000	1,012,240	Custodian
3.350%	3.350%		Morgan Stanley PVT BK-CD	01/10/19		01/10/24	245,000	245,000	259,164	Custodian
1.980%	2.810%		FAMCA-Bullet	02/01/19		06/30/22	452,510	465,000	470,217	Custodian
2.850%	2.850%		1st MO St Bank - CD	02/13/19		08/14/23	245,000	245,000	253,477	Custodian
3.000%	3.000%		TIAA FSB - CD	02/22/19		02/22/24	245,000	245,000	255,952	Custodian
3.250%	2.538%		FHLB-Bullet	02/25/19		06/09/23	1,028,810	1,000,000	1,060,610	Custodian
2.800%	2.800%		FHLB-Callable Coupon	02/26/19	02/26/21	02/26/24	1,000,000	1,000,000	1,012,330	Custodian
2.370%	2.524%		FFCB-Bullet	03/12/19		02/05/24	992,950	1,000,000	1,034,060	Custodian
3.375%	2.227%		FHLB-Bullet	03/28/19		09/08/23	1,048,330	1,000,000	1,065,740	Custodian
2.750%	2.750%		Comenity CAP Bank-CD	04/30/19		04/30/24	245,000	245,000	253,707	Custodian
3.000%	2.500%		CAS-Muni Bond	05/01/19		04/01/24	1,022,980	1,000,000	1,043,000	Custodian
2.400%	2.400%		1st Choice Bank - CD	05/22/19		11/23/20	245,000	245,000	246,796	Custodian
2.650%	2.650%		Bank of New Eng Salem-CD	05/23/19		05/23/24	245,000	245,000	252,722	Custodian
2.650%	2.650%		FHLMC-Callable Coupon	06/04/19	12/04/19	06/04/24	1,000,000	1,000,000	1,000,420	Custodian
2.850%	2.850%		St. Bank of India -CD	06/19/19		06/19/24	245,000	245,000	245,363	Custodian
2.160%	1.865%		FFCB-Bullet	06/28/19		06/03/24	1,013,820	1,000,000	1,026,570	Custodian
2.150%	2.150%		Enerbank USA - CD	08/07/19		08/07/24	245,000	245,000	247,350	Custodian
1.590%	1.590%		Maryland St.-Muni Bond	08/28/19		08/01/22	1,000,000	1,000,000	999,730	Custodian
2.147%	2.147%		UNIGEN - Muni Bond	08/29/19		06/01/24	1,000,000	1,000,000	1,002,950	Custodian
2.000%	2.000%	2.000%	FFCB-Callable Coupon	09/03/19	09/03/20	09/03/24	1,000,000	1,000,000	1,000,590	Custodian
1.750%	1.750%		1st Farmers BKTT Trust-CD	09/04/19		09/04/24	245,000	245,000	242,824	Custodian
1.650%	1.650%	1.650%	FFCB-Callable Coupon	09/09/19	09/09/21	09/09/24	1,000,000	1,000,000	998,170	Custodian
1.740%	1.664%		FAMCA-Bullet	09/30/19		09/26/24	1,003,620	1,000,000	1,005,160	Custodian
2.000%	2.000%		FHLB-Callable Coupon	10/02/19	10/02/20	10/02/24	1,000,000	1,000,000	991,090	Custodian
Sub-Total							48,449,764	48,344,684	48,907,754	
Total Investments							\$52,449,764	\$52,344,684	\$52,906,864	
Interest earnings for the month were as followed:							Amount	Current Yield		
Refunding Revenue Bonds - Reserve Fund (Bank of New York Mellon)							\$5,045	2.190%		
Investments							94,259	2.080%		
Local Agency Investment Fund (LAIF)							80,759	2.190%		
Blackrock Liquidity Fund - US Treasury Money Market Fund (Union Bank)							167	1.410%		
Sweep Accounts (Wells Fargo Bank/Bank of New York Mellon)							3,946	1.628%		
Total Earnings							\$184,176			

LVMWD Investment Report for the Month Ending October 31, 2019

Schedule of Investment Balance Limitations (Per District investment policy)

The source of the market valuation is as followed:

Investments (Note 1)	Total Amount Invested	% of Total	Max. Limit Allowed
Refunding Revenue Bonds - Reserve Fund (Bank of New York Mellon/LAIF)	\$52,449,764	56.42%	no limit
Blackrock Liquidity Fund - US Treasury Money Market Fund (Union Bank)	2,818,490	3.03%	1 yr debt pmt.
Local Agency Investment Fund (LAIF)	94,161	0.10%	no limit
	37,608,037	40.45%	65,000,000
Total	\$92,970,452	100.00%	

Note 1: The average weighted duration for investments, excluding LAIF, is 962 days, which is under the assumption that callable coupons will not be called and will be held until maturity.
 Note 2: In October 2019, Joint Powers Authority's participation in investment is \$4,746,768.45, of which \$2,342,258.40 (or 49.34%) belongs to LV.

Bank Account Balances as of October 31, 2019:

Bank Name	Account Type	Amount
Wells Fargo Bank	Checking	\$133,292 (Note 3)
Wells Fargo Bank	Sweep	1,078,948
Bank of New York Mellon	Money Market	2,497,945 (Fund is available for Debt Service Payment due on November 1st, 2019)
	Total	\$3,710,185

Note 3: This is bank balance without adjusting for outstanding checks. The total amount of outstanding checks is unavailable at the time of reporting.

"All District investments are included in this report and all investments, except those relating to debt issues and deferred compensation programs funds, conform to District investment policy. All investment transactions within the period covered by this report, except for the exceptions noted above, conform to District investment policy. Deferred compensation program funds are not included in this report; their investment is directed by individual employees participating in the deferred compensation program and not by the District. Debt issue funds are included in this report; their investment is controlled by specific provisions of the issuance documents and not by the District."

"The deposits and investments of the District safeguard the principal and maintain the liquidity needs of the District, providing the District with the ability to meet expenditure requirements for the next six months. The maturity dates are compatible with foreseeable cash flow requirements. The deposits and investments can be easily and rapidly converted into cash without substantial loss of value."

Approved for December 17, 2019 Agenda:


 David W. Pedersen, General Manager

I HEREBY CERTIFY THAT THE FOREGOING IS TRUE AND CORRECT

TO THE BEST OF MY KNOWLEDGE

Lynda Lo-Hill, Treasurer

Note: Gov. Agency Coupon Notes will distribute interest every six month.
 1-CPNRT=1.5% to 6/17; 1.625% to 6/18; 1.75% to 6/19; 2.0% to 6/20; thereafter 2.5%
 3-CPNRT=1.25% to 11/18; 1.5% to 5/20; 2% to 11/20; 4% to 5/21; thereafter 5%
 5-CPNRT=1.5% to 12/19; 1.75% to 6/20; 2% to 12/20; 2.5% to 6/21; thereafter 3%

2-CPNRT=1% to 12/17; 1.25% to 12/18; 1.5% to 12/19; 2% to 6/20; 4% to 12/20; thereafter 6%
 4-CPNRT=1.3% to 5/19; 1.5% to 5/20; 2% to 11/20; 4% to 5/21; thereafter 6%
 6-CPNRT=1.5% to 6/18; thereafter 2.25%

Definitions

- Disc./Cpn Rate – The yield paid by a fixed income security.
- Yield to Call (YTC) – The rate of return of a security held to call when interest payments, market value and par value are considered.
- Yield to Maturity (YTM) – The rate of return of a security held to maturity when interest payments, market value and par value are considered.
- Bullet – A fixed income security that cannot be redeemed by the issuer until the maturity date.
- Callable – A fixed income security that can be redeemed by the issuer before the maturity date.
- Book Value – The price paid for the security.
- Par Value – The face value of a security.
- Market Value – The current price of a security.
- Sinking Bond – In the case of the CASPWR Bond held by the District, a sinking bond pays a portion of principal on a defined schedule throughout the life of the bond.
- Custodian – The financial institution that holds securities for an investor.

Investment Abbreviations

- FHLB – Federal Home Loan Bank
- FHLMC – Federal Home Loan Mortgage Corporation (Freddie Mac)
- FNMA – Federal National Mortgage Association (Fannie Mae)
- FFCB – Federal Farm Credit Bank
- FAMCA – Federal Agricultural Mortgage Corporation (Farmer Mac)
- Bonds
 - CAS – State of California
 - CASHGR – California State University
 - CASPWR – State of California Department of Water Resources
 - CTS – State of Connecticut
 - HESDEV – Successor Agency to the Hesperia Redevelopment Agency
 - MDS – State of Maryland
 - MOUSCD – Mountain View Unified School District
 - NEWSCD – Newark, CA Unified School District
 - NYSDEV – New York State Urban Development Revenue Bond
 - SCVWTR – Santa Clara Valley Water District
 - SFOFAC – City and County of San Francisco Community Facilities District
 - SRVSCD – San Ramon, CA Unified School District
 - UNVHGR – University of California

LVMWD CASH ANALYSIS - October 31, 2019

	Restricted Cash	Cash Held by Policy	Policy Requirement	Available Funds
101 - Potable Water Operations		10,399,441	9,997,207	
201 - Potable Water Construction	(4,154,961)	12,021,547	11,157,814	
301 - Potable Water Replacement		<u>8,000,000</u>	<u>8,000,000</u>	
603 - Rate Stabilization Fund		30,420,988	29,155,021	(2,888,993)
Total Potable Water		8,843,519	1,100,143	
102 - Recycled Water Operations				
203 - Recycled Water Construction	(107,551)	2,505,002	2,483,887	
302 - Recycled Water Replacement		<u>5,000,000</u>		
Pure Water Project Assigned Funds		16,348,520	3,584,030	7,656,940
Total Recycled Water		12,300,861	3,291,214	
130 - Sanitation Operations				
230 - Sanitation Construction	707,699	7,494,880	10,285,867	
330 - Sanitation Replacement		<u>10,000,000</u>		
Pure Water Project Assigned Funds		29,795,741	13,577,081	6,926,359
Total Sanitation				
606 & 607 - Refunding Revenue Bonds - Reserve Fund	5,316,435			
701 - Vested Sick Leave Reserve	1,433,669			
720 - Insurance Reserve		7,871,864	6,606,216	1,265,648
JPA	5,478,859			
Prepaid Connection Fees & Undistributed Interest	3,132,507			
<i>Subtotal</i>	<u>11,806,658</u>	<u>84,437,114</u>		
TOTAL		96,243,771		

Financial Policy - Cash required to comply with District's adopted Financial Policy.

Restricted Cash - Revenue restricted to a particular purpose.

Bond Covenants - Money relating to bond financing that is restricted in use and required by promises made in bond documents.

Funds are reconciled at year-end.



December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Finance & Administration

Subject : CIS Software: Annual Support and Maintenance Agreement

SUMMARY:

The District has utilized Advanced Utility System's CIS Infinity as its Customer Information and Billing System (CIS) since 2002. This system's functionality includes customer account information, rates, bill processing, collections, service orders and payments. A maintenance and support contract provides software updates for CIS and on-going technical support. Staff recommends renewing the annual support and maintenance agreement for CIS.

RECOMMENDATION(S):

Authorize the General Manager to execute an annual support and maintenance agreement with Advanced Utility Systems, in the amount of \$73,824.01 plus applicable taxes, for the District's Customer Information System software.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds are available in the adopted Fiscal Year 2019-20 Budget.

DISCUSSION:

In August 2019, the District completed an upgrade to CIS Infinity v4, the most current release of CIS. The upgrade allowed for additional automation for repetitive tasks, built in customizable reporting tools, improved security and quicker access to customer information.

With the investment of the current upgrade, a new annual support and maintenance agreement is necessary and provides essential business continuity. The agreement provides access to updates that contain fixes along with on-going technical support. Licensing and maintenance along with technical support of the CIS software is proprietary and exclusively available through Advanced Utility Systems.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Andrew Spear, Systems Analyst



December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Engineering and External Affairs

Subject : Customer Service Front Office Area Remodel: Contract Amendment

SUMMARY:

The District contracted with Bluespace Interiors to remodel the front office area to accommodate a workstation for the new Customer Service Office Supervisor. The General Manager approved a contract for the work for an amount not to exceed \$35,000. However, upon completion of the remodeling work, the addition of noise-cancelling glass is recommended to address the noise level in the work area. Staff recommends that the Board authorize the General Manager to increase the contract amount by for \$1,043.44, from \$35,000 to \$36,043.44, to install the noise-cancelling glass.

RECOMMENDATION(S):

Authorize the General Manager to increase the contract with Bluespace Interiors by \$1,043.44, from \$35,000 to \$36,043.44, for the installation of noise-cancelling glass as part of the front office area remodel work.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The total cost of the contract amendment is \$1,043.44. Sufficient funds are available in the adopted Fiscal Year 2019-2020 Budget for this purpose.

DISCUSSION:

With a new staff member added to the front office area after the remodel, the space now accommodates five full-time staff members. The cubicle walls were kept at a low level to allow staff to see visitors entering or approaching the front counter for District services. The height restriction, together with an additional employee, has caused the noise level to rise significantly, affecting staff interactions with customers. Due to the frequency of staff speaking on the phone and at the front desk simultaneously, installation of noise-cancelling glass will help to alleviate the noise level. The glass panels will still allow staff to view the front door and counter area to assist District visitors, while adding the height needed to mute other conversations.

GOALS:

Provide Excellent Service That Exceeds Customer Expectations

Prepared by: Ursula Bosson, Customer Service Office Supervisor



December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Finance & Administration

Subject : Standby Charge and Deferral Program Administration: Contract Award

SUMMARY:

Harris and Associates submitted a proposal to continue assisting the District with the administration of its standby charge and deferral program. Historically, the District contracted with Psomas for this service. However, in late December 2018 and with consent from the District, Psomas assigned its obligations under the agreement to Harris and Associates. At the same time, the two Psomas employees who performed the work accepted employment with Harris and Associates to provide continuous and seamless service to the District.

The scope of work includes the following items: maintaining the tax database, which is submitted to the County for tax assessments; conducting public hearing notification support by sending approximately 6,000 postcards annually to newly-created parcels and new property owners; providing parcel database reporting; providing a toll-free phone line to answer questions about the standby charge and deferral program; and coordinating with the Los Angeles County Auditor-Controller for the tax assessments. Staff recommends acceptance of the proposal from Harris and Associates for a three-year contract at an annual cost not to exceed \$28,790 (excluding postage costs).

RECOMMENDATION(S):

Accept the proposal from Harris and Associates and authorize the General Manager to execute a three-year professional services agreement, in an annual amount not to exceed \$28,790 plus postage costs, with an optional two-year extension at a maximum 5% increase to the annual amount for on-going administration of the standby charge and deferral program.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The total cost of the three-year agreement is estimated to be \$86,370 plus actual postage costs. Sufficient funds for this work are available in the adopted Fiscal Year 2019-20 Budget and will be included in future year budgets.

DISCUSSION:

On December 21, 2018, the General Manager consented to the assignment of existing contract obligations from Psomas to Harris and Associates for the administration of the standby charge and deferral program (see attached). Harris and Associates seamlessly continued providing this service without incident.

Because the existing agreement expires this month, Harris and Associates submitted the attached proposal to continue providing the service to the District for three years with a two-year renewal option. As proposed, the actual cost of the work would be \$28,790 plus postage costs with a proposed maximum 5% increase for a two-year renewal option. The current proposal amount constitutes an increase over the current pricing of less than 5%. Given the specialized nature of the work and reasonable proposal, staff recommends executing a three-year agreement with Harris and Associates to allow for continuation of the service.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Angela Saccareccia, Finance Manager

ATTACHMENTS:

Harris and Associates Assignment of Contract
Harris and Associates Proposal

December 21, 2018

Dave Pedersen
General Manager
Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, CA 91302-1994

Subject: Letter of Assignment of Project

Dear Dave:

As we have discussed, Harris will be taking over performance of the contracts we have with you. As part of that decision, all Psomas' employees who previously performed work on your contracts will be accepting employment positions with Harris. Harris & Associates Public finance group has years of experience in the formation and administration of assessment and special tax districts. They have worked with over 100 public agencies and placed assessments on over a million parcels last year for agencies throughout the State.

Psomas currently has a extension for the agreement with the Las Virgenes Municipal Water District dated June 24, 2015 (the "Contract"), to provide Special District Financing services for the Las Virgenes Municipal Water District Standby Charge Administration. In an effort to ensure that the Las Virgenes Municipal Water District continues to receive high quality services on this project, Psomas wishes to assign the Contract ("Assignment"), including its position and obligations on the Contract to Harris. Harris will fully assume all of Psomas' rights, duties, obligations and responsibilities under the Contract. Further, a Certificate of Insurance from Harris, evidencing its insurance coverage for the project(s) will be provided to the District. Your consent to this Assignment will confirm that such insurance satisfies your requirements for the project.

Consistent with the terms of the Agreement, Harris and Psomas are requesting that the Las Virgenes Municipal Water District consent to such Assignment and to accept Harris in place of Psomas for these contracts. Please be assured that the specific project personnel assigned to your project will remain the same.

Please indicate your consent to this Assignment by having an authorized representative sign below. Upon your approval and pursuant to this letter, the above Contract will be deemed assigned effective December 31, 2018.

Thank you for your cooperation in this matter. Harris looks forward to continuing to meet or exceed your needs on this project.

Best Regards,

401 B Street
Suite 1600
San Diego, CA 92101-4239

Tel 619.961.2800
Fax 619.961.2392
www.Psomas.com

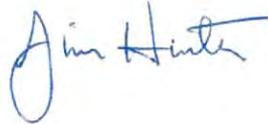
Page 2 of 2
December 21, 2018

Harris



K. Dennis Klingelhofer, P.E.,
Vice President, Public Finance

Psomas



Jim Hunter
Environmental Manager

So Agreed: Las Virgenes Municipal Water District



Dave Pedersen, General Manager



December 4, 2019

Angela Saccareccia
Finance Manager
Las Virgenes Municipal Water District
4232 Las Virgenes Rd.
Calabasas, CA 91302-1994

LAS VIRGENES MUNICIPAL WATER DISTRICT STANDBY CHARGE ADMINISTRATION

Dear Angela:

Harris & Associates is pleased to offer a partnership with Las Virgenes Municipal Water District (LVMWD) by submitting a proposal for Administration of the District's Standby Charge Program. This proposal includes the background on this project, staffing, scope of work and fees.

By selecting Harris & Associates, LVMWD can rely on our highly qualified staff, who have a wealth of knowledge and experience in all areas of public finance and district administration, as well as database maintenance and reporting. Working with Harris & Associates, the District can expect the following:

Experience with Las Virgenes Municipal Water District. Having acquired Psomas' Special District Financing group, Harris & Associates has staff who established the parcel database and have completed the submittal of the water standby charges for the past 25 fiscal years on behalf of Las Virgenes Municipal Water District. Our team can continue to provide LVMWD the technical knowledge, experience and customer focus that the district relies upon to administer the water standby charge program.

Commitment to the Client. Harris & Associates has a track record of providing consistent quality services to our clientele with over 25 years of combined experience. Our clients trust our work because we have delivered what they need, when they need it and have demonstrated accuracy and attention to detail. We are committed to providing the same high level of service to LVMWD that has built our reputation. Harris delivers innovative solutions to today's complex challenges while ensuring that all regulatory and compliance requirements are met.

The following outlines our proposed scope of services and estimated fee to provide these services.

PROJECT UNDERSTANDING

Background

In 1994, Las Virgenes Municipal Water District realized the need to develop a stable revenue source to help fund their water delivery system infrastructure including pipelines, reservoirs and water treatment facilities. Utilizing the Municipal Water District Act, LVMWD developed a Standby Charge Program that places an annual charge of \$10 per acre, or \$10 per parcel for parcels equal to or less than an acre, on property within the district. Recognizing the need to collect the standby charge only from properties that benefit from the water infrastructure, LVMWD's board of directors adopted an exemption/deferral process for property owners who cannot and do not benefit from LVMWD facilities. As part of that

program, staff at Harris & Associates (formerly Psomas) have been involved since 1994 with maintaining a database used to calculate the charges, track the exemptions/deferrals, and submit the standby charges to the Los Angeles County Auditor for inclusion on the annual property tax bills.

SCOPE OF SERVICES

Task 1: Parcel Database Maintenance

Harris & Associates will annually update the existing data fields from the Los Angeles County Assessor's data file. This requires purchasing, uploading the file into a SQL database and then comparing to the existing data to find any deletions, additions and updates. The data in the database that is unique to Las Virgenes MWD, such as exemption/deferral coding, will be updated as new applications are processed and approved by the District. Acreage will be verified on any new or changed parcels. Harris & Associates will work closely with District staff to ensure that any new exemptions are properly coded and annual calculations maximize revenue to the district.

Task 2: Public Hearing Support

Harris & Associates will coordinate the annual mailing of Public Hearing notification postcards. In accordance with the Alternative Procedures Act, only change of ownership and new parcel numbers require mailed notice.

Task 3: Reporting

Each year, Harris & Associates will provide to LVMWD a Proposed Assessments Report, in pdf format, for the annual public hearing. At the end of each submission cycle, after reconciliation of charges with the Los Angeles County Auditor's submittal reports, Harris & Associates will also generate a Final Assessments Report, in pdf format, for the District's historical records. In addition, Harris & Associates will create reports from the parcel database, on an as-needed basis, up to 3 new reports each year.

Task 4: Support and Coordination

Harris & Associates will coordinate with LVMWD staff regarding the database and taxpayer inquiries from the calls received on the toll-free line, using email, meetings and phone calls on an as needed basis. Harris & Associates are available for consultations regarding information needed by the district for management of the standby charge program.

Task 4: Submittal of Charges

Harris & Associates will coordinate with the Auditor-Controller of Los Angeles County for the submission of standby charges for fiscal years 2020/21 through 2022/23. Harris & Associates will ensure the highest order of accuracy and provide ongoing liaison with the County and meet all County deadlines related to submitting the annual charges.

PROJECT SCHEDULE

Month	Task
December/January	<p>Harris & Associates and the District will coordinate for the public hearing on the standby charge for the upcoming fiscal year. This includes development of the postcard, ensuring the mailing is made within the mandated timeframes, and produce the mailing list from the database. Harris & Associates will produce the proposed assessment report, prior to the public hearing.</p> <p>Deliverable: Postcard mailing, Proposed Assessment Report</p>
April-June	<p>Harris & Associates will work on updating the database with County Assessor data and researching parcel changes and acreage for the parcels in the database.</p>
July/August	<p>Harris & Associates will calculate the charges on the updated data and will submit per parcel levy file to the Los Angeles County Auditor's office per county requirements and process changes and/or corrections as necessary.</p> <p>Deliverable: Submittal file to LA County Auditor</p>
August-June	<p>Harris & Associates will assist the District and taxpayers with calls and questions.</p> <p>Harris and Associates will provide a final assessment report to the district after finalization by the county of the charges that were submitted.</p> <p>Deliverable: Final Assessment Report</p>

PROJECT TEAM

Dennis Klingelhofer, P.E.

Project Director

- Dennis has more than 30 years of assessment and financial engineering experience consulting to cities, counties, and special districts throughout California. He has served as the Assessment Engineer for more than 100 agencies. This has included the development of assessment methodologies in compliance with the requirements of Proposition 218, as well as managing the annual administration and levy processes. Dennis is a registered professional civil engineer in California. His services to public agencies for the formation of Public Finance Districts include 1913 Improvement Act districts, 1972 Landscaping and Lighting Act districts, Mello-Roos Community Facilities Districts, 1982 Benefit Assessment Act districts, Fire Suppression Assessment Districts, Special Tax Districts for police and fire services and Development Impact Fees under AB 1600. Dennis is considered to be an expert in development of the assessment methodology in compliance with the requirements of Proposition 218, as well as managing the annual administration and levy processes. Additionally, Dennis is considered an expert in assessment engineering and Proposition 218 processes and has been invited to speak before the California League of Cities, local chapters of the American Public Works Association, and the California Society of Municipal Finance Officers. Dennis has developed a reputation for providing complete and thorough reports, and meeting project deadlines and legally required time frames.

Tami Eaton

Project Manager

- Tami Eaton has over 25 years of experience in Assessment Projects for Special Districts and cities in California. She has been responsible for developing systems and software to process millions of assessments in Southern California since 1988. Tami is familiar with placing assessments onto county tax rolls, complying with Proposition 218 notification, and conforming to county submittal requirements.

Peggy Graham

Project Analyst

- Peggy has over 25 years of experience in the computer industry in the areas of software development, database design, data processing and computer operations. She has experience in accounting with accounts payable, accounts receivable, payroll, and other bookkeeping tasks. Since 1991, Peggy has worked with Special Districts and Assessment Administrations to successfully levy charges on the property tax bills in six Southern California counties.

PROPOSED FEES

Based on the proposed Scope of Services, Harris & Associates proposes to complete the listed work during the next three fiscal years (2020/21 through 2022/23) for a not to exceed amount of **\$28,790 per year** for a total of \$86,370. This is less than a 5% increase over the contract from 2015. This is to be billed on a time and material basis using the hourly rates below. A detailed breakdown of the proposal is shown in the table below. This proposal includes the option to extend the contract for 2 years with a 5% increase in fees starting in year 4. We will continue to provide our excellent service for the most cost-effective rate. Payments are to be made by the District within 30 days of receipt of invoice.

Employee Classifications	Hours -3 years	Rate	Amount – 3 years
Project Director	42	\$285	\$11,970
Senior Project Manager	186	\$150	\$27,900
Project Analyst	84	\$125	\$10,500
Subtotal			\$50,370
Expenses¹			\$36,00
Total Fee			<u>\$86,370</u>

Staff Member	Title	Billing Rate
Dennis Klingelhofer	Vice President, Project Director	\$285
Tami Eaton	Senior Project Manager	\$150
Peggy Graham	Project Analyst	\$125

As outlined in our proposal, Harris & Associates has the experience, ability and professional excellence to make your project successful. We look forward to working with LVMWD. If you have any questions regarding our proposal please feel free to contact me at 949-246-9041, or by email at Dennis.Klingelhofer@weareharris.com. You can also contact Tami Eaton by phone at 619-481-5032 or via email at Tami.Eaton@weareharris.com.

Sincerely,
Harris & Associates, Inc.



K. Dennis Klingelhofer, PE
Vice President, Director Municipal & Public Finance Division
 (949) 246-9041
Dennis.Klingelhofer@weareharris.com



Tami Eaton
Sr. Project Manager
 (619) 481-5032
Tami.Eaton@weareharris.com

- ¹ 3 mailings at \$5,000 each, an estimate of 3,000 post cards each
2. Parcel information fee – maintenance cost for hardware, software and support



December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Engineering and External Affairs

Subject : LVUSD Science Team Water-Related Curriculum for 4th and 5th Grade Education: Grant Agreement

SUMMARY:

For many years and on an annual basis, the District has awarded funding to the Las Virgenes Unified School District (LVUSD) for its 4th and 5th grade science classes to include curriculum on water and its sources, water reliability, District facilities and systems, general water education, climate change and sustainability. The partnership between the District and LVUSD has been very successful, and the positive impact to the region's students is undeniable.

RECOMMENDATION(S):

Authorize the General Manager to execute a one-year agreement with Las Virgenes Unified School District, in the amount of \$107,000, for the Science Team Water-Related Curriculum for 4th and 5th Grade Education.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The total cost of this grant is \$107,000. Sufficient funds are available in the adopted Fiscal Year 2019-20 Budget.

DISCUSSION:

The District has annually awarded the Las Virgenes Unified School District (LVUSD) a grant, in the amount of \$107,000, to fund its 4th and 5th grade water education curriculum; however, a formalized agreement between the two parties had not been executed until last year. As a best business practice, staff proposes that a written agreement be executed annually by the parties to ensure a common understanding of the expectations for the program. LVUSD representatives have been supportive of the approach and assisted with the preparation of the attached agreement, which has been approved as to form by District Legal Counsel.

The water curriculum is critical and unique to the educational experience of the students who learn at an early age the significance of water, its value as a limited natural resource, long-term water reliability and the importance of serving as stewards of the environment. At the end of the school year, the District will invite LVUSD representatives to a Board meeting to showcase the activities of the students and summarize the accomplishments of the program.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

The grant agreement will ensure a common understanding between the District and Las Virgenes Unified School District of the specific expectations for the program.

Prepared by: Mike McNutt, Public Affairs and Communications Manager

ATTACHMENTS:

LVUSD Grant Agreement

LAS VIRGENES MUNICIPAL WATER DISTRICT

**SCIENCE TEAM WATER RELATED CURRICULUM FOR 4TH AND 5TH GRADES
EDUCATION GRANT AGREEMENT**

The Science Team Water Related Curriculum for 4th and 5th Grades Education Grant Agreement (“Agreement”), entered into on this 17th day of December, 2019 (“Execution Date”) by and between the LAS VIRGENES MUNICIPAL WATER DISTRICT (“District”), and LAS VIRGENES UNIFIED SCHOOL DISTRICT (“Grantee”), is made with reference to the following:

RECITALS:

A. The District’s mission is to provide high-quality water service in a cost-effective and environmentally sensitive manner.

B. One of the District’s strategic objectives is to “Support customers to meet water-use efficiency standards.” To address this strategic objective the District is committed to targeted outreach and education.

C. The District desires to fund a range of educational activities for the Science Team Water Related Curriculum for 4th and 5th grades to benefit the District’s water use efficiency goals.

NOW, THEREFORE, it is mutually agreed by and between the undersigned parties as follows:

1. RECITALS.

The above recitals are true and correct and are incorporated by this reference.

2. TERM OF AGREEMENT.

The term of this Agreement shall be from July 1, 2020 to June 30, 2021, unless a shorter term is specified in the Special Grant Conditions (Exhibit A) attached hereto and made part hereof by reference.

District may terminate this contract at any time for any reason within its sole discretion.

3. SERVICES TO BE PERFORMED BY GRANTEE.

A. Grantee shall in a proper and satisfactory manner as determined by District, implement, operate, conduct and perform services as specified in this Agreement and Exhibit A.

B. The General Manager, or his/her designee, may modify or amend Exhibit A if the modification:

1. does not change the program concept as approved by the Las Virgenes Municipal Water District board;
2. does not exceed twelve (12) calendar months from the Execution Date; and
3. will not change the essential purpose of this Agreement.

4. DISTRICT REVIEW OF GRANTEE'S PERFORMANCE.

A. The District shall have the right to monitor, evaluate, and provide guidance to Grantee to ensure proper performance of this Agreement, and Grantee shall fully cooperate in such activities. District's provision of guidance shall not limit or diminish Grantee's responsibilities.

B. Grantee shall allow duly authorized agents or employees of the District to inspect, during normal business hours, those records, books, accounts, documents, papers and other items of property of Grantee in order to evaluate Grantee's performance.

C. The District may interview or otherwise communicate with any employee or agent of Grantee during normal business hours or at other mutually agreed upon times regarding Grantee's performance. Grantee agrees to cooperate with District in arranging the communications.

5. GRANT AMOUNT, COMPENSATION AND METHOD OF PAYMENT.

A. The District shall pay Grantee the grant award as specified in Exhibit B, Budget and Payment Schedule, attached to this Agreement and incorporated by reference, for full performance of the services as specified in this Agreement.

B. The District will disburse an advancement of the grant funds to Grantee in one (1) installment as follows:

1. One-hundred percent (100%) of the grant funds upon execution of this Agreement.

D. The District may, at its sole discretion, withhold or adjust the grant award at any time if Grantee violates this Agreement.

E. The District may, at its sole discretion, adjust the grant award if the period of program services pursuant to this Agreement is less than the term specified in this Agreement, if the program purpose is significantly changed, or if Grantee ceases to exist.

F. Grantee agrees to appropriate and disburse the grant funds and incur costs and expenses according to this Agreement and Exhibit A, and any modifications thereto.

6. FISCAL ACCOUNTABILITY AND REVIEW.

A. Grantee shall implement an accounting system that is in accordance with generally accepted accounting principles and standards. All expenditures shall be supported by properly executed payroll, time records, invoices, contracts, vouchers, orders or other accounting documents pertaining in whole or in part to this Agreement, and shall be clearly identified and readily accessible to District personnel or agents.

B. The District or its agent may conduct such fiscal reviews as District, at its sole discretion, may deem necessary to ascertain Grantee's fiscal integrity and compliance with this Agreement and all applicable laws, regulations and funding requirements. Grantee agrees to fully cooperate with District or its agent in any fiscal review and shall, upon request, make Grantee's business and financial records available for inspection, review and copying by District or its agent.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed the day and year first above written.

LAS VIRGENES MUNICIPAL WATER DISTRICT

By: _____
DAVID PEDERSEN
GENERAL MANAGER

Grantee: LAS VIRGENES UNIFIED SCHOOL DISTRICT

By: _____
DR. DAN STEPENOSKY
SUPERINTENDENT

EXHIBIT A
SPECIAL GRANT CONDITIONS

Grantee: Las Virgenes Unified School District

Grant Award: \$107,000.00

The grant funds shall be utilized for the basic operational expenses of the grantee as set forth in its Proposal and approved by the Las Virgenes Municipal Water District. Below are the proposed objectives the funds may be used all or partially for:

4th Grade:

- Pre-test LVMWD water test or Water Gameboard
- Conservation of water
- Water awareness art contest
- Environmental Stewardship
- Every Drop Counts
- California Aqueduct
- Backwards map: Water from tap to mountain - The Journey your Water Takes
- Hydropower and energy transfer
- Water Erosion/Watershed
- Eco-Science - watershed/conservation, pH analysis, organisms in pond water
- Water Reuse
- Post-test LVMWD water test

5th Grade:

- Pre-test LVMWD water test or Water Gameboard
- Properties of water
- Chemistry of solubility, water compound and particles & states of matter
- Substance of survival.
- Hydroponic seed growth
- Water in the ecosystem
- The Water Cycle
- The Water on Our Planet - Every Drop Counts
- Water Reuse
- Interaction of Hydrosphere, geosphere,atmosphere, biosphere
- Graphing water distribution
- Recognizing water as a limited resource

- Conservation of water
- California Aqueduct Virtual Tour by LAMWD

EXHIBIT B

BUDGET AND PAYMENT SCHEDULE

Grantee: Las Virgenes Unified School District

TOTAL TO GRANTEE: \$107,000.00 per year for (1) year

Payments will be made in accordance to the following schedule:

100% of FY 2020-21 award amount upon execution of Agreement by District and Grantee and delivery of an invoice.



Regular Board Meeting
December 10, 2019
12:00 p.m. – Boardroom

Tuesday, December 10, 2019		
Meeting Schedule		
9:00 AM	L&C	Rm. 2-145
10:30 AM	C&LR	Rm. 2-456
12:00 PM	Board Mtg	Boardroom

MWD Headquarters Building • 700 N. Alameda Street • Los Angeles, CA 90012

1. Call to Order

- (a) Invocation: Eduardo Garcia, Associate Chemist, Water Systems Operations
- (b) Pledge of Allegiance: Director Stephen Faessel

2. Roll Call

3. Determination of a Quorum

- 4. Opportunity for members of the public to address the Board on matters within the Board’s jurisdiction. (As required by Government Code Section 54954.3(a))

5. OTHER MATTERS

- A. Approval of the Minutes of the Adjourned Meeting for November 5, 2019 and the Minutes of the Special Board Meeting on November 12, 2019 (Copies have been mailed to each Director)

Any additions, corrections, or omissions
- B. Report on Directors’ events attended at Metropolitan expense for month of November 2019
- C. Approve committee assignments

- D. Approve Commendatory Resolutions for Directors Frank M. Heldman representing Central Basin Municipal Water District; and Glen C. Dake representing the City of Los Angeles
- E. Presentation of 10-year Service Pin to Director Brett R. Barbre
- F. Chairwoman's Monthly Activity Report

6. DEPARTMENT HEADS' REPORTS

- A. General Manager's summary of activities for the month of November 2019
- B. General Counsel's summary of activities for the month of November 2019
- C. General Auditor's summary of activities for the month of November 2019
- D. Ethics Officer's summary of activities for the month of November 2019

7. CONSENT CALENDAR ITEMS — ACTION

- 7-1** Authorize an agreement with Industrial Electric Machinery in an amount not-to-exceed \$350,000 to provide condition assessments for the main pump motors at the Colorado River Aqueduct pumping plants; the proposed action is in furtherance of a project that the Board previously determined is exempt or otherwise not subject to CEQA. (E&O)
- 7-2** Approve amendments to the Metropolitan Water District Administrative Code to conform to current law, practices and regulations; the General Manager has determined the proposed action is exempt or otherwise not subject to CEQA. (L&C)
- 7-3** Approve write off of \$1,446,292.60 in uncollectible costs; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. (L&C)

- 7-4** Authorize filing claims with the federal government for the recovery of costs resulting from damages to Metropolitan infrastructure due to the crash of a military helicopter in the amount of approximately \$315,000; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. (L&C)

- 7-5** Express support for establishing the California Water Data Consortium and approve funding of \$200,000 to make The Metropolitan Water District of Southern California a founding member; the General Manager has determined the proposed action is exempt or otherwise not subject to CEQA. (WP&S)

END OF CONSENT CALENDAR

8. OTHER BOARD ITEMS — ACTION

- 8-1** Adopt Twenty-Third Supplemental Resolution to the Master Revenue Bond Resolution authorizing the issuance of up to \$270 million of Water Revenue Bonds, 2020 Series; and approve expenditures to fund the costs of issuance of the Bonds of approximately \$2 million; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. (F&I)

- 8-2** Direct staff: (1) to incorporate the use of the 2019/20 fiscal-year-end balance of the Water Stewardship Fund to fund all demand management costs in the proposed Fiscal Years 2020/21 and 2021/22 Biennial Budget; and (2) to not incorporate the Water Stewardship Rate, or any other rates or charges to recover demand management costs, with the proposed rates and charges for calendar years 2021 and 2022; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. (F&I)

- 8-3** Award \$5,316,900 contract to Gracon LLC to rehabilitate the discharge structure at Gene Wash Reservoir; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. (E&O)
- 8-4** Award two procurement contracts for the seismic upgrade of the Casa Loma Siphon Barrel No. 1: (1) \$9,237,782 procurement contract to Kubota Corporation to provide Earthquake Resistant Ductile Iron Pipe; and (2) \$6,134,207.50 procurement contract to Northwest Pipe Company to provide steel pipe; and authorize \$300,000 increase to an agreement with Carollo Engineers, Inc., for a new not-to-exceed total of \$2.5 million, for technical support during procurement; the proposed action is in furtherance of a project that was previously determined to be exempt or otherwise not subject to CEQA. (E&O)
- 8-5** Adopt State Legislative Priorities and Principles for 2020; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. (C&L)
- 8-6** Adopt Federal Legislative Priorities and Principles for 2020; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. (C&L)
- 8-7** Authorize the General Manager to enter into agreements with Bard Water District and farmers within Bard Unit, to provide incentives for land fallowing related to the Bard Seasonal Fallowing Program, for up to \$1.4 million in 2020 and escalated annually through 2026; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. (WP&S)
- 8-8** Authorize amendments to agreements with Desert Water Agency and Coachella Valley Water District regarding the exchange and delivery of water; the General Manager has determined that these actions are exempt or otherwise not subject to CEQA. (WP&S)

- 8-9** Review and consider the City of San Diego's certified Final EIR/EIS and take related CEQA actions, and authorize the General Manager to enter into a Local Resources Program Agreement with the San Diego County Water Authority and the City of San Diego for San Diego Pure Water North City Project Phase 1. (WP&S)

9. BOARD INFORMATION ITEMS

- 9-1** Update on Conservation Program

10. FOLLOW-UP ITEMS

11. FUTURE AGENDA ITEMS

12. ADJOURNMENT

NOTE: Each agenda item with a committee designation will be considered and a recommendation may be made by one or more committees prior to consideration and final action by the full Board of Directors. The committee designation appears in parentheses at the end of the description of the agenda item e.g., (E&O, F&I). Committee agendas may be obtained from the Board Executive Secretary.

Writings relating to open session agenda items distributed to Directors less than 72 hours prior to a regular meeting are available for public inspection at Metropolitan's Headquarters Building and on Metropolitan's Web site <http://www.mwdh2o.com>.

Requests for a disability related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting should be made to the Board Executive Secretary in advance of the meeting to ensure availability of the requested service or accommodation.

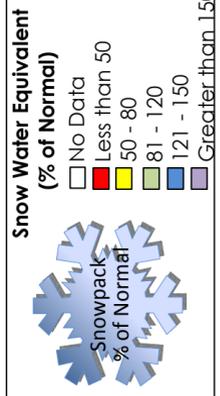
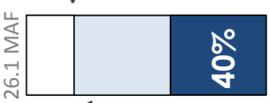
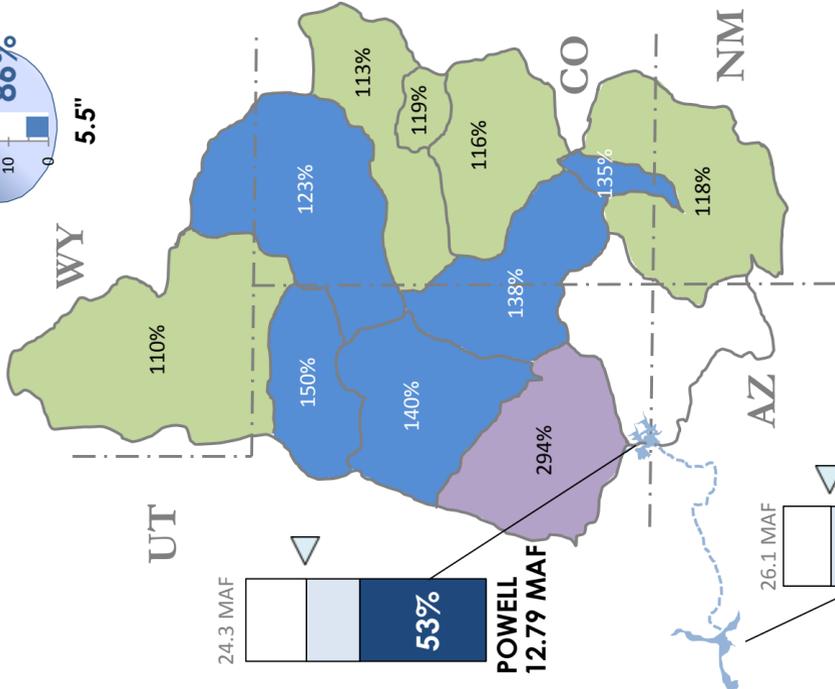
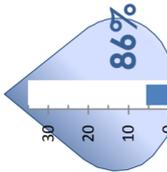


Water Supply Conditions Report

As of: 12/08/2019

2019 Colorado River

Upper Colorado River Basin
128%
 988,153 AF
 79% of full CRA
 Does not include storage withdrawals



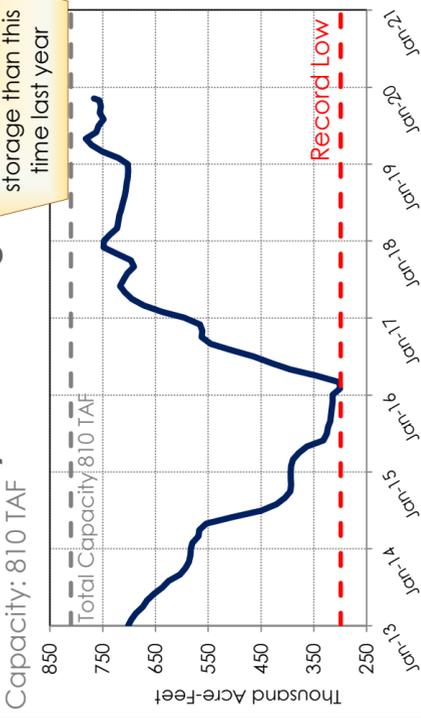
Turn page for more CRA Data

Flip Over for SWP Data

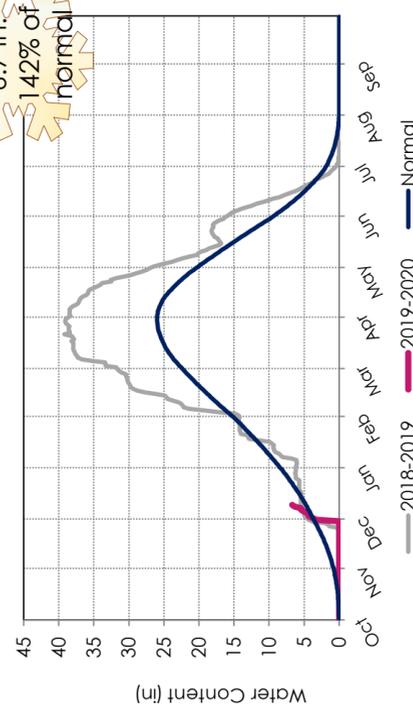
Highlights

- Precipitation at the 8-Station is at 80% of normal
- Snow in the Northern Sierra is at 95% of normal
- Precipitation and snow in the Upper Colorado River Basin are respectively at 86% and 128% of normal
- The 2020 SWP initial allocation is 10%.

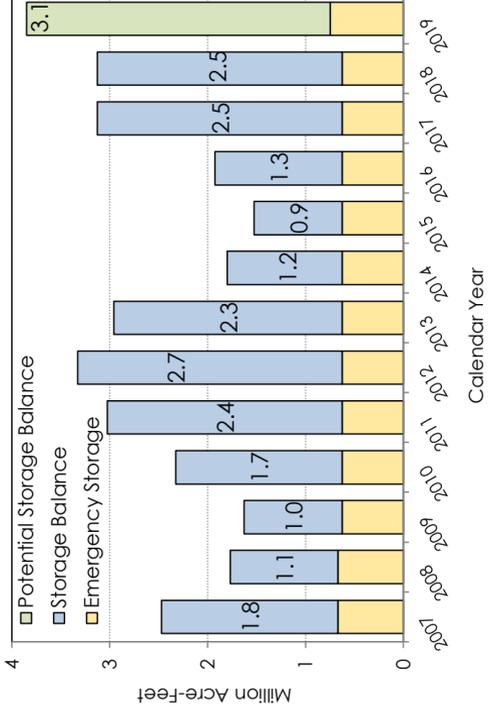
Diamond Valley Lake Storage



Southern Sierra Snowpack



MWD Storage Reserve Levels



Lake Shasta Reservoir Storage

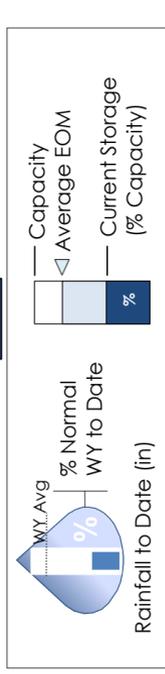
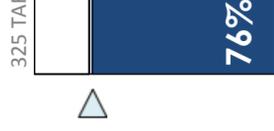
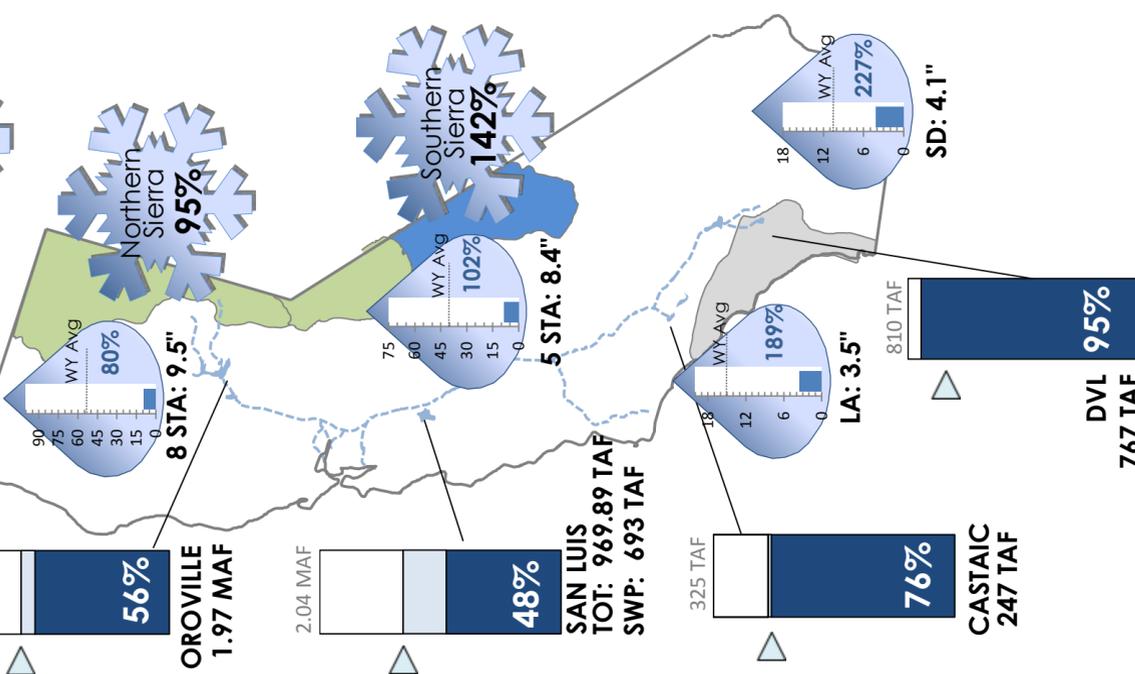


Water Supply Conditions Report

As of: 12/08/2019

2019 SWP Allocation

1,433,625 AF
 75% of Table A



Flip Over for CRA Data

Turn page for more SWP Data

This report is produced by the Water Resource Management Group and contains information from various federal, state, and local agencies. The Metropolitan Water District of Southern California cannot guarantee the accuracy or completeness of this information. Readers should refer to the relevant state, federal, and local agencies for additional or for the most up to date water supply information. Reservoirs, lakes, aqueducts, maps, watersheds, and all other visual representations on this report are not drawn to scale.

<http://www.mwdh2o.com/WSCR>

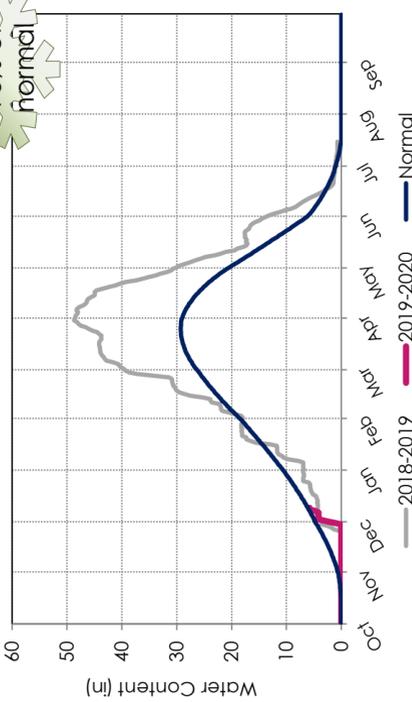
This report is best printed double sided on legal size paper (8.5" x 14") and folded in quarters



State Water Project Resources

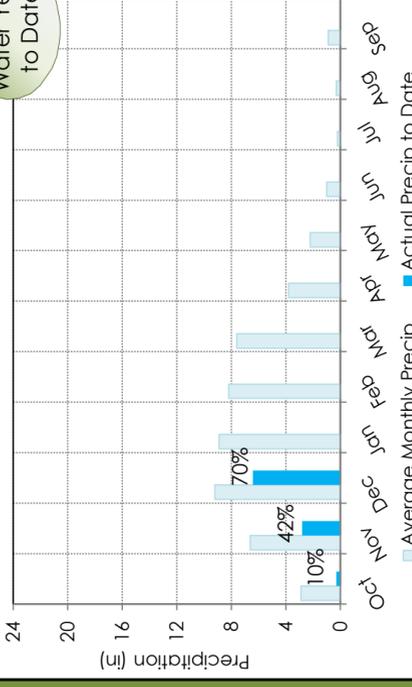
Northern Sierra Snowpack

5.8 in. 95% of normal



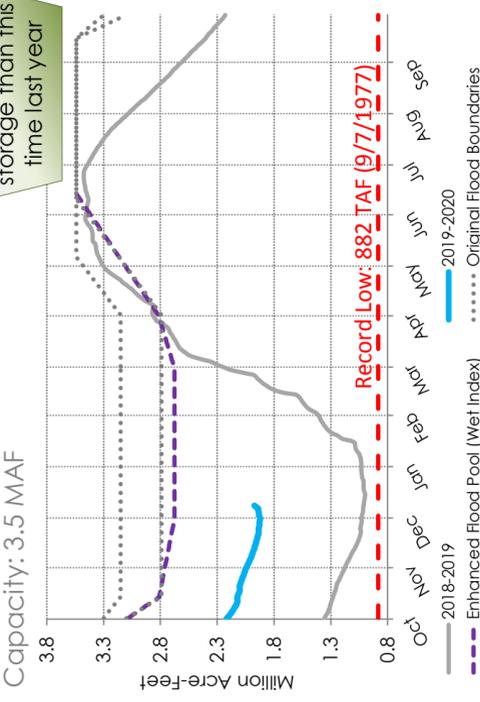
8 Station Index Precip

9.5 in. Water Year to Date



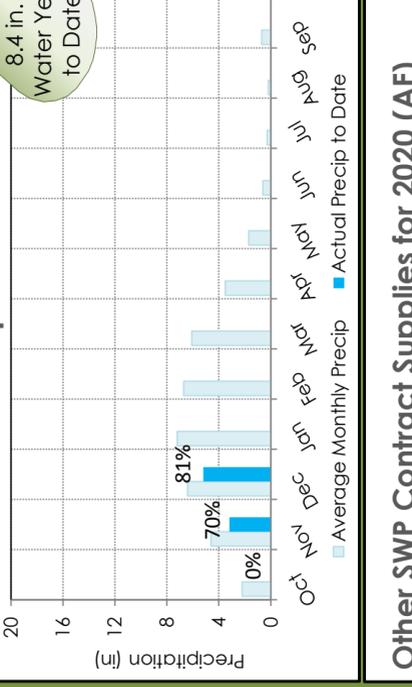
Oroville Reservoir Storage

959 TAF more in storage than this time last year



5 Station Index Precip

8.4 in. Water Year to Date

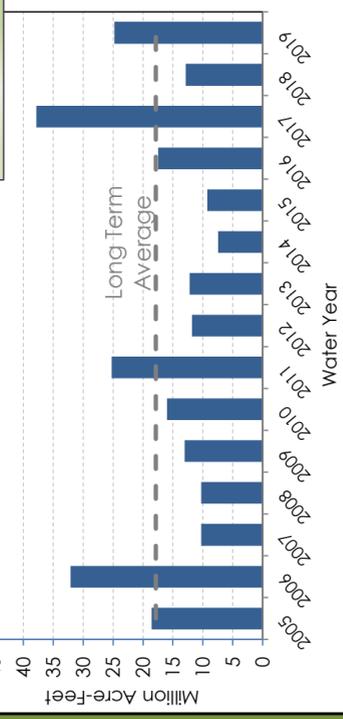


Other SWP Contract Supplies for 2020 (AF)

Article 21	TBD
Carryover	TBD
Article 14b	TBD

Sacramento River Runoff

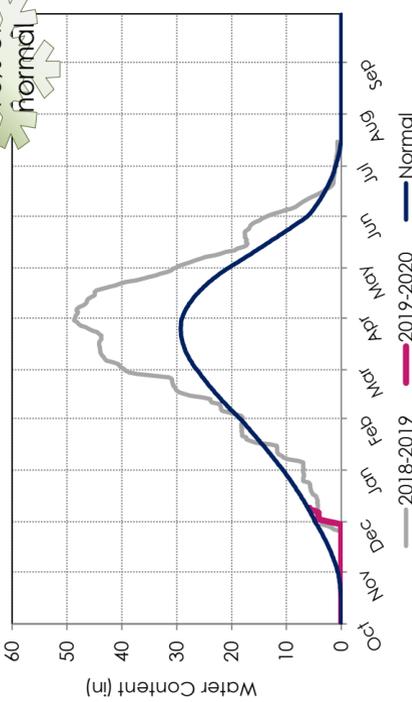
WY 2019 138% of normal (estimate)



Colorado River Resources

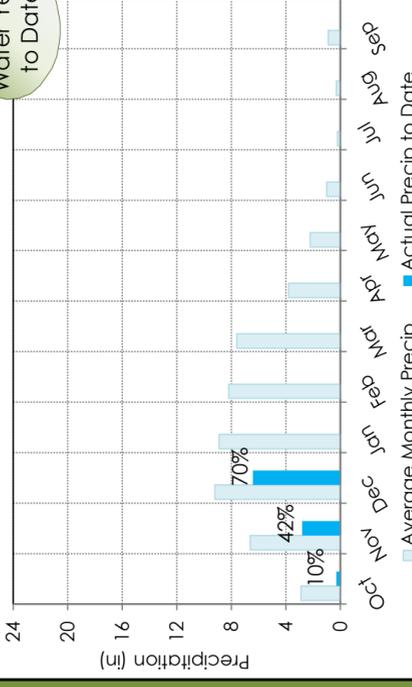
Upper Colorado Basin Snowpack

5.3 in. 128% of normal



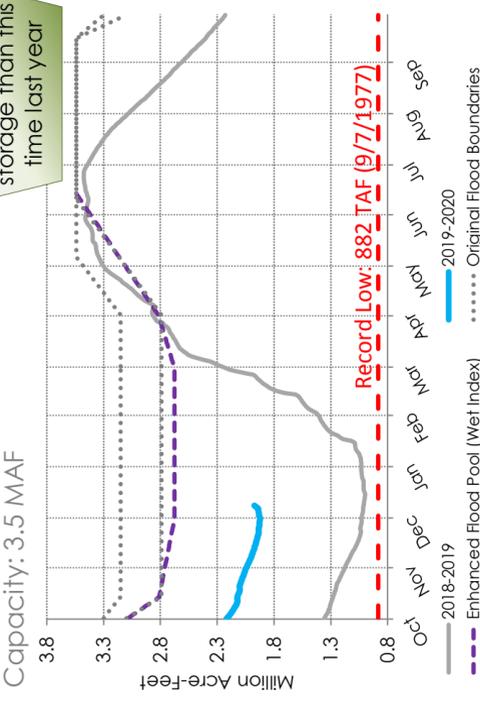
Upper Colorado Basin Precip

5.5 in. Water Year to Date



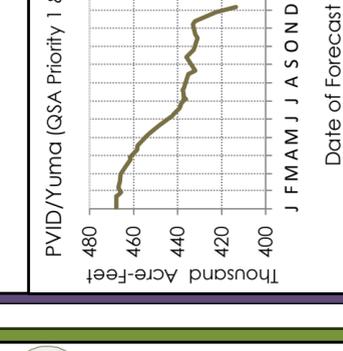
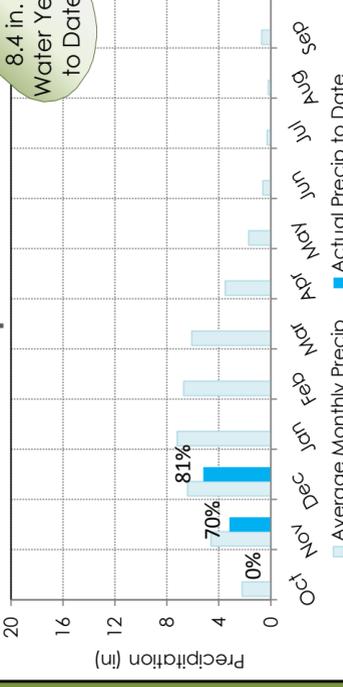
Lake Powell Storage

2.39 MAF more in storage than this time last year



2019 Colorado River Ag Use

PVID/Yuma (QSA Priority 1 & 2)



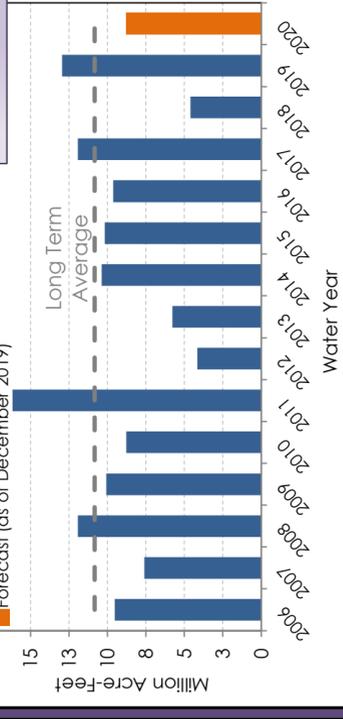
Lake Mead Shortage/Surplus Outlook

Shortage	2020	2021	2022	2023	2024
Surplus	0%	4%	24%	37%	43%
	0%	0%	7%	12%	19%

Likelihood based on results from the August 2019 CRSS model run. Includes DCP Contributions.

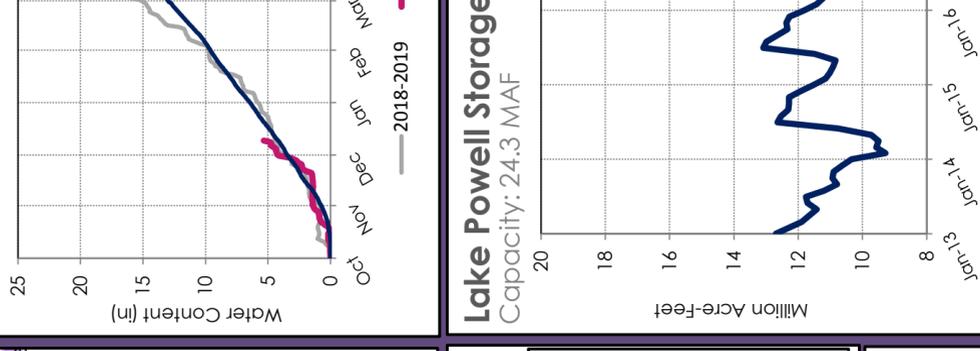
Powell Unregulated Inflow

WY 2020 81% of normal (forecast)



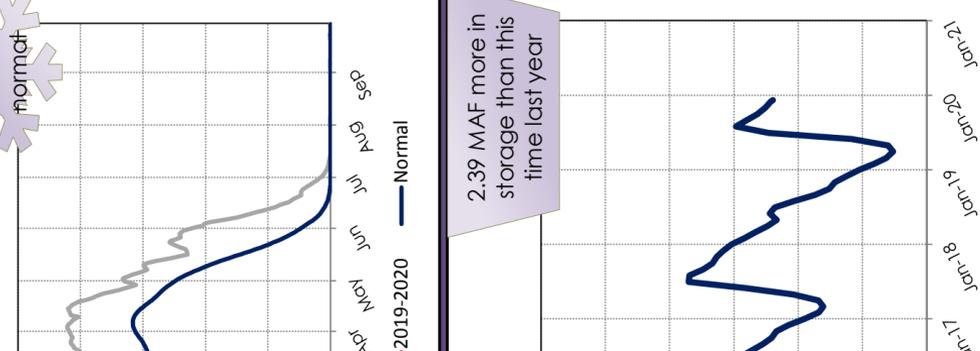
Lake Mead Storage

Capacity: 26.1 MAF



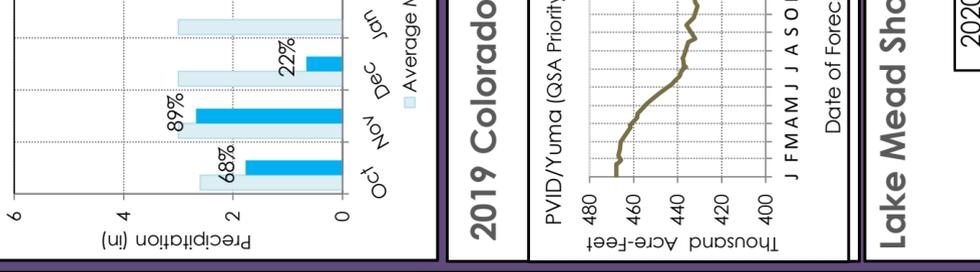
San Luis Reservoir Storage

Capacity: 2.04 MAF



San Luis Reservoir Storage

101 TAF less in SWP storage than this time last year





December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: General Manager

Subject : Salary Resolution and Management Handbook Update: Approval and Adoption

SUMMARY:

Annually, the Board adopts a resolution establishing salary ranges for all District positions based on agreed upon Memorandums of Understanding (MOUs). On January 29, 2019, the Board approved a three-year MOU with the Service Employees International Union, Local 721 (SEIU), General and Office Units. Subsequently, on March 12, 2019, the Board approved a three-year MOU with the Manager, Supervisor, Professional and Confidential Employees Association. The terms of the MOUs included implementing a salary increase, effective the beginning of the first pay period following January 1, 2020, based on the October 2018 to October 2019 Consumer Price Index (CPI) with a minimum of a 2% increase and a maximum of a 3.5% increase. The actual CPI for the subject timeframe corresponds to a 3.2% increase, which is reflected in the attached salary resolution.

In addition, the General Manager recommends that the Board approve the same adjustment provided to District's represented employees (3.2% increase) to its unrepresented employees. No change is proposed for the General Manager. Also, the General Manager proposes a minor update to the Management Handbook, which outlines the benefits provided to unrepresented employees, related reimbursement for the usage of personal cellular telephones. The update would align the reimbursement program for cellular telephones for unrepresented employees with that provided to all other employees who use their personal cellular telephones for District business.

RECOMMENDATION(S):

Pass, approve and adopt proposed Resolution No. 2567, establishing salaries for employees; and approve the updated Management Handbook.

RESOLUTION NO. 2567

A RESOLUTION OF THE BOARD OF DIRECTORS OF LAS VIRGENES MUNICIPAL WATER DISTRICT ESTABLISHING SALARIES FOR EMPLOYEES

(Reference is hereby made to Resolution No. 2567 on file in the District's Resolution Book and by this reference the same is incorporated herein.)

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds are included in the adopted Fiscal Year 2019-20 Budget for employee salaries and will be included in future year budgets.

DISCUSSION:

Annually, the Board adopts a resolution to document the approved salaries for District employees. When the Board adopted the Fiscal Year 2019-20 Budget on June 26, 2019, a salary resolution was not included due to the timing of the approved future increases and seeing a need to align the resolution with the annual changes. The attached proposed Resolution No. 2567 reflects salaries adopted by the Board through December 31, 2020 for the District's represented employees pursuant to the terms of the approved MOUs and incorporates the same adjustment for the District's four unrepresented employees.

The District's employees are represented by four bargaining units: (1) the General Unit; (2) the Office Unit; (3) the Management Unit; (4) the Supervisor, Professional and Confidential Unit. Department Directors and the Human Resources Manager are unrepresented. The terms and conditions of employment for unrepresented employees are governed by the Management Handbook.

Unrepresented employees currently receive a cellular telephone reimbursement of up to \$100 per month, based on actual cost documented each month. The documentation and related processing time results in inconsistent reimbursement schedules with multiple months submitted and reviewed at one time, increasing processing time for employees and staff. Replacing the current reimbursement with a stipend equivalent to that provided to other employees would reduce administrative processing and documentation needs and reduce District cost by up to \$1,920 per year.

GOALS:

Assure a Quality, Continually Improving Workforce

Prepared by: Sherri Paniagua, Human Resources Manager

ATTACHMENTS:

Proposed Resolution No. 2567
Proposed Management Handbook Update

RESOLUTION NO: 2567

A RESOLUTION OF THE BOARD OF DIRECTORS OF LAS VIRGENES MUNICIPAL WATER DISTRICT ESTABLISHING SALARIES FOR EMPLOYEES

BE IT RESOLVED BY THE BOARD OF DIRECTORS OF LAS VIRGENES MUNICIPAL WATER DISTRICT as follows:

Section 1. Purpose and Scope

This resolution establishes salary levels for employees.

Section 2. General and Office Unit Classifications: Effective January 1, 2020

(a) Effective January 1, 2020, classifications in the General Unit and Office Unit shall be paid between the following starting and ending hourly salaries.

Classification	Starting Salary	Ending Salary
Accounting Technician	\$27.25	\$37.57
Accounting Technician (Payroll)	\$33.58	\$46.31
Administrative Assistant	\$27.80	\$38.33
Chief Water Treatment Plant Operator	\$39.38	\$54.30
Collections Systems Technician	\$28.93	\$39.89
Compliance Inspector	\$32.92	\$45.39
Compost Operator	\$26.19	\$36.11
Compost Worker	\$22.78	\$31.41
Computer Support Specialist	\$30.71	\$42.34
Cross Connection Inspector	\$34.60	\$47.71
Customer Service Representative	\$25.42	\$35.05
Electrical/Instrumentation Technician I	\$30.40	\$41.92
Electrical/Instrumentation Technician II	\$35.30	\$48.67
Facilities Inspector	\$36.01	\$49.65
Facilities Maintenance Worker	\$27.25	\$37.57
Field Customer Service Representative I	\$22.78	\$31.41
Field Customer Service Representative II	\$25.17	\$34.70
Fleet Technician	\$30.10	\$41.51
GIS Coordinator	\$40.57	\$55.94
Laboratory Assistant	\$28.08	\$38.71
Laboratory Technician I	\$31.01	\$42.76
Laboratory Technician II	\$36.01	\$49.65
Maintenance Mechanic I	\$28.08	\$38.71
Maintenance Mechanic II	\$32.60	\$44.95
Planning & New Development Technician	\$32.92	\$45.39
Resource Conservation Specialist I	\$25.17	\$34.70
Resource Conservation Specialist II	\$28.93	\$39.89

Senior Accounting Technician	\$33.58	\$46.31
Senior Electrical/Instrumentation Technician	\$38.22	\$52.71
Senior Field Customer Service Representative	\$31.32	\$43.19
Senior Maintenance Mechanic	\$35.30	\$48.67
Senior Water Construction Specialist	\$34.26	\$47.24
Senior Water Distribution Operator	\$36.73	\$50.64
Senior Water Reclamation Plant Operator	\$36.73	\$50.64
Storekeeper	\$28.93	\$39.89
Systems Coordinator	\$40.57	\$55.94
Technical Services Support Specialist	\$31.01	\$42.76
Water Distribution Operator I	\$25.17	\$34.70
Water Distribution Operator II	\$27.80	\$38.33
Water Distribution Operator III	\$34.60	\$47.71
Water Reclamation Plant Operator I	\$27.80	\$38.33
Water Reclamation Plant Operator II	\$33.92	\$46.77
Water Reclamation Plant Operator in Training	\$26.19	\$36.11
Water Treatment Plant Operator I	\$25.17	\$34.70
Water Treatment Plant Operator II	\$27.80	\$38.33
Water Treatment Plant Operator III	\$34.60	\$47.71

(b) Whenever possible, personnel will be hired at the above listed starting salary. With the approval of the General Manager, advanced step placement is possible to recruit an exceptionally well qualified candidate or to complete a difficult recruitment. Employees will be subject to annual merit review for possible increases.

Section 3. Supervisor, Professional & Confidential Unit Classifications: Effective January 1, 2020

(a) Effective January 1, 2020, classifications in the Supervisor, Professional & Confidential Unit shall be paid between the following starting and ending hourly salaries.

Classification	Starting Salary	Ending Salary
Accountant	\$39.16	\$50.91
Administrative Services Coordinator	\$48.28	\$62.76
Assistant Engineer	\$44.58	\$57.95
Associate Engineer	\$50.73	\$65.96
Chief Water Reclamation Plant Operator	\$48.75	\$63.39
Compost Operations Supervisor	\$48.28	\$62.76
Construction Supervisor	\$48.28	\$62.76
Customer Service Office Supervisor	\$47.32	\$61.52
Customer Service Operations Supervisor	\$48.28	\$62.76
Customer Service Program Supervisor	\$48.28	\$62.76
Electrical/Instrumentation Supervisor	\$48.28	\$62.76
Facilities Maintenance Supervisor	\$48.28	\$62.76

Financial Analyst	\$48.28	\$62.76
Human Resources Analyst I	\$38.02	\$49.42
Human Resources Analyst II	\$43.69	\$56.81
Laboratory Supervisor	\$48.75	\$63.39
Management Analyst I	\$38.02	\$49.42
Management Analyst II	\$43.69	\$56.81
Public Affairs Associate I	\$38.02	\$49.42
Public Affairs Associate II	\$43.69	\$56.81
Purchasing Supervisor	\$47.32	\$61.52
Resource Conservation Supervisor	\$48.28	\$62.76
SCADA Analyst	\$47.32	\$61.52
Senior Accountant	\$47.32	\$61.52
Senior Engineer	\$59.48	\$77.34
Systems Analyst	\$48.75	\$63.39
Technical Services Support Supervisor	\$48.28	\$62.76
Water Systems Supervisor	\$48.28	\$62.76

(b) Starting and ending figures establish pay limits with no fixed intermediate steps. Movement of an employee between the figures shall be based on performance and in accordance with the Unit's collective bargaining agreement.

Section 4. Management Unit Classifications: Effective January 1, 2020

(a) Effective January 1, 2020, classifications in the Management Unit shall be paid between the following starting and ending hourly salaries.

Classification	Starting Salary	Ending Salary
Customer Services Manager	\$59.48	\$83.28
Executive Assistant/Clerk of the Board	\$49.73	\$69.62
Facilities Manager	\$59.48	\$83.28
Facilities Manager/Engineer	\$64.42	\$90.18
Finance Manager	\$59.48	\$83.28
Finance Manager/CPA	\$64.42	\$90.18
Information Systems Manager	\$64.42	\$90.18
Principal Engineer	\$64.42	\$90.18
Public Affairs & Communications Manager	\$59.48	\$83.28
Resource Conservation Manager	\$59.48	\$83.28
Water Reclamation Manager/Engineer	\$64.42	\$90.18
Water Systems Manager	\$59.48	\$83.28
Water Systems Manager/Engineer	\$64.42	\$90.18

(b) Starting and ending figures establish pay limits with no fixed intermediate steps. Movement of an employee between the figures shall be based on performance and in accordance with the Unit's collective bargaining agreement.

Section 5. Unrepresented Classifications: Effective January 1, 2020

(a) Effective January 1, 2020, classifications that are unrepresented shall be paid between the following starting and ending hourly salaries.

Classification	Starting Salary	Ending Salary
Director of Facilities & Operations	\$79.89	\$121.90
Director of Finance & Administration	\$79.89	\$121.90
Director of Engineering & External Affairs	\$79.89	\$121.90
Human Resources Manager	\$64.42	\$90.18

(b) Starting and ending figures establish pay limits with no fixed intermediate steps. Movement of an employee between the figures shall be based on performance and with the approval of the General Manager.

Section 6. Employment Contract Positions

(a) The General Manager position will be paid in accordance with a signed and approved employment contract to be amended by the Board as deemed necessary.

Classification	Hourly Rate	Annual Salary
General Manager	\$144.80	\$301,192.68

Section 7. Temporary Positions

(a) Temporary positions are not eligible for benefits other than salary; and temporary part-time positions shall be paid in accordance with the type of work performed.

(b) Student Workers shall be paid in accordance with the current California Minimum Wage.

(c) Interns:

(1) Upper division candidates for Bachelor degree programs shall be paid \$14.00 to \$18.00 per hour.

(2) Candidates for Master degree programs shall be paid \$16.00 to \$20.00 per hour.

(3) Candidates for Doctoral degree programs shall be paid \$16.00 to \$22.00 per hour.

PASSED, APPROVED AND ADOPTED this 17th day of December 2019.

Jay Lewitt, President

ATTEST:

APPROVED AS TO FORM:

Charles Caspary, Secretary

Olivarez Madruga Lemieux and O'Neill,
District Counsel

(SEAL)



MANAGEMENT HANDBOOK OF BENEFITS
As required by Section 2-4.103 of the LVMWD Administrative Code

For

**Department Heads
& Human Resources Manager**

**February 12, 2019 PROPOSED
January 1, 2020**

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LVMWD LEADERSHIP MODEL

Leadership Principle	Supporting Behavior
Being Fair	<p><i>I will</i></p> <ol style="list-style-type: none"> 1. Assign duties fairly 2. Promote fairness in the application of District policies and procedures 3. Willingly explain to others the basis for my decisions 4. Show consistency in my actions 5. Treat others as I would like to be treated
Demonstrating Commitment	<p><i>I will</i></p> <ol style="list-style-type: none"> 1. Support decisions made by my Department, the District or the Board 2. Support the efforts of other Departments 3. Support and follow through on my commitments and decisions to my Employees 4. Make timely decisions
Being Responsible and Accountable	<p><i>I will</i></p> <ol style="list-style-type: none"> 1. Lead by example 2. Accept total responsibility for my own actions 3. Acknowledge my own mistakes and not blame others 4. Provide input on topics of concern <i>before</i> decisions are made 5. Inform others as soon as I know when I cannot keep a commitment or promise. 6. Regularly give my employees complete and accurate information on their performance along with clear and concise expectation of future performance. 7. Continue my personal growth in management, my professional field, as well as water/wastewater management through education, certification and participation in professional associations
Having Integrity	<p><i>I will</i></p> <ol style="list-style-type: none"> 1. Keep my word and commitments 2. Say what I mean and mean what I say; have the courage to be forthright and straightforward 3. Set and enforce high standards for services and products we receive from others or distribute from my work group 4. Set/develop high standards for hiring/promoting people 5. Support and follow the intent of District policies and procedures 6. Conduct myself at the highest level of ethical standards
Being an Effective Communicator	<p><i>I will</i></p> <ol style="list-style-type: none"> 1. Speak clearly and concisely; make my message and intent easy to understand 2. Regularly and frequently inform those who should know of my work progress and intentions 3. Regularly and frequently give each member of my staff pertinent feedback on how they are performing with suggestions for improvement when appropriate 4. Be an active listener, demonstrating understanding without judging or criticizing the other person 5. Be an active participant in meetings; when I have nothing to add I will invite quiet members to contribute

Leadership Principle	Supporting Behavior
Being Innovative and Encouraging Innovation	<p><i>I will</i></p> <ol style="list-style-type: none"> 1. Ask myself and employees “What is the right thing to be doing” before starting any new assignment 2. Not whine about what is wrong; I will look for ways to be part of the solution 3. Encourage new ideas and methods from others 4. Not criticize new ideas; I will help others think through their ideas by asking for the “pros’ and “cons” of new ideas 5. Spend at least 5% of my work time staying up-to-date on industry trends by reading, attending conferences, visiting other agencies, talking with others in the industry, etc.
Being a Mentor	<p><i>I will</i></p> <ol style="list-style-type: none"> 1. Review the developmental needs of each employee at least annually and work with each employee to create a development plan that is appropriate for him or her 2. Make sure employees get the training opportunities they need and I will meet with each of them before and after training to make sure they use the training 3. Work with other groups and Departments to make sure employees receive needed cross-training 4. When an employee makes a mistake ask what he or she learned and how can it be prevented from happening again 5. Be available to other employees outside my own work area to be a good active listener or to share my experiences, strategies and successes
Developing and Supporting Effective Teams	<p><i>I will</i></p> <ol style="list-style-type: none"> 1. Hold a team meeting at least once every two weeks; stay within time limits (e.g. 30 minutes) 2. Share what I know from other District sources 3. Invite each person in the team to participate by sharing what they are doing or by asking questions 4. Recognize those who make contributions, especially those who have new or different ideas 5. Not tolerate disparaging comments by team members toward each other or other staff 6. Ask the team at each meeting if there is anything we can be doing better

WHAT POSITIONS ARE COVERED BY THE MANAGEMENT HANDBOOK?

Positions covered by benefits contained in this Management Handbook are:

	Supervisory Responsibility	Exempt under FLSA
Department Head		
Director of Facilities & Operations	Yes	Yes
Director of Finance & Administration	Yes	Yes
Director of Resource Conservation and Public Outreach	Yes	Yes
Other		
Human Resources Manager	Yes	Yes

BEREAVEMENT LEAVE

A Department Head or unrepresented management employee may be provided up to 3 days paid leave to attend the funeral of a member of the employee's immediate family. "Immediate family" is designated as the spouse/domestic partner, child, parent, sibling or grandparent of the employee or the employee's spouse/domestic partner. If additional time off is required, the employee may request sick leave as provided in the Sick Leave benefit provisions.

CELLULAR TELEPHONE

In lieu of a District-provided cellular telephone, Department Directors ~~may~~will receive a stipend of ~~up to \$100~~\$60 per month, ~~reimbursed based on actual cost~~payable monthly through the District's payroll system. Cellular telephones must be capable of voice, text, and data communications, including the sending and receiving of District electronic mail.

DEFERRED COMPENSATION PLAN

Unrepresented management employees may elect to participate in the District's Deferred Compensation Plan. The purpose of the Plan is to defer a portion of the employee's compensation for his/her use at retirement. Social Security taxes are paid at the time wages are earned while Federal and State income taxes are deferred until the employee withdraws the funds.

Participation in deferred compensation commences the month following sign-up for new employees.

Department Directors are eligible to have \$145.83 or 3% of their base salary matched per 24 pay periods on a \$1 to \$1 basis, whichever is greater. The Human Resources Manager is eligible to have \$125.00 or 3% of their salary matched per pay period on a \$1 to \$1 basis, whichever is greater.

For employees newly promoted or hired to positions at a date other than January 1, the district payment per calendar year shall be pro-rated for partial year employment.

All participation is optional to employees and is in accordance with plan rules and IRS regulations applicable to IRC Section 457 deferred compensation plans. All employees considering participation in any deferred compensation plan are encouraged to consult with a tax accountant and/or attorney as the district neither promotes nor recommends employee participation.

Effective January 1, 2016, or as soon as practical thereafter, the District will provide an IRS Section 401(a) plan. The District match specified above will be deposited into the 401(a) plan.

Additional details are available in the brochures in the Human Resources Office.

EDUCATIONAL ASSISTANCE PROGRAM

The General Manager may authorize attendance of employees at classes at District expense where the direct benefit to the District warrants. A refund of expenditures, to a maximum of \$685.00 per class, for registration and course supplies will be made to the employee upon presentation of proof of completion with a passing grade.

FAMILY AND MEDICAL LEAVE

Employees are granted rights for Family Medical Leave as provided under state and federal laws and pursuant to the Family Medical Leave Policy of the District.

HOLIDAYS

The district shall observe the holidays listed below and upon which the district is normally closed:

January 1
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Veterans Day
Thanksgiving Day and the following Friday
December 24
December 25
December 31

If any of the holidays set forth above falls on the first day of an employee's weekend, the holiday will be observed on the previous work day.

If any of the holidays set forth above falls on the last day of an employee's weekend, the holiday will be observed on the following work day.

A weekend is any two or three regularly scheduled consecutive days off. An employee working a 9/80 workweek will alternate between two and three-day weekends.

The December 24/25 and December 31/January 1 holidays often provide four consecutive days off for employees. If the holiday schedule provides four-day weekend for employees with Monday through Friday schedules then the district will try to schedule four consecutive days off for employees working an irregular workweek.

INSURANCE

LIFE INSURANCE

Life insurance equivalent to the sum of \$50,000 plus one year's salary is provided by the District for each regular full-time employee upon completion of one month of continuous employment with the District and upon submission of application for membership. Employees not applying within thirty (30) days will be required to provide medical evidence of insurability. (NOTE: There is a tax liability for life insurance in excess of \$50,000 per year.)

DENTAL INSURANCE

The District provides dental insurance for regular, full-time employees, their spouses, domestic partner and unmarried dependent children less than 25 years. Coverage commences on the first of the month following the month of employment with the District and upon submission of application for membership. Coverage for the employee's dependents becomes effective at the same time as the employee's personal coverage.

DISABILITY INSURANCE

The District shall provide disability insurance for each employee. The District retains the right to select a plan(s) different from the current plan. Coverage commences after the employee has completed one month of continuous employment with the District and upon submission of an application for membership.

An employee eligible for disability benefits shall use available sick leave to cover time off during the 30 calendar day elimination period. After the elimination period, the employee has the option of using the balance of his/her sick leave or vacation leave to coordinate with gross income. The monthly benefit for a disability in the plan will be two-thirds of the employee's monthly base up to a maximum of:

Department Heads	\$8,000
HR Manager	\$6,389

MEDICAL COVERAGE

The District shall make every reasonable effort to provide health insurance coverage to employees in this Group subject to the District retaining the right to select a plan(s) different from the current plan.

The District's maximum contribution to medical insurance premiums shall be benchmarked to 98% of Blue Cross Classic (PPO) Plus Two (or more) Plan. Any premium cost above the District's contribution shall be borne by the active or retired employee. Employees hired after January 1, 2014 will receive a District maximum contribution equal to 98% of the lowest premium family plan rate. Effective January 1, 2017, the District's maximum contribution for medical insurance shall be 98% of the Kaiser Permanente HMO Family rate.

The employee, his/her spouse, domestic partner and unmarried dependent children age 26 years and under are eligible for medical insurance coverage on the first of the month following the date of hire. Subscribing members may add new dependents without a health statement within thirty-one (31) days of marriage, in the case of a new spouse, or the date of birth, in the

case of a child. Employees can generally only change plans during "open" enrollment which is determined by the medical plan.

EXTENSION OF COVERAGE

The District will continue to contribute to an employee's medical, dental, vision, disability and basic life insurance premiums up to six (6) months duration during sickness or injury on the same terms and conditions as prior to the period of absence. Insurance will not be continued for leave-of-absence without pay for causes other than sickness or injury.

RETIREE MEDICAL

If the District changes plans or providers, there shall be no change to the level of health insurance benefits provided for District retirees.

- a. Employees hired prior to March 31, 2006, who have at least five years of District service, shall have a retiree medical contribution equal to 100% of either the employee only (if the employee does not have a dependent) or the employee plus one (if the employee has a dependent) of any District plan (then being provided). If the employee has a dependent, the employee must designate the dependent at the time of retirement.
- b. Retirees and covered dependents who reach the age of 65 must enroll in Medicare Part A and B no later than one month prior to their 65th birthday. Enrollment in Part D will be required if the provider of the health plan offers premium subsidies or incentives or requires enrollment in Medicare Part D. The District will be obligated to contribute the cost of the medical premiums only for those covered as provided herein.
- c. Employees hired after March 31, 2006, and prior to January 1, 2014, shall receive a retiree medical contribution in the amount of 75% of the PPO rate if the employee retires with at least 10 years of District service and is age 55 or older at retirement.
- d. Employees hired after January 1, 2014, with at least 10 years of District service who are age 55 or older at retirement, shall receive a retiree medical benefit in the amount of 75% of the least expensive plan offered by the District at the time of retirement at the employee only level.

VISION CARE

The district will provide a vision program through a third party vendor at no cost to the employee. The employee may elect to cover dependents by paying for such coverage.

JURY DUTY

Full-time, regular employees will be paid his/her regular salary while he/she is on jury duty for up to 240 hours per fiscal year, less the amount received from the Court for such service as a juror. An attendance record from the Court for the time spent on jury duty and a copy of the check for such service must be submitted to the District's payroll section. The amount received from the Court for service as a juror will be deducted from the employee's paycheck following completion of such service.

LEAVE OF ABSENCE

A leave of absence without pay may be granted by department heads for up to 40 hours within a fiscal year. Such leaves do not require General Manager approval.

Such leave without pay must be pre-approved before the time can actually be used. Also, such leaves may be taken even if the employee has existing comp time or vacation on the books. In no case, may a leave of absence without pay exceed 40 hours in a fiscal year without the General Manager's approval.

In addition, leave without pay may be granted by the General Manager and shall not exceed a continuous period of 30 calendar days, except for extended unpaid sick leave, military leave, pregnancy leave, parental leave, and family and medical leave.

Vacation and sick leave benefits are not earned nor holidays paid during leave without pay. Leave of absence without pay includes unpaid sick leave, military leave, pregnancy leave, parental leave, and family and medical leave or any other leave where the District is not paying wages to the employee.

MANAGEMENT LEAVE

Department Heads receive 88 hours and the Human Resources Manager receives 72 hours management leave, which is granted each fiscal year beginning July 1 and is for use within the fiscal year it is granted ending June 30.

At the end of each fiscal year the following shall occur:

All management leave must be used; or

Department Heads may sell back up to 60 hours and the Human Resources Manager may sell back up to 50 hours of unused management leave, respectively, provided they have used 80 hours of vacation and/or management leave within the fiscal year ending June 30; and

In lieu of forfeiture, the employee may donate any unused management leave to the Catastrophic Leave Bank.

PARENTAL LEAVE

An employee may be granted an unpaid leave of absence for not more than 1,040 hours to care for or to bond with their newly-born or adopted child. Such leave is to be completed within one year after the date of birth or adoption.

An employee who is granted such leave must use it concurrently with FMLA/CFRA. However, once the employee has exhausted the 12 weeks of leave as provided by FMLA/CFRA, the employee will be responsible for the cost of group insurance (medical, dental, vision, disability and life).

PHYSICAL FITNESS PROGRAM

An amount of \$500 shall be made available to Department Heads and unrepresented managers every July 1st for payment of costs with primary emphasis on preventive health maintenance, relative to obtaining/receiving a comprehensive physical examination or for memberships to private gym facilities. Expenses will be reimbursed to the employee after they are incurred relative to receipt of a medical examination and required exam-related follow up procedures/activities to the extent such expenses are not covered by the employee's district-provided medical insurance coverage. Gym memberships will be reimbursed following proof of payment. Costs not covered by the dental or vision care programs are not reimbursable under this benefit.

Documentation must be provided to the General Manager of medical examination by a licensed physician before reimbursement will be authorized.

PREGNANCY LEAVE

The district will provide pregnancy leave for an employee as required by State and Federal law.

Employees who are temporarily unable to perform their usual and customary work due to a pregnancy-related disability, will be granted a pregnancy leave of absence.

Pregnancy Leaves will be granted on the basis of a physician's written statement that an employee is no longer able to work due to a pregnancy-related disability.

An employee who is granted a pregnancy leave is required to utilize accrued sick leave, if available, until the commencement of disability payments. The employee may then coordinate salary and disability payments as provided in STD Insurance. The District will continue to pay group insurance premiums while the employee is on paid leave. Once the employee is in an unpaid status, insurance premiums will be the responsibility of the employee.

An employee who plans to take a pregnancy leave must provide the District reasonable notice of the date the leave will commence, the estimated duration of the leave, and the date on which it is expected the employee will be able to return to work. When an unplanned medical situation or emergency occurs that does not allow the employee to provide advance notification of the need for a pregnancy leave, the employee must cause the District to be notified of the situation within three working days. Without notification to the District, the employee will be considered to have voluntarily resigned.

Pregnancy disability leave may be granted up to a maximum of four months in duration. Employees returning to work after any pregnancy leave must have a written release from a physician verifying that they are able to return to work and safely perform their duties.

Employees who return to work from a Pregnancy Leave will be accorded the same reinstatement rights as an employee returning from any other form of disability leave.

PROFESSIONAL ORGANIZATIONS REIMBURSEMENT

Employees may be reimbursed for personal memberships in professional organizations which benefit both the employee's field of expertise and the District by the employee's direct involvement in the organization as approved by the General Manager.

RETIREMENT – Public Employees Retirement System

The District contracts with CalPERS to provide retirement benefits to employees. Employees who are described as “classic employees” under the Public Employees’ Retirement Law, receive the 2% at 55 benefit formula. The District provides Full Formula CalPERS coverage for past and future service of its employees. Employees are eligible to retire at age 50.

Employees hired on or after January 1, 2013 who are “new members” as defined in the Public Employees’ Pension Reform Act of 2013 (PEPRA), are provided the following retirement benefits: 2% @ 62 benefit formula with a three year (36 month) final compensation period. Employees may designate the highest 36 month period.

Employees will pay one-half of the total normal cost rate as determined by CalPERS.

The District pays the required employer contribution for employees’ retirement benefit as required by CalPERS.

Effective March 15, 2014, employees shall pay their seven percent (7%) member contribution. On this date, since the classic employees will be paying the entire employee/member contribution, the District will no longer report member contribution as compensation earnable to CalPERS.

If any employee terminates employment with the District before retirement, his/her contributions plus accrued interest may be refunded upon application to the Public Employees Retirement System. Contributions may be left on deposit until normal retirement age is reached if the employee has a vested interest; i.e., 5 years' service. Employees who expect to commence employment with another PERS-covered agency are not permitted by PERS to withdraw their contributions.

Additional details are available in the PERS brochures in the Human Resources Office.

RETIREMENT – Social Security/Medicare

The District also participates in the Social Security program of the Federal government. FICA/Medicare tax will be deducted from an employee's pay as required by Federal law.

SALARY ADMINISTRATION

The District maintains a Salary Program for all Department Heads, unrepresented management employees which:

Establishes externally competitive and internally equitable pay levels.

Enables the District to control compensation costs in proper relation to total costs.

Complies with applicable federal and state laws.

The major elements of the base salary program are:

- A. Organization Structure
- B. Position Definition
- C. Position Evaluation
- D. Salary Structure
- E. Performance Appraisal
- F. Salary Review
- G. Promotional Increase
- H. Performance Incentive

Through utilizing the following procedures, management can be assured that employees:

- Are being treated equitably with regard to salary matters;
- Are being paid externally and internally competitive salaries; and
- Have the opportunity to be rewarded for performance in a systematic non-discriminatory manner.

POSITION EVALUATION

Based upon the approved position definition, each position is periodically evaluated to ensure external and internal compensation equity for District.

1. Externally Competitive

External competitiveness is determined by periodically surveying the marketplace for average salaries paid. The approved position definition is used to compare the scope and responsibility of the position being surveyed. Private and published surveys of labor market competitors are used to determine the average salary paid in the market place based on markets in which the district competes for talent and the level at which we will compete.

2. Internal Equity

Internal equity is evaluated by grouping positions of similar scope and responsibility within the organization. This is accomplished through successively higher levels of management aligning positions of relatively comparable value based upon such factors as knowledge and skill required for the position, complexity and supervisory responsibility exercised.

Based upon the above factors, positions are evaluated and assigned a base salary range that provides employees an opportunity to earn a salary that is externally competitive and internally equitable.

SALARY STRUCTURE

The salary structure consists of a series of salary ranges. Each position has a dollar rate range with an established maximum pay control point. Human Resources will maintain current salary schedules.

EMPLOYEE COMMUNICATION

To achieve the objectives of the Salary Program and its potential benefits, each employee should know what the program is intended to accomplish and how it affects him/her. At a minimum, each employee should know:

- The salary range of his/her position;
- His/her place in that range;
- The rationale and evidence for any salary adjustment decision;
- The manager's view of how well the employee is accomplishing the objectives of the position and the long range outlook for position and salary advancement.

The communications supporting salary administration should be a two-way process. Each employee should be encouraged to discuss his/her work assignment or work relationship and opportunities for advancement. Depending on individual circumstances, the manager may wish to schedule a separate meeting for such a discussion.

INITIAL HIRING AND SALARY RANGE PLACEMENT

Before an applicant may be hired for any position, the position definition must be prepared and approved. In addition, the position itself must have been approved by the Board of Directors. Management will review the position and evaluate the current need to fill the position.

As a general rule the hiring salary for new employees shall be at that point in the salary range which reflects his/her experience, knowledge, skills, and abilities he/she brings to the job under consideration.

SENIORITY BONUS

The District recognizes seniority and provides for the following cash sums payable annually as of January 1st of each year:

After 10 years of District Service	\$300
After 15 years of District Service	\$500
After 20 years of District Service	\$700

SICK LEAVE

Full-time, regular employees are provided sick leave with pay under the conditions outlined below.

- A. If an employee has accumulated sick leave, it shall be used for the following:
 - 1. When an employee is ill.
 - 2. When a member of an employee's immediate family is ill, and the employee must care for such ill family member subject to Family Medical Leave Act policy limits.
 - 3. For visits to doctors, dentists and optometrists for physicals, treatment or preventative care.
 - 4. For funerals in the immediate family. "Immediate family" is designated as the spouse/domestic partner, child, parent, sibling or grandparent of the employee or employee's spouse/domestic partner.
- B. Sick leave accrual will be cumulative, without limit as to time, and if not taken in any given year, will be usable in subsequent year's employment, the purpose being to make accrued sick leave available to an employee in times of urgent need.
- C. The amount of sick leave an employee is entitled to is computed to include weekends, holidays, paid vacation time and paid sick leave as continuous service.
- D. Accrual of sick leave will be at the rate of eight hours per calendar month beginning with the date of hire and computed to the date of termination, prorated to the nearest hour.
- E. The smallest unit for which sick leave will be granted will be one half-hour.
- F. An employee who is absent on sick leave may be contacted by his/her Supervisor. For absences due to illness if justified in the opinion of a Division or Department Head, the employee must obtain a statement from his/her doctor stating: (a) that the employee could not work during the period of absence; and (b) that the employee is now able to return to work.
- G. Frequent use of short periods of sick leave is indicative of inability to perform as expected by the District and may result in dismissal for lack of reliability.

SICK LEAVE PAYOFF UPON VOLUNTARY TERMINATION OF EMPLOYMENT

A program is provided for payment, upon voluntary resignation with notice, retirement or death, for accrued but unused sick leave earned after July 1, 1974. Vesting in the sick leave program and payment therefore will be on the following basis.

- A. After five years of full-time, regular employment with the District (the sixth year), an employee will be paid, upon voluntary termination, retirement or death, for 25% of all hours of accrued but unused sick leave at the rate of his/her then current base rate. An additional 5% of all hours of accrued but unused sick leave of his/her salary will be paid for each additional completed year of service.
- B. Upon completion of 20 years of service with the District, the employee would be paid for 100% of unused sick leave.

VACATION SCHEDULE

Vacations are subject to approval. Employees will be granted vacation leave with pay, if they have enough accrued vacation time to cover the amount of leave requested.

ENTITLEMENT

The number of hours an employee is entitled to for vacation leave with pay is computed as follows:

- A. Full-time regular employees shall accrue vacation on the following basis. Part-time regular employees shall accrue vacation on a pro-rated basis.

During Service Years	Annual Entitlement Hours	Hours Accrued at end of Each Pay Period <u>(based on 26 pay periods)</u>
1,2&3	104	4.00
4,5 & 6	112	4.31
7, 8 & 9	120	4.62
10, 11 & 12	128	4.92
13,14 & 15	136	5.23
16, 17 & 18	144	5.54
19, 20 & 21	152	5.85
22, 23 & 24	160	6.15
25 & above	168	6.46

The maximum number of vacation hours that may be earned in any year is 168.

Accrual of vacation time will be by month beginning with the date of hire and computed to the date of termination, pro-rated to the nearest one-half day.

- B. The vacation leave time earned each year will be available to the employee for vacation or may be accrued, wholly or partially, in the employee's Leave Account.
- C. Normally, no more than 311 hours will be permitted to accrue in an employee's Leave Account.
- D. The maximum vacation an employee can take is 21 consecutive working days, unless special circumstances warrant approval by the General Manager for a longer period.

- E. Pay during vacation leave will be at the monthly rate currently paid the employee at the time the vacation is taken.
- F. When an employee is discharged or terminated, he/she will be paid for his/her accumulated vacation leave at his/her then current rate of pay.
- G. In computing the amount of vacation leave entitlement, holidays, weekends, paid vacation time and paid sick leave will be included as continuous service.
- .
- H. Vacation generally cannot be taken in lieu of sick leave except in certain family leave qualifying events.
- I. Employees shall have the option to cash out up to 40 hours of accrued vacation leave in November of each year, provided 80 hours of vacation or management leave time has been used as time off during the preceding 12 months.



December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Facilities & Operations

Subject : On-Call Pipeline Repair and Paving Services: Calls for Bids

SUMMARY:

The District occasionally faces unexpected or emergency conditions that warrant the immediate use of contractors to repair pipelines and associated concrete and asphalt paved surfaces. When the cost of the work is expected to exceed \$35,000, the work can only be initiated after satisfying public works contracting requirements through either: (1) an emergency declaration and emergency contracting procedures; or (2) a formal public works bidding process including advertisement.

To streamline the contracting process and avoid frequent emergency declarations, staff proposes a formal bid process to pre-select a contractor or contractors to perform on-call pipeline repair and paving services for time sensitive, urgent or emergency repairs to District facilities.

RECOMMENDATION(S):

Authorize the issuance of two calls for bids, one for on-call pipeline repair and paving services and one for paving services only.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

FINANCIAL IMPACT:

There is no financial impact associated with a call for bids.

DISCUSSION:

The California Public Contract Code requires that contracts for public projects of \$35,000 or more – except in the case of emergencies – be competitively bid. In the case of emergencies, immediate action can be taken without a formal bidding process; however, making an emergency finding necessarily obligates the District to comply with prescribed administrative procedures including Board adoption of an emergency declaration.

Staff recommends that the District initiate a competitive process to establish agreements for on-call pipeline repair and paving services. The resulting agreements from this process would be used in situations where significant and timely response is needed or when the use of the services can eliminate the need for the District to initiate emergency contracting procedures for critical infrastructure repair.

Table I provides a summary of the recent instances when the Board took approved emergency declarations to implement emergency contracting procedures.

Table II identifies the paving and pipeline work costs associated with both the emergency activities identified in Table I and for other urgent work.

Table I.

LVMWD Emergency Resolutions*			
<u>LVMWD Resolution No. – Description</u>	<u>FY 17-18</u>	<u>FY 18-19</u>	<u>FY 19-20</u>
2525 – 16 inch Water Main – Parkway Calabasas	X		
2532 – 6 inch Recycled Water Main – Canwood	X		
2544 – Woolsey Fire		X	
2553 – Temporary Pipeline – Troutdale		X	
2556 – Stunt Road Pump Station		X	
2560 – Fire Hydrant Break – Liberty Canyon Road			X
2562 – Temporary Pipeline – Hidden Hills (Jim Bridger)			X
2563 – Deteriorated Water Main – Hidden Hills (Jim Bridger)			X
<i>*There were no emergency resolutions from 2014 through 2017.</i>			

Table II.

Paving and Pipeline – Emergency and Urgent Work*			
<u>Description</u>	<u>FY 17-18</u>	<u>FY 18-19</u>	<u>FY 19-20</u>
Paving/Asphalt Work	\$ 53,927	\$128,318	\$ 69,367
Pipeline Work	<u>\$101,810</u>	<u>\$489,591</u>	<u>\$ 210,664</u>
Total:	\$155,737	\$617,909	\$ 280,031
<i>*There were no emergency resolutions from 2014 through 2017.</i>			

GOALS:

Construct, Manage and Maintain All Facilities and Provide Services to Assure System Reliability and Environmental Compatibility

The proposed on-call pipeline repair and paving contract(s) would enable the District to perform urgent and emergency repair work expeditiously using a competitively bid contractor(s).

Prepared by: Doug Anders, Administrative Services Coordinator



December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Facilities & Operations

Subject : Succession Planning: Limited-Term Staffing Augmentation at Tapia Water Reclamation Facility

SUMMARY:

In October 2018, the District completed a Succession Plan for the organization that was received and filed by the Board. The document provides a comprehensive plan for the District's succession planning needs including the following initiatives: (1) attraction, (2) retention and (3) knowledge transfer.

Staff periodically reviews the District's succession planning needs based on the most current information on pending retirements. Through this process, staff has identified a critical need for additional staff to receive training and knowledge transfer at the Tapia Water Reclamation Facility prior to the retirement of several seasoned operators. In addition, several of Tapia's operators are expected to be assisting with the operation of the Pure Water Demonstration Project, which will come on-line in early 2020. These circumstances create additional limited-term staffing needs at Tapia. Once an appropriate number of operators are trained, competent and certified to serve standby duty, staffing would return to the prior levels through attrition.

RECOMMENDATION(S):

Approve the addition of one limited-term Water Reclamation Plant Operator I/II position (Salary Grade 42/62) at the Tapia Water Reclamation Facility for succession planning purposes.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

No

FINANCIAL IMPACT:

The addition of one Water Reclamation Plant Operator I/II position would result in an annual fully-burdened cost of approximately \$150,149 to \$174,659, respectively, at the top step. The cost increase would be for a limited term as once an appropriate number of employees are trained, competent and certified to serve standby duty, staffing would return to prior levels through attrition.

DISCUSSION:

There are currently six Water Reclamation Plant Operators at Tapia, along with a Senior Water Reclamation Plant Operator, who serve standby (on-call) duty for after- hours response at the Tapia Water Reclamation Facility.

To qualify for standby duty, an operator must meet the following three criteria: (1) the ability to respond to a call-out within 45 minutes, (2) have a Wastewater Treatment Plant Operator III or higher certification issued by the State Water Resources Control Board, and (3) attain competency in all aspects of operation of the Tapia Water Reclamation Facility. It takes four to five and one half years for a non-certified employee to attain the level three certification. Additionally, an operator must work at least three years at Tapia, rotating through the different areas of the plant, to gain sufficient competency required to serve standby duty. Tapia is a complicated facility, and operators need to have an intricate knowledge of the facility before serving standby duty because the consequences of a failure are severe.

Currently, several key staff members at Tapia are of retirement age. The impact of the loss of these staff members on standby coverage would be substantial. To help reduce the impact, staff recommends creating a limited-term Water Reclamation Plant Operator position to begin the necessary training required for standby duty and attainment of the required certification. The position would be a seventh operator at Tapia on a limited-term basis. Once an appropriate number of staff are trained, competent and certified to serve as standby operators, staffing would return to six operators through attrition.

GOALS:

Assure a Quality, Continually Improving Workforce

The addition of a limited-term operator position allows for the transfer of knowledge from seasoned operators and reduces the burden on existing staff following upcoming retirements.

Prepared by: Brett Dingman, P.E., Water Reclamation Manager



December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Finance & Administration

Subject : Fiscal Year 2018-19 Comprehensive Annual Financial Report

SUMMARY:

California law requires that each local government publish audited financial statements within six months of the close of the fiscal year. The District has retained the services of The Pun Group, LLP, to complete its audit for Fiscal Year 2018-19. The audit culminates with the publication of a Comprehensive Annual Financial Report (CAFR), which includes audited financial statements, unaudited financial data, and management discussion and analysis. Attached is the CAFR for Fiscal Year 2018-19.

RECOMMENDATION(S):

Receive and file the Fiscal Year 2018-19 Comprehensive Annual Financial Report.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

DISCUSSION:

In compliance with guidance from the Government Accounting Standards Board (GASB), the District reviewed recently released GASB statements and found none applicable to the District.

The District's net position increased by approximately \$15.7 million to \$234.0 million on June 30, 2019. Revenues decreased by 2.6% and expenditures increased by 1.8%. The change in net position is summarized below.

Operating Revenue	\$64,973,000
Non-Operating Revenue	\$5,179,000
Total Revenue	\$70,152,000
Operating Expense	\$39,870,000
Depreciation	\$4,016,000
Share of JPA Net Expenses	\$13,958,000
Non-Operating Expenses	\$530,000
Total Expenses	\$58,374,000
Income Before Capital Contribution	\$11,778,000
Capital Contributions	<u>\$3,900,000</u>
Change in Net Position	\$15,678,000
Net Position June 30, 2018	\$218,343,000
Net Position June 30, 2019	\$234,021,000

Operating revenue decreases were the result of targeted outreach efforts. Operating expenses increased minimally due to salary and benefits increases.

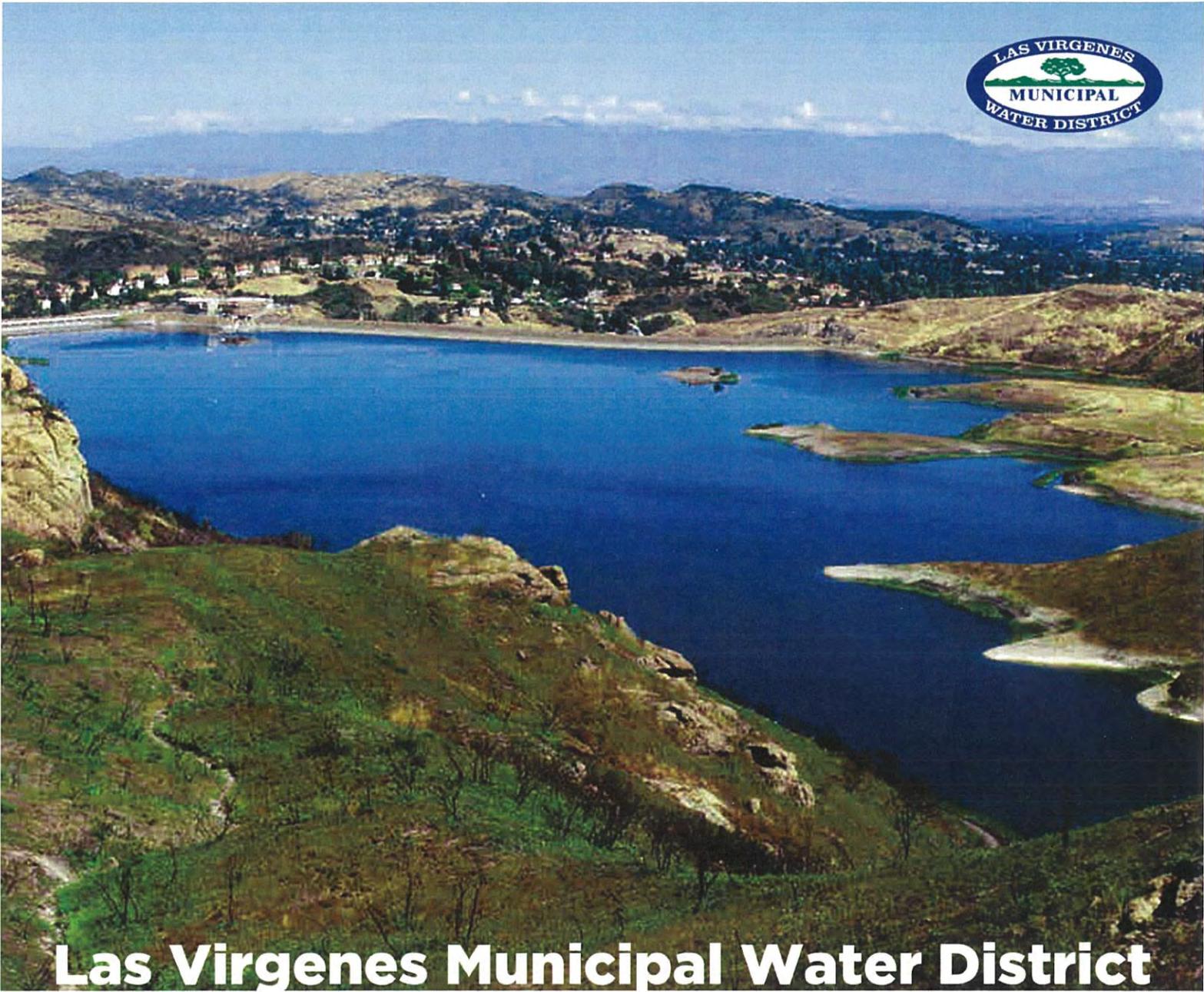
GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Angela Saccareccia, Finance Manager

ATTACHMENTS:

Fiscal Year 2018-19 Comprehensive Annual Financial Report



Las Virgenes Municipal Water District

CAFR

**Comprehensive Annual
Financial Report**

**For Fiscal Year's Ended
June 30, 2019 and 2018**

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Comprehensive Annual Financial Report

For the Year Ended June 30, 2019 and 2018



Headquarters
4232 Las Virgenes Road
Calabasas, CA 91302

Prepared by:
The Finance and Administration Department

Donald Patterson	Director of Finance & Administration
Angela Saccareccia	Finance Manager
Jennifer Chen	Senior Accountant
Michael Hamilton	Financial Analyst

Las Virgenes Municipal Water District

BOARD OF DIRECTORS

Jay Lewitt	President
Leonard E. Polan	Vice President
Charles P. Caspary	Secretary
Lynda Lo-Hill	Treasurer
Lee Renger	Director

MANAGEMENT

David W. Pedersen	General Manager
John Zhao	Director of Facilities & Operations
Donald Patterson	Director of Finance & Administration
Joe McDermott	Director of Resource Conservation & Public Outreach

LEGAL COUNSEL

W. Keith Lemieux	Counsel
------------------	---------

Additional information may be found at www.lvmwd.com

Las Virgenes Municipal Water District

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Dedicated to Providing High-Quality Water Service in a Cost-Effective and Environmentally Sensitive Manner

December 4, 2019

OFFICERS

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Jay Lewitt
Director, Division 5

Vice President
Leonard E. Polan
Director, Division 4

Secretary
Charles P. Caspary
Director, Division 1

Treasurer
Lynda Lo-Hill
Director, Division 2

Lee Renger
Director, Division 3

David W. Pedersen, P. E.
General Manager

W. Keith Lemieux
Counsel

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FILTRATION PLANT
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TAPIA WATER
RECLAMATION FACILITY
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Fax (818) 251-2309

RANCHO LAS VIRGENES
COMPOSTING FACILITY
(818) 251-2340
Fax (818) 251-2349

www.LVMWD.com

MEMBER AGENCY OF THE
METROPOLITAN WATER
DISTRICT
OF SOUTHERN CALIFORNIA

Glen D. Peterson
MWD Representative

To: Board of Directors

From: David W. Pedersen, General Manager
Donald Patterson, Director of Finance & Administration

Subject: **COMPREHENSIVE ANNUAL FINANCIAL REPORT FOR FISCAL YEAR 2018-19**

California law requires that every local government publish within six months of the close of each fiscal year a complete set of audited financial statements. This report is published to fulfill that requirement for the fiscal year that ended on June 30, 2019.

Management assumes full responsibility for the completeness and reliability of the information contained in this report, based upon a comprehensive framework of internal control that has been established for this purpose. Because the cost of internal control should not exceed anticipated benefits, the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements.

The Pun Group, LLP, Accountants and Advisors, has issued an unmodified ("clean") opinion on the Las Virgenes Municipal Water District's financial statements for the fiscal year that ended on June 30, 2019. The independent auditor's report is located at the front of the financial section of this report.

Management's discussion and analysis (MD&A) immediately follows the independent auditor's report and provides a narrative introduction, overview and analysis of the basic financial statements. The MD&A complements this letter of transmittal and should be read in conjunction with it.

Profile of the Government

Las Virgenes Municipal Water District (LVMWD or District), incorporated in 1958, is located on the western edge of Los Angeles County, California, and includes the cities of Agoura Hills, Calabasas, Hidden Hills and Westlake Village, and adjacent areas of Los Angeles County. LVMWD occupies 122 square miles and serves a population of approximately 70,000. LVMWD is also the administering agent for the Las Virgenes-Triunfo Joint Powers Authority (JPA), which provides sanitation services to approximately 100,000 people within 172 square miles of western Los Angeles County and southeastern Ventura County.

LVMWD is empowered to levy an assessment on real property located within its boundaries, up to \$10 per parcel, and has a miniscule share of the property tax assessment. The majority of revenue is from user fees for service. LVMWD also is empowered by state statute to extend its corporate limits by annexation, which it has done from time to time.

LVMWD has operated under the board-general manager form of government since its inception. Policy-making and legislative authority are vested in a governing board (Board) consisting of five members elected by division on a non-partisan basis. The Board appoints the general manager, who in turn appoints the heads of the various departments. Board members serve overlapping four-year terms, and every two years -- concurrent with installation of the newly elected board -- select board officers. A District representative to the board of directors of Metropolitan Water District of Southern California is appointed to serve an indefinite term.

LVMWD provides potable water, sanitation and recycled water services to its customers. Sanitation and recycled water services are provided in conjunction with Triunfo Water & Sanitation District through the JPA.

Although not required by law, the Board adopts a final budget for the next fiscal year by the close of the current fiscal year. This annual budget serves as the foundation for LVMWD's financial planning and control. The budget is prepared by enterprise, function (e.g. system operations) and department (e.g. Facilities and Operations). Department heads may transfer resources within a department or enterprise as they see fit, but transfers between departments or enterprises need special approval from the Board.

Local Economy

The region is highly desirable for both residences and businesses, with exceptional natural attributes. Much of the service area lies within the Santa Monica Mountains with the associated hilly terrain, mountain and ocean views and moderate climate. Open space and recreational opportunities are abound with considerable local acreage dedicated as national and state parkland via the 244.5-square-mile Santa Monica Mountains National Recreation Area. Beaches lie within minutes of any location in the area. Varied academic institutions are proximate and easily accessible, including Pepperdine University's Malibu campus, California Lutheran University in Thousand Oaks, and California State University, Northridge.

The service area contains some of the highest assessed values for property in the county. All are relatively new communities with recent infrastructure and an award-winning, highly sought school system.

More than 80% of local housing is single-family dwellings, in sharp contrast to the countywide average of 56%. Median home prices in the District considerably exceed county averages. The District benefits from its close proximity to Los Angeles and quality commercial and retail spaces. The District has few major industrial customers.

Primarily residential, LVMWD is also a home to notable corporations and commercial activities. Located within the service area are several significant employers including Las Virgenes Unified School District, Bank of America Home Loans, Farmers Insurance, IXIA Communication, The Cheesecake Factory corporate offices and bakery; Four Seasons Hotel; Move, Inc.; Dole Food Company; and Conversant LLC.

Financial Condition and Outlook

Over recent years, the District successfully recovered from the financial downturn and implemented a five-year rate adjustment plan that ensures continued financial sustainability. District staffing levels continue to be stable and compensation has kept pace with comparable agencies, following a comprehensive compensation study in 2018. The District has continued to pay for capital projects with available resources, resulting in only one outstanding bond that is approved for early redemption by the Board.

The overall financial position of the District is stable. The District continued to see expected decreases in water sales as compared to historical averages due to conservation and the implementation of water-budget based rates in 2015, which emphasize the efficient use of water. Improved water use efficiency is expected to be the new normal within the District's service area and, more broadly, California. Potable water sales during Fiscal Year 2018-19 decreased by 3.68% from Fiscal Year 2017-18. Recycled water sales during the same period also decreased by 7.96%. For Fiscal Year 2019-20, the District has a stable outlook and continues to monitor economic and hydrologic conditions.

Long-Term Financial Planning

The District presented a two-year budget plan on May 22, 2018 for Fiscal Years 2018-20. The document improves long-range and strategic planning, financial management, and program monitoring. The two-year budget represents the concerted efforts of staff to estimate the financial needs of the District for two fiscal years to continue to provide high quality water and sanitation services to the District's customers. The budget is also aligned to meet the District's adopted Strategic Plan Goals and Financial Policies.

Relevant financial policies

Since 1999, the District has utilized a broad-based set of Board-adopted financial policies to guide it in making important financial decisions. The policies are reviewed annually and updated periodically to address changing conditions and adopted annually as an integral part of the budget.

Major initiatives

In November of 2018, the Board declared a state of emergency due to the Woolsey Fire that broke out on the afternoon of Thursday, November 8, 2018, in Ventura County. The District experienced significant damages at various facilities due to the fire. Since the event, staff has been working with the California Governor's Office of Emergency Services (CalOES), Federal Emergency Management Agency (FEMA), and the District's insurance provider on reimbursement for the damages. In Fiscal Years 2019-20, the District will be spending approximately \$6.5 million on Woolsey Fire related damages to the District's facilities.

In addition, the District supported the Las Virgenes-Triunfo Joint Powers Authority in an extensive stakeholder-driven process to identify the best means to maximize the beneficial reuse of treated effluent from the Tapia Water Reclamation Facility. Following two-years of study and community stakeholder input that focused on how to best manage discharge from the Tapia Water Reclamation Facility to Malibu Creek, the Pure Water Project Las Virgenes-Triunfo emerged as the preferred alternative to meet the goal, while also providing a local source of potable water. The proposed Pure Water Project will take surplus recycled water from the Tapia Water Reclamation Facility and further treat it to better than drinking water standards. The treated water will be mixed with imported water stored in Las Virgenes Reservoir until needed. At that time, the water will be treated again prior to use in the potable water system.

The District will complete the design and the construction of a demonstration facility to be built at the District's headquarters campus. Tours of the facility are intended to educate and promote public confidence in the treatment technology. The total project cost to the District is estimated to be \$4.6 million.

Several technical studies including an Advanced Water Treatment Plant Siting Study, Hydrodynamic Modeling of Las Virgenes Reservoir and a Title XVI Feasibility Study have been completed for the Pure Water Project. These studies will be used in the next step of preliminary design and environmental analysis.

Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded LVMWD the Certificate of Achievement for Excellence in Financial Reporting for its Comprehensive Annual Financial Report for the Fiscal Year that ended on June 30, 2018. This was the 21st consecutive year that LVMWD received this prestigious award. In order to be awarded a Certificate of Achievement, a government agency must publish an easily readable and efficiently organized comprehensive annual financial report that satisfies both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is only valid for a period of one year. Staff believes that its current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements and will submit it to the GFOA to determine its eligibility for another certificate.

In addition, LVMWD also received the GFOA's Distinguished Budget Presentation Award for its annual budget document and the Award for Outstanding Achievement in Popular Annual Financial Reporting in fiscal year 2017-18. The District posts all of its financial documents on its public website at www.LVMWD.com.

Acknowledgements

The preparation and development of this report would not have been possible without the year-round work of the Finance Division staff and their special efforts, working in conjunction with the District's independent auditors. We would also like to thank the Board for its continued interest and support in managing the District's financial resources in a responsible manner that ensures transparency and proper stewardship of ratepayer's money.

Respectfully submitted,



David W. Pedersen
General Manager



Donald Patterson
Director of Finance & Administration



Government Finance Officers Association

Certificate of
Achievement
for Excellence
in Financial
Reporting

Presented to

**Las Virgenes Municipal Water District
California**

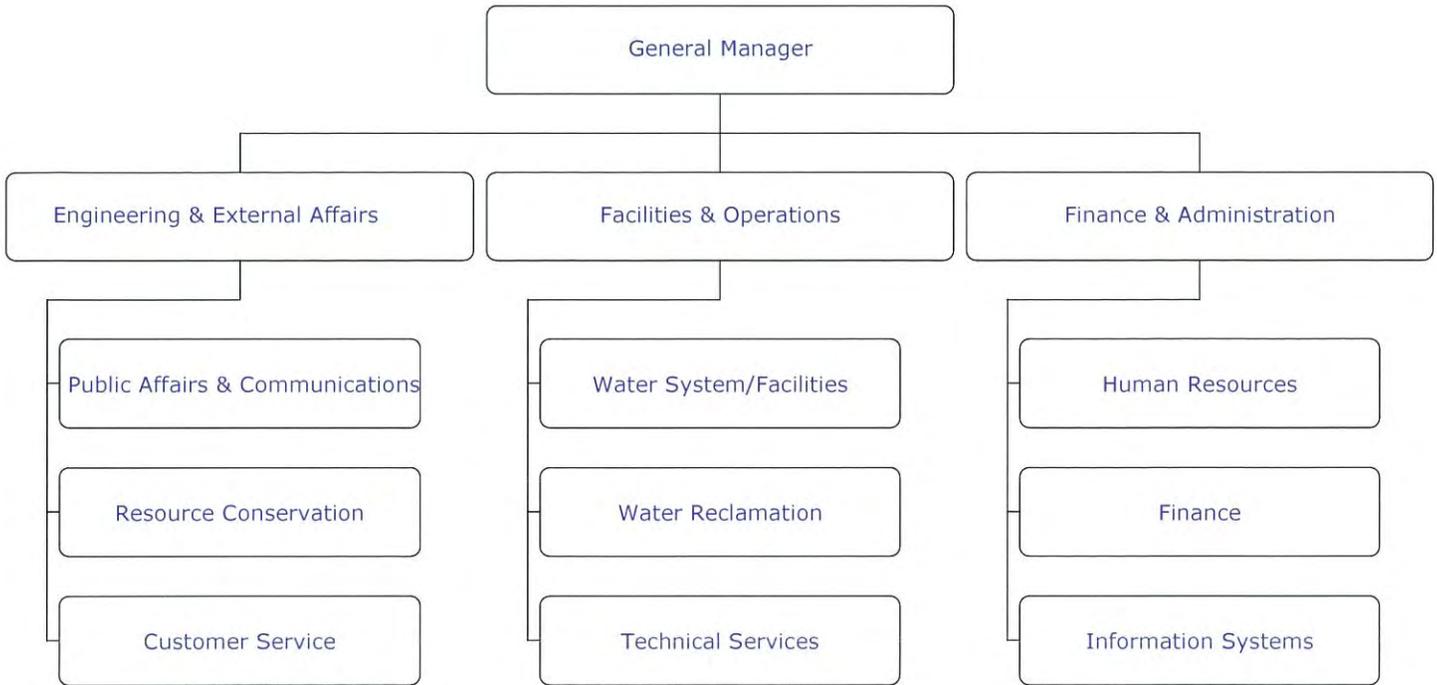
For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2018

Christopher P. Morill

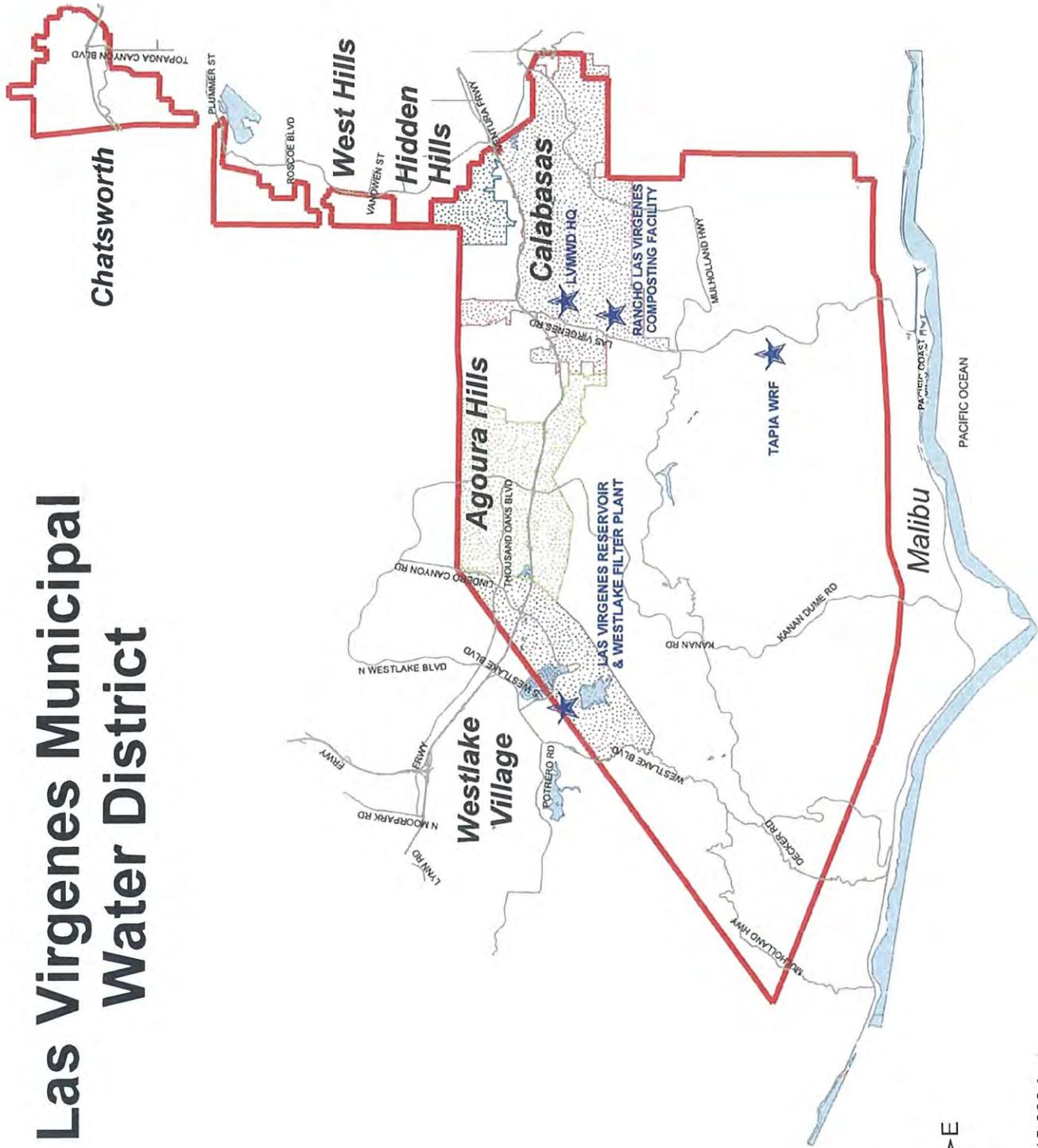
Executive Director/CEO

LVMWD Organizational Chart



Revised June 30, 2019

Las Virgenes Municipal Water District



1 inch equals 15,000 feet





INDEPENDENT AUDITORS' REPORT

To the Board of Directors
of the Las Virgenes Municipal Water District
Calabasas, California

Report on Financial Statements

We have audited the accompanying financial statements of the business-type activities and the discretely presented component unit of the Las Virgenes Municipal Water District, California (the "District"), as of and for the years ended June 30, 2019 and 2018, and the related notes to the basic financial statements, which collectively comprise the District's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express opinions on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities and the discretely presented component unit of the District, as of June 30, 2019 and 2018, and the respective changes in financial position, and where applicable, cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

200 E. Sandpointe Avenue, Suite 600, Santa Ana, California 92707
Tel: 949-777-8800 • Fax: 949-777-8850 • www.pungroup.com

To the Board of Directors
of the Las Virgenes Municipal Water District
Calabasas, California
Page 2

Other Matters

Required Supplementary Information

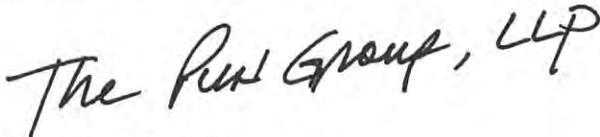
Accounting principles generally accepted in the United States of America require that the Management’s Discussion and Analysis, the Schedule of Changes in Net Pension Liability and Related Ratios – CalPERS Pension Plan, the Schedule of Contributions – CalPERS Pension Plan, the Schedule of Changes in Net OPEB Liability and Related Ratios – Other Post-Employment Benefits Plan, and the Schedule of Contributions –Other Post-Employment Benefits Plan on pages 5 through 10 and 55 through 58, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management’s responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audits were conducted for the purpose of forming opinions on the financial statements that collectively comprise the District’s basic financial statements. The Introductory and Statistical Sections are presented for purposes of additional analysis and are not a required part of the basic financial statements. The Introductory and Statistical Sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated December 04, 2019 on our consideration of the District’s internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the District’s internal control over financial reporting and compliance.



Santa Ana, California
December 04, 2019



Coley Delaney, CPA
CPA Number: 115598



REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

Independent Auditors' Report

To the Board of Directors
of the Las Virgenes Municipal Water District
Calabasas, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the business-type activities and the discretely presented component unit of the Las Virgenes Municipal Water District, California (the "District"), as of and for the years ended June 30, 2019 and 2018, and the related notes to the basic financial statements, which collectively comprise the District's basic financial statements, and have issued our report thereon dated December 04, 2019.

Internal Control Over Financial Reporting

In planning and performing our audits of the financial statements, we considered the District's internal control over financial reporting ("internal control") to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the District's internal control. Accordingly, we do not express an opinion on the effectiveness of the District's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audits we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

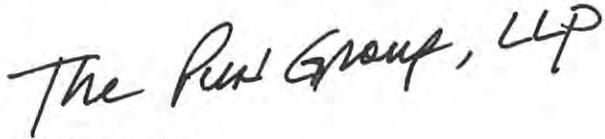
Compliance and Other Matters

As part of obtaining reasonable assurance about whether the District's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

To the Board of Directors
of the Las Virgenes Municipal Water District
Calabasas, California
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Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.



Santa Ana, California
December 04, 2019



Coley Delaney, CPA
CPA Number: 115598

LAS VIRGENES MUNICIPAL WATER DISTRICT
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)

JUNE 30, 2019

This section of the District's annual financial report presents management's analysis of the District's financial performance during the Fiscal Year that ended on June 30, 2019.

FINANCIAL HIGHLIGHTS

- The District's 2019 net position increased by \$15.7 million to \$234.0 million.
- During FY 2019, the District's revenues decreased by 2.6% to \$64.9 million, expenses increased by 1.8% to \$43.1 million.
- In FY 2019, capital contributions to the District increased to \$3.9 million, 34.2% more than FY 2018.

OVERVIEW OF THE FINANCIAL STATEMENTS

The discussion and analysis serves as an introduction to Las Virgenes Municipal Water District's basic financial statements. The District's basic financial statements are comprised of two components: Financial Statements and Notes to the Financial Statements. This report also contains other supplementary information in addition to the basic financial statements themselves.

CHANGES TO THE FINANCIAL STATEMENTS

Governmental Accounting Standards Board (GASB) Statement 83

GASB 83, dated June 2018, was issued to improve accounting and financial reporting by state and local governments for certain Asset Retirement Obligations (AROs), such as decommissioning nuclear power plants and removing sewage treatment plants. Implementation of GASB 83 had no impact on the Financial Statements of the District due to the District has not retired any such assets.

Governmental Accounting Standards Board (GASB) Statement 88

GASB 88, dated June 2018, was issued to improve accounting and financial reporting by state and local governments for certain disclosures related to debt, including direct borrowings and direct placements. Implementation of GASB 88 had no impact on the Financial Statements of the District due to the nature of the District's debt.

BASIC FINANCIAL STATEMENTS

Because the District is comprised of three business type enterprises, potable water, recycled water, and sanitation, the Financial Statements of the District report information about the District using accounting methods similar to those used by private sector companies. These statements offer short- and long-term financial information about its activities. The Statement of Net Position includes all of the District's assets, deferred outflow of resources, liabilities and provides information about the nature and amounts of investments in resources (assets) and the obligations to District creditors (liabilities). It also provides the basis for computing rate of return, evaluating the capital structure of the District and assessing the liquidity and financial flexibility of the District.

All of the current year's revenues and expenses are accounted for in the Statements of Revenues, Expenses and Changes in Net Position. This statement measures the stability of the District's operations over the past year and can be used to determine the District's credit worthiness and whether the District has successfully recovered all its costs through its user fees and other charges.

The final required financial statement is the Statement of Cash Flows. The primary purpose of this statement is to provide information about the District's cash receipts and cash payments during the reporting period. The statement reports cash receipts, cash payments, and net changes in cash resulting from operations and investments. It also provides answers to such questions as where did cash come from, what was cash used for, and what was the change in cash balance during the reporting period.

FINANCIAL ANALYSIS OF THE DISTRICT

The Financial Statements provide information on whether the District, as a whole, is in a stronger or weaker financial position compared to the last year. The Statement of Net Position and the Statement of Revenues, Expenses, and Changes in Net Position provide a means to measure the District's financial health or financial position. Over time, increases or decreases in the District's net position are one indicator of whether its financial health is improving or deteriorating. However, you will need to consider other non-financial factors such as changes in economic conditions, population growth, weather, and new or changed government legislation. It is important to note that the District's goal is to have sufficient revenue to cover operating and capital expenses while maintaining affordable rates for its customers.

During Fiscal Year 2018-19 the District saw decreased water sales as a result of the District's targeted outreach program to increase conservation from inefficient and wasteful water users. . The District's potable water-budget based rate structure supports a conservation philosophy through increasing tier structure and an annual incremental increase in the percentage of fixed cost recovered through fixed fees, which over time will reduce dependence on fluctuating water sales to meet revenue needs. The sanitation and recycled water enterprises continued to build additional reserves as the District prepares to construct its Pure Water Las Virgenes – Triunfo project that will take surplus recycled water and process it through an advanced treatment facility; then store it at Las Virgenes Reservoir for later use as drinking water. The District is well positioned to meet demands of a changing climate to meet its customer's water and sanitation needs.

Las Virgenes Municipal Water District operates a Joint Powers Authority (JPA) with Triunfo Sanitation District for the transmission and treatment of sanitation. In conformance with GASB 61, the JPA is presented in the District's Financial Statements as a Discretely Presented Component Unit. The JPA annually issues an Independent Auditors' Report and Financial Statements that includes a Management Discussion and Analysis. It is recommended to review this document for additional information on the financial condition of the JPA.

NET POSITION

Table 1 shows a comparative analysis of the District's Net Position. As shown below, net position increased by \$15.7 million to \$234.0 million in FY 2019.

TABLE 1
Condensed Statements of Net Position
(in thousands of dollars)

	<u>FY 2019</u>	<u>FY 2018</u>
Current and Other Assets	\$ 105,102	\$ 96,369
Capital Assets	123,727	124,526
Investment in JPA	64,137	62,521
Total Assets	\$ 292,966	\$ 283,416
Deferred Outflow of Resources	\$ 8,718	\$ 9,065
Long-Term Debt Outstanding	13,204	15,596
Net Pension Liability	16,055	20,493
Net OPEB Liability	19,301	19,183
Other Liabilities	15,466	16,592
Total Liabilities	\$ 64,026	\$ 71,864
Deferred Inflows of Resources	3,636	2,274
Net Position:		
Net Investment in Capital Assets,	\$ 111,229	\$ 109,794
Restricted	2,734	2,683
Unrestricted	120,058	105,866
Total Net Position	\$ 234,021	\$ 218,343

REVENUES, EXPENSES AND CHANGES IN NET POSITION

While the Statement of Net Position shows the change in financial position, the Statement of Revenues, Expenses and Changes in Net Position provides information concerning the nature and source of these changes. As shown in Table 2 below, the income before capital contributions was \$11.8 million. The income plus capital contributions lead to the overall increase in net position of \$15.7 million, when compared to last year's CAFR.

Water sales, the District's primary revenue source, were lower as a result of the District's targeted outreach efforts. Wasteful water use penalties impose increasing fines on customers who exceed their water budgets by 200%.

Operating expenses were higher by 1.8% year-over-year primarily due to salary and benefits increase and increased maintenance costs.

Capital contributions are irregular, as the District does not experience many large-scale projects. In July 2018, the District adopted a new capacity fee structure that focuses contributions on maintenance and upgrading of existing infrastructure,

TABLE 2
Condensed Statements of Revenues,
Expenses and Changes in Net Position

	FY 2019	FY 2018
Operating Revenues:		
Water Sales	\$ 45,437	\$ 46,250
Sanitation and Other	19,536	20,467
Non-operating Revenues:		
Taxes and Penalties	984	946
Interest Income and Other	4,195	1,212
Total Revenues	\$ 70,152	\$ 68,875
Depreciation Expense	4,016	3,943
Other Operating Expenses	39,870	39,169
Share of JPA Net Expenses	13,958	13,718
Non-Operating Expenses	530	716
Total Expenses	\$ 58,374	\$ 57,546
Income (Loss) Before Capital Contributions	11,778	11,329
Capital Contributions	3,900	2,566
Change in Net Position	15,678	13,895
Net Position - Beginning of Year	218,343	204,448
Net Position - End of Year	\$ 234,021	\$ 218,343

CAPITAL ASSETS

At the end of FY 2019, the District had invested \$240.2 million in a broad range of infrastructure including water and sewer lines, wastewater facilities, reservoirs, tanks, distribution facilities, compost facility, maintenance and administration facilities, vehicles and equipment and an investment in Joint Venture of \$64.1 million as shown in Table 3. This amount represents a net increase (including additions, deletions, and depreciation) of \$0.8 million from last year. The increase is predominantly due to projects added to the District's aging infrastructure.

More information about the District's Capital Assets Depreciation policy is presented in Note 2 of the Basic Financial Statements. A more detailed summary of Capital Assets is presented in Note 7 to the Basic Financial Statements.

TABLE 3
Capital Assets
(In thousands of dollars)

	<u>FY 2019</u>	<u>FY 2018</u>	<u>Dollar Change</u>	<u>Total Percent Change</u>
Land	\$ 6,915	\$ 6,915	\$ 0	0.00%
Buildings and Improvements	22,094	22,094	0	0.00%
Machinery and Equipment	11,678	11,416	262	2.24%
Infrastructure	197,692	195,570	2,122	1.07%
Construction in Progress	1,855	1,290	565	30.46%
Subtotal	240,234	237,285	2,949	1.23%
Less Accumulated Depreciation	116,506	112,760	3,746	3.22%
Net Property, Plant and Equipment	123,728	124,525	(797)	-0.64%
Investment in Joint Venture	64,138	62,521	1,617	2.52%
Total Capital Assets	\$ 187,866	\$ 187,046	\$ 820	0.44%

The following is a summary of some of the major improvements to the system during FY 2019.

TABLE 4
Major Capital Improvement Projects
(In thousands of dollars)

	<u>FY 2019</u>
Process Air Improvements	\$ 2,240
Tapia Rehabilitation	1,934
Rancho Las Virgenes Digester Cleaning and Repair	1,901
Pure Water Demonstration Project	837
Total	\$ 6,912
	<u>FY 2018</u>
Westlake Filtration Plant Expansion	\$ 4,636
Jed Smith Pipeline Replacement	714
Raise Air Vacuum Valves	536
Building 7 & 8 Lighting Efficiency Upgrades	200
Total	\$ 6,086

LONG-TERM DEBT

At year-end, the District had total long-term debt of \$15.5 million, down from \$17.9 million in FY 2018. The majority of this, \$15.5 million is for the 2009 Sanitation Refunding Revenue Bond and Unamortized Premium, which had a FY 2019 year-end balance of \$14.7 million. This debt is solely the obligation of the Sanitation Enterprise. More detailed information about the District's long-term liabilities is presented in Note 9 to the Basic Financial Statements. No new debt was incurred in FY 2019.

The District maintains an "AA" rating from Standard & Poor's for the refunding revenue bonds. One area that demonstrates the District's financial strength and future borrowing capability is seen in its debt coverage ratio. Current bond covenants require that the debt coverage ratio must be greater than 1.10. The debt coverage ratio for FY 2019 was 2.69%.

TABLE 5
Debt Coverage Ratio
(In thousands of dollars)

	<u>FY</u> <u>2019</u>	<u>FY</u> <u>2018</u>	<u>Total</u> <u>Percent</u> <u>Change</u>
Total Operating Revenues	\$ 18,922	\$ 18,818	0.55%
Total Operating Expenses (less depreciation)	11,803	11,421	3.34%
Net Earnings	<u>7,119</u>	<u>7,397</u>	<u>-3.76%</u>
Maximum Annual Debt Service	2,751	2,752	-0.04%
Debt Coverage Ratio	<u><u>2.59</u></u>	<u><u>2.69</u></u>	<u><u>-3.72%</u></u>

The District has outstanding refunding revenue bonds issued in December 2009. The District's current average cost of capital were 3.66% and 3.93% at June 30, 2019 and 2018, respectively, as shown on Table 6.

TABLE 6
Cost of Capital
(In thousands of dollars)

	<u>Debt Balance</u>	<u>Average</u> <u>Coupon Rate</u>
Refunding Revenue Bonds at June 30 ,2019	10,155	3.78%
Refunding Revenue Bonds at June 30, 2018	14,670	3.66%

CONTACTING THE DISTRICT'S FINANCIAL MANAGER

This financial report is designed to provide our residents, customers, investors, and creditors with a general overview of the District's finances and to demonstrate the District's accountability for the money it receives. If you have questions about this report or need additional financial information, contact the Las Virgenes Municipal Water District, Department of Finance and Administration, 4232 Las Virgenes Road, Calabasas, California, 91302; or visit our website at www.lvmwd.com.

BASIC FINANCIAL STATEMENTS

Las Virgenes Municipal Water District
Statements of Net Position
June 30, 2019 and 2018

ASSETS	Primary Government		Discretely Presented Component Unit - JPA	
	2019	2018	2019	2018
Current assets:				
Cash and cash equivalents (Note 3)	\$ 24,674,984	\$ 27,811,040	\$ 8,703,228	\$ 4,282,084
Investments (Note 3)	56,658,658	47,206,546	1,008,571	972,870
Receivables:				
Sales and services, net of allowance for uncollectible (Note 4)	7,042,513	7,468,124	683,809	1,112,207
Due from Joint Powers Authority (Note 6)	4,498,461	2,830,105	-	-
Interest	465,069	332,150	59,300	19,350
Interest receivable - designated for capital projects	1,359	830	-	-
Taxes	203,114	212,654	-	-
Other	431,795	436,325	-	-
Inventories (Note 5)	8,034,354	7,036,431	-	171,555
Prepaid items	288,078	268,024	55,080	52,427
Total current assets	102,298,385	93,602,229	10,509,988	6,610,493
Noncurrent assets:				
Restricted cash and cash equivalents (Note 3)	2,801,720	2,766,678	-	-
Investments in Joint Powers Authority (Note 6)	64,137,736	62,520,957	-	-
Capital assets (Note 7):				
Nondepreciable	8,770,701	8,204,902	20,479,142	19,322,622
Depreciable, net of accumulated depreciation	114,957,221	116,320,804	73,200,449	71,852,004
Capital assets, net	123,727,922	124,525,706	93,679,591	91,174,626
Total noncurrent assets	190,667,378	189,813,341	93,679,591	91,174,626
Total assets	292,965,763	283,415,570	104,189,579	97,785,119
DEFERRED OUTFLOWS OF RESOURCES				
Deferred amount on debt refunding	704,871	864,464	-	-
Pension related deferred outflows of resources (Note 10)	4,554,948	6,568,390	-	-
OPEB related deferred outflows of resources (Note 11)	3,458,022	1,632,555	-	-
Total deferred outflows of resources	8,717,841	9,065,409	-	-

Las Virgenes Municipal Water District
Statements of Net Position (Continued)
June 30, 2019 and 2018

	Primary Government		Discretely Presented Component Unit - JPA	
	2019	2018	2019	2018
	LIABILITIES			
Current liabilities:				
Accounts and contracts payable and accrued expenses	4,802,464	4,934,135	2,322,729	1,325,214
Interest payable	84,679	95,729	-	-
Unearned capacity and developer fees	8,196,224	9,124,718	-	-
Due to primary government (Note 6)	-	-	4,498,461	2,830,105
Due to other government	-	-	3,688,798	2,455,174
Deposits and other	256,494	284,764	-	-
Compensated absences - due within one year (Note 8)	854,249	938,425	-	-
Long-term debt - due within one year (Note 9)	2,329,815	2,233,075	-	-
Total current liabilities	16,523,925	17,610,846	10,509,988	6,610,493
Noncurrent liabilities:				
Compensated absences (Note 8)	1,271,556	1,213,575	-	-
Long-term debt - due in more than one year (Note 9)	10,874,040	13,363,150	-	-
Net pension liabilities (Note 10)	16,055,823	20,493,355	-	-
Net OPEB liabilities (Note 11)	19,301,046	19,183,096	-	-
Total noncurrent liabilities	47,502,465	54,253,176	-	-
Total liabilities	64,026,390	71,864,022	10,509,988	6,610,493
DEFERRED INFLOWS OF RESOURCES				
Pension related deferred inflows of resources (Note 10)	3,380,085	2,273,619	-	-
OPEB related deferred inflows of resources (Note 11)	256,022	-	-	-
Total deferred inflows of resources	3,636,107	2,273,619	-	-
NET POSITION (Note 12)				
Primary government's net investment in capital assets	111,228,938	109,793,945	62,372,682	60,563,415
Other government's net investment in capital assets	-	-	31,306,909	30,611,211
Restricted for:				
Debt services	2,734,029	2,683,039	-	-
Unrestricted	120,058,140	105,866,354	-	-
Total net position	\$ 234,021,107	\$ 218,343,338	\$ 93,679,591	\$ 91,174,626

Las Virgenes Municipal Water District
Statements of Revenues, Expenses, and Changes in Net Position
For the Years Ended June 30, 2019 and 2018

	Primary		Discretely	
	Government		Presented	
			Component Unit -	
	2019	2018	JPA	
	2019	2018	2019	2018
Operating Revenues:				
Water sales and service fees	\$ 43,369,671	\$ 45,256,520	\$ -	\$ -
Sanitation service fees	18,922,512	18,818,242	-	-
Wholesale recycle water sales	-	-	2,068,727	2,281,256
Rental income	53,474	-	-	-
Other income	2,627,494	2,642,349	46,547	64,477
Total operating revenues	64,973,151	66,717,111	2,115,274	2,345,733
Operating Expenses:				
Water expenses:				
Source of supply	24,374,779	25,574,893	-	-
Pumping	1,615,446	1,668,779	-	-
Transmission and distribution	3,998,588	2,834,052	-	-
Meter	759,665	734,851	-	-
Water conservation	617,814	265,324	-	-
Rental	27,658	7,303	-	-
General and administrative	6,440,804	6,208,338	-	-
Total water expenses	37,834,754	37,293,540	-	-
Sanitation expenses:				
Other sewage treatment	483,920	447,386	-	-
Lifting	190,412	197,785	-	-
General and administrative	1,361,602	1,230,521	-	-
Total sanitation expenses	2,035,934	1,875,692	-	-
JPA expenses:				
Operating expenses	-	-	8,520,451	8,282,475
General and administrative	-	-	7,469,557	7,396,735
Total JPA expenses	-	-	15,990,008	15,679,210
Depreciation	4,015,571	3,943,121	5,721,381	5,695,161
Total operating expenses	43,886,259	43,112,353	21,711,389	21,374,371
Billings to primary government	-	-	9,251,781	8,954,213
Billings to other government	-	-	4,458,737	4,309,990
Total JPA billings	-	-	13,710,518	13,264,203
Net Operating Income (Loss)	21,086,892	23,604,758	(5,885,597)	(5,764,435)

Las Virgenes Municipal Water District
Statements of Revenues, Expenses, and Changes in Net Position (Continued)
For the Years Ended June 30, 2019 and 2018

	Primary Government		Discretely Presented Component Unit - JPA	
	2019	2018	2019	2018
Nonoperating Revenues (Expenses):				
Taxes and penalties	984,049	945,976	-	-
Interest income	3,095,752	451,792	138,859	69,274
Facilities charge	377,619	351,673	-	-
Interest expense and fiscal charges	(530,649)	(642,341)	-	-
Share of Joint Powers Authority (expense)	(13,957,894)	(13,718,223)	-	-
Gain (loss) on disposal of capital asset	152	(72,917)	(1,790)	(215)
Other revenues/(expenses)	721,868	408,364	24,168	(237,471)
Total nonoperating revenues (expenses)	(9,309,103)	(12,275,676)	161,237	(168,412)
Capital Contributions:				
Capital contributions from others	3,899,980	2,566,438	-	-
Capital contributions from primary government	-	-	5,809,903	4,305,114
Capital contributions from other government	-	-	2,419,422	1,792,782
Total capital contributions	3,899,980	2,566,438	8,229,325	6,097,896
Changes in Net Position	15,677,769	13,895,520	2,504,965	165,049
Net Position:				
Beginning of year, as restated (Note 12)	218,343,338	204,447,818	91,174,626	91,009,577
End of year	<u>\$ 234,021,107</u>	<u>\$ 218,343,338</u>	<u>\$ 93,679,591</u>	<u>\$ 91,174,626</u>

Las Virgenes Municipal Water District
Statements of Cash Flows
For the Years Ended June 30, 2019 and 2018

	Primary Government	
	2019	2018
Cash Flows From Operating Activities:		
Cash received from customers	\$ 62,742,998	\$ 63,763,330
Cash payments to suppliers for operations	(34,495,018)	(30,326,726)
Cash (payments) received to/from Joint Powers Authority	(1,668,356)	1,267,600
Cash payments for general and administrative expenses	(9,320,632)	(7,842,722)
Cash received from others	2,632,024	2,394,182
Net cash provided by operating activities	19,891,016	29,255,664
Cash Flows From Noncapital Financing Activities:		
Receipt from facilities charges	377,618	351,673
Receipt from other revenues	644,035	408,364
Property taxes and fee collected	993,589	941,050
Net cash provided by noncapital financing activities	2,015,242	1,701,087
Cash Flows From Capital and Related Financing Activities:		
Acquisition of capital assets	(3,232,844)	(2,783,810)
Proceeds from sale of assets	16,553	51,629
Capital contribution	3,899,980	2,566,438
Repayment of bonds payable and capital leases	(2,233,076)	(2,146,467)
Interest payment	(541,699)	(659,751)
Capital facilities and developer fees received	1,610,698	2,766,299
Capital facilities and developer fees refunded and developer fees used	(2,539,192)	(1,725,927)
Net cash (used in) capital and related financing activities	(3,019,580)	(1,931,589)
Cash Flows From Investing Activities:		
Interest received	1,641,500	943,219
Contributions to Joint Power Authority	(15,575,938)	(13,683,030)
Investments matured	12,059,236	8,673,426
Purchase of investments	(20,112,490)	(20,112,490)
Net cash (used in) investing activities	(21,987,692)	(24,178,875)
Net Change in Cash and Cash Equivalents	(3,101,014)	4,846,287
Cash and Cash Equivalents:		
Beginning of year	30,577,718	25,731,431
End of year	\$ 27,476,704	\$ 30,577,718
Financial Statement Presentation:		
Cash and cash equivalents	\$ 24,674,984	\$ 27,811,040
Restricted cash and cash equivalents	2,801,720	2,766,678
Total cash and cash equivalents	\$ 27,476,704	\$ 30,577,718
Noncash investing activities:		
Change in fair value of investments	\$ 348,097	\$ (959,686)

Las Virgenes Municipal Water District
Statement of Cash Flows (Continued)
For the Years Ended June 30, 2019 and 2018

	Primary Government	
	2019	2018
Reconciliation of Net Operating Income to Net Cash Provided By Operating Activities:		
Net operating income	\$ 21,086,892	\$ 23,604,758
Adjustments to reconcile operating income to net cash provided by operating activities		
Depreciation	4,015,571	3,943,121
Changes in operating assets and liabilities		
(Increase) decrease in accounts and other receivables	430,141	(604,010)
(Increase) decrease in due from Joint Powers Authority	(1,668,356)	1,267,600
(Increase) decrease in inventories	(997,923)	1,565,619
(Increase) decrease in prepaid items	(20,054)	(24,920)
(Increase) decrease in deferred outflows or resources - pension	2,013,442	1,565,891
(Increase) decrease in deferred outflows or resources - OPEB	(1,825,467)	(1,632,555)
Increase (decrease) in accounts and contracts payable and accrued expenses	(131,671)	(118,389)
Increase (decrease) in compensated absences	(26,195)	28,649
Increase (decrease) in deposits and other	(28,270)	44,411
Increase (decrease) in net pension liability	(4,437,532)	930,320
Increase (decrease) in net OPEB liability	117,950	1,118,701
Increase (decrease) in deferred inflows or resources - pension	1,106,466	(2,433,532)
Increase (decrease) in deferred inflows or resources - OPEB	256,022	-
Net cash provided by Operating Activities	\$ 19,891,016	\$ 29,255,664

Disclosure of Noncash Transactions:

- 1 Projects funded by water and sewer capacity fees/connection fees and meter installation fees were completed during the fiscal year. As a result, capital contributions in the amount of \$2,318,564 from capacity fees and \$46,788 from meters installed were reclassified from deferred capacity and developer fees to contributed capital for the year ended June 30, 2019.



Las Virgenes Municipal Water District
Notes to the Basic Financial Statements
For the Years Ended June 30, 2019 and 2018

Note 1 – Reporting Entity

Las Virgenes Municipal Water District (the “District”) is organized under the Municipal Water District Act of 1911 (California Water Code 71000). A five-member board of directors, who are elected by geographic divisions, provide governance. The District was formed to secure a high quality, reliable source of water for areas which include the cities of Agoura Hills, Calabasas, Hidden Hills, and Westlake Village, plus surrounding unincorporated portions of western Los Angeles County.

Discretely Presented Component Unit

The *Las Virgenes-Triunfo Joint Powers Authority* (“JPA”) was created on October 12, 1964 between the District and Triunfo Sanitation District (“TSD”) for the purpose of constructing, operating, maintaining, and providing for the replacement of a joint sewage system to serve the Malibu Canyon drainage area. The JPA consists of ten board members where five of them are the board members of the District and the other five are the board members of TSD. The JPA is fiscally dependent in that the JPA could not issue bonded debt without approval from the District. There is a financial benefit and burden relationship between the District and the JPA. The JPA issues a separate financial report that is available upon request from the District. The financial statements of the JPA are included as a discretely presented component of the District’s financial statements.

Note 2 – Summary of Significant Accounting Policies

Basis of Presentation

Financial statement presentation follows the recommendations promulgated by the Governmental Accounting Standards Board (“GASB”) commonly referred to as accounting principles generally accepted in the United States of America (“U.S. GAAP”). GASB is the accepted standard-setting body for establishing governmental accounting and financial reporting standards.

Measurement Focus, Basis of Accounting, and Financial Statement Presentation

The financial statements (i.e., the statement of net position, the statement of revenues, expenses and changes in net position, and statement of cash flows) report information on all of the activities of the District.

The financial statements are reported using the “*economic resources*” measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Grants and similar items are recognized as revenue as all eligibility requirements have been met. Interest associated with the current fiscal period is considered to be susceptible to accrual and so has been recognized as revenue of the current fiscal period.

The Statement of Net Position reports separate sections for deferred outflows of resources, and deferred inflows of resources, when applicable.

Deferred Outflows of Resources represent outflows of resources (consumption of net position) that apply to future periods and that, therefore, will not be recognized as an expense until that time.

Deferred Inflows of Resources represent inflows of resources (acquisition of net position) that apply to future periods and that, therefore, are not recognized as a revenue until that time.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 2 – Summary of Significant Accounting Policies (Continued)

Measurement Focus, Basis of Accounting, and Financial Statement Presentation (Continued)

Operating revenues are those revenues that are generated from the primary operations of the District. The District reports a measure of operations by presenting the change in net assets from operations as "operating income" in the statement of revenues, expenses, and changes in net position. Operating activities are defined by the District as all activities other than financing and investing activities (interest expense and investment income), grants and subsidies, settlement receivable allowance, and other infrequently occurring transaction of a non-operating nature. Operating expenses are those expenses that are essential to the primary operations of the District. All other expenses are reported as non-operating expenses.

Cash, Cash Equivalents, and Investments

Cash and cash equivalents include all highly liquid investments with original maturities of 90 days or less and are carried at cost, which approximates fair value.

The District participates in an investment pool managed by the State of California titled Local Agency Investment Fund ("LAIF"), which has invested a portion of the pool funds in structured notes and asset-backed securities. LAIF's investments are subject to credit risk with the full faith and credit of the State of California collateralizing these investments. In addition, these structured notes and assets-backed securities are subject to market risk and to change in interest rates. The reported value of the pool is the same as the fair value of the pool shares.

Certain disclosure requirements, if applicable for deposit and investment risk, are specified for the following areas:

- Interest Rate Risk
- Credit Risk
 - Overall
 - Custodial Credit Risk
 - Concentration of Credit Risk
- Foreign Currency Risk

Restricted Cash and Investments

Cash and investments with fiscal agents are restricted due to limitations on their use by bond covenants or donor limitations. Fiscal agents acting on behalf of the District hold investment funds arising from the proceeds of long-term debt issuances. The funds may be used for specific capital outlays or for the payment of certain bonds, and have been invested only as permitted by specific State statutes or applicable District ordinance, resolution or bond indenture.

Fair Value Measurements

U.S. GAAP defines fair value, establishes a framework for measuring fair value and establishes disclosures about fair value measurement. Investments, unless otherwise specified, recorded at fair value in the Statements of Net Position, are categorized based upon the level of judgment associated with the inputs used to measure their fair value. Levels of inputs are as follows:

- Level 1 — Inputs are unadjusted, quoted prices for identical assets and liabilities in active markets at the measurement date.
- Level 2 — Inputs, other than quoted prices included in Level 1, that are observable for the asset or liability through corroboration with market data at the measurement date.
- Level 3 — Unobservable inputs that reflect management's best estimate of what market participants would use in pricing the asset or liability at the measurement date.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 2 – Summary of Significant Accounting Policies (Continued)

Receivables and Unbilled Revenues

Customer accounts receivable consist of amounts owed by private individuals and organizations for services rendered in the regular course of business operations. Receivables are shown net of allowances for doubtful accounts, if any. The District also accrues an estimated amount for services that have been provided, but not yet billed as of June 30. Federal and State grants accrued as revenue when all eligibility requirements have been met. Amount earned but outstanding at year end are reported as due from other governments.

Inventories

Inventories consist of expendable materials, supplies, and water in storage and are stated at average cost.

Prepaid Items

Payments made to vendors for services that will benefit periods beyond the fiscal year ended are recorded as prepaid items.

Capital Assets

Capital assets are valued at historical cost, or estimated historical cost, if actual historical cost was not available. Donated capital assets are valued at their acquisition value on the date donated. The District policy has set the capitalization threshold for reporting capital assets at \$5,000, all of which must have an estimated useful life in excess of one year. Depreciation is recorded on a straight-line basis over estimated useful lives of the assets as follows:

Primary Government

Water Plant	Source of supply (primarily water tanks)	10 - 100 Years
	Plant	10 - 75 Years
	Structures	25 - 35 Years
Sanitation Plant	Plant	10 - 100 Years
	Machinery and equipment	3 - 25 Years
General Utility Plant	Building and improvements	10 - 50 Years
	Machinery and equipment	3 - 25 Years

Discretely Presented Component Unit - JPA

Recycle Water Plants	Plant	10 - 100 Years
	Machinery and equipment	3 - 25 Years

Major outlays for capital assets are capitalized as projects, once constructed, and repairs and maintenance costs are expensed. Interest accrued during capital assets construction, if any, is capitalized as part of the asset cost, net of interest income on construction bond proceeds.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 2 – Summary of Significant Accounting Policies (Continued)

Capital Contributions

Prepayments of water and sewer capacity fees/connection fees assessed by the District are reported as unearned revenues until construction of the related projects has commenced and the District is reasonably certain they will be completed. Upon completion, the applicable amounts are recognized as capital contributions.

Compensated Absences

District's policy permits its employees to accumulate not more than 288 hours of their current annual vacation for the miscellaneous general and office units and not more than 311 hours for the supervisor, professional, confidential, and management units. General Managers are compensated five days into accrued sick leave bank at onset of employment and eight hours per month thereafter up to 96 hours per year with a maximum of 311 hours accrual. Non-represented employees are compensated eight hours per month. The annual accrual of sick leave has no maximum accrual. The combined unused vacation and sick pay will be paid to the employee or his/her beneficiary upon leaving the District's employment. The amount due will be determined using the salary/wage rate in effect at the time of separation and vesting period.

All vested vacation and compensatory leave time is recognized as an expense and as a liability at the time the benefit vests. The liability for compensated absences is included as part of compensated absences payable from unrestricted current assets.

Long-Term Debt

Debt premiums and discounts are amortized over the life of the debt using the straight-line method. Long-term debt is reported net of the applicable unamortized bond premium or discount. Debt issuance costs are expensed when incurred.

Arbitrage Rebate Requirement

The District is subject to the Internal Revenue Code ("IRC") Section 148(f), related to its tax-exempt revenue bonds. The IRC requires that investment earnings on gross proceeds of any revenue bonds that are in excess of the amount prescribed will be surrendered to the Internal Revenue Service. The District had no rebate arbitrage liability as of June 30, 2019 or 2018.

Pension

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the plans and additions to/deductions from the plans' fiduciary net position have been determined on the same basis as they are reported by the plans (Note 10). For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with benefit terms. Investments are reported at fair value.

The following timeframes are used for pension reporting:

For the Year Ended	June 30, 2019
Valuation Date	June 30, 2017
Measurement Date	June 30, 2018
Measurement Period	July 1, 2017 to June 30, 2018

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 2 – Summary of Significant Accounting Policies (Continued)

Pension (Continued)

For the Year Ended	June 30, 2018
Valuation Date	June 30, 2016
Measurement Date	June 30, 2017
Measurement Period	July 1, 2016 to June 30, 2017

Gains and losses related to changes in total pension liability and fiduciary net position are recognized in pension expense systematically over time. The first amortized amounts are recognized in pension expense for the year the gain or loss occurs. The remaining amounts are categorized as deferred outflows and deferred inflows of resources related to pensions and are to be recognized in future pension expense. The amortization period differs depending on the source of the gain or loss. The difference between projected and actual earnings is amortized straight-line over 5 years. All other amounts are amortized straight-line over the average expected remaining service lives of all members that are provided with benefits (active, inactive, and retired) as of the beginning of the measurement period.

Other Postemployment Benefits (“OPEB”)

For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the District Retiree Benefits Plan (“OPEB Plan”) and additions to/deductions from OPEB Plan's fiduciary net position have been determined on the same basis as they are reported by the Plan. For this purpose, the OPEB Plan recognizes benefit payments when due and payable in accordance with the benefit terms. Investments are reported at fair value, except for money market investments, which are reported at amortized cost.

The following timeframes are used for pension reporting:

For the Year Ended	June 30, 2019
Valuation Date	June 30, 2018
Measurement Date	June 30, 2018
Measurement Period	July 1, 2017 to June 30, 2018
For the Year Ended	June 30, 2018
Valuation Date	June 30, 2017
Measurement Date	June 30, 2017
Measurement Period	July 1, 2016 to June 30, 2017

Net Position

Net position represents the difference between all other elements in the statement of net position and is displayed in the following three components:

Net Investment in Capital Assets – This component of net position consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of debt and deferred inflows and outflows of resources that are attributable to the acquisition, construction, or improvement of those assets.

Restricted – This component of net position consists of restricted assets and related deferred outflows of resources reduced by liabilities and deferred inflows of resources related to those assets.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 2 – Summary of Significant Accounting Policies (Continued)

Net Position (Continued)

Unrestricted – This component of net position is the amount of the assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

When both restricted and unrestricted resources are available for use, it is the District’s policy to use restricted resources first, then unrestricted resources as they are needed.

Property Taxes

Property taxes are levied on March 1 and are payable in two installments: November 1 and February 1 of each year. Property taxes become delinquent on December 10 and April 10, for the first and second installments, respectively. The lien date is March 1. The County of Los Angeles, California (“County”) bills and collects property taxes and remits them to the District according to a payment schedule established by the County.

The County is permitted by State law to levy on properties at 1% of full market value (at time of purchase) and can increase the property tax rate at no more than 2% per year. The District receives a share of this basic tax levy proportionate to what it received during the years 1976-1978.

Property taxes are recognized in the fiscal year for which the taxes have been levied.

No allowance for doubtful accounts was considered necessary.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect certain reported amounts and disclosure. Accordingly, actual results could differ from those estimates.

Accounting Changes

GASB Statement No. 83, *Certain Asset Retirement Obligations*. This Statement addresses accounting and financial reporting for certain asset retirement obligations (AROs). An ARO is a legally enforceable liability associated with the retirement of a tangible capital asset. A government that has legal obligations to perform future asset retirement activities related to its tangible capital assets should recognize a liability based on the guidance in this Statement. Application of this statement did not have a material effect on the District’s financial statements for the fiscal year ending June 30, 2019.

GASB Statement No. 88, *Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements*. The primary objective of this Statement is to improve the information that is disclosed in notes to government financial statements related to debt, including direct borrowings and direct placements. It also clarifies which liabilities governments should include when disclosing information related to debt. This Statement defines debt for purposes of disclosure in notes to financial statements as a liability that arises from a contractual obligation to pay cash (or other assets that may be used in lieu of cash) in one or more payments to settle an amount that is fixed at the date the contractual obligation is established. See Note 9 for District’s long-term debt disclosures. Application of this statement did not have a material effect on the District’s financial statements for the fiscal year ending June 30, 2019.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 3 – Cash and Investments

At June 30, 2019 and 2018, cash and investments are classified in the accompanying statements of net position as follows:

	2019			2018		
	Primary Government	Discretely Presented Component Unit - JPA	Total	Primary Government	Discretely Presented Component Unit - JPA	Total
Unrestricted Assets:						
Cash and cash equivalents	\$ 24,674,984	\$ 8,703,228	\$ 33,378,212	\$ 27,811,040	\$ 4,282,084	\$ 32,093,124
Investments	56,658,658	1,008,571	57,667,229	47,206,546	972,870	48,179,416
Restricted Assets:						
Cash and cash equivalents	2,801,720	-	2,801,720	2,766,678	-	2,766,678
Total cash and investments	\$ 84,135,363	\$ 9,711,799	\$ 93,847,162	\$ 77,784,264	\$ 5,254,954	\$ 83,039,218

At June 30, 2019 and 2018, cash and investments consisted of the following:

	2019			2018		
	Primary Government	Discretely Presented Component Unit - JPA	Total	Primary Government	Discretely Presented Component Unit - JPA	Total
Deposits:						
Demand Deposits	\$ 76,738	\$ 939,036	\$ 1,015,774	\$ 9,679	\$ 692,269	\$ 701,948
Petty Cash	2,200	-	2,200	2,200	-	2,200
Total deposits	78,938	939,036	1,017,974	11,879	692,269	704,148
Investments:						
Money market mutual funds	33,107	-	33,107	-	-	-
Municipal Bonds	13,088,448	-	13,088,448	9,722,457	-	9,722,457
U.S. Government Sponsored Agency Security Certificate of Deposit	37,672,311	1,008,571	38,680,882	33,403,680	972,870	34,376,550
California Local Agency Investment Fund	5,897,900	-	5,897,900	4,080,409	-	4,080,409
	24,564,065	7,764,192	32,328,257	27,799,161	3,589,815	31,388,976
Total investments	81,255,831	8,772,763	90,028,594	75,005,707	4,562,685	79,568,392
Investments with Fiscal Agents:						
California Local Agency Investment Fund	2,800,594	-	2,800,594	2,766,678	-	2,766,678
Total investments with fiscal agents	2,800,594	-	2,800,594	2,766,678	-	2,766,678
Total cash and investments	\$ 84,135,363	\$ 9,711,799	\$ 93,847,162	\$ 77,784,264	\$ 5,254,954	\$ 83,039,218

The statements of cash flows for the year ended June 30, 2019 and 2018 have been prepared by considering the following deposits and investment instruments to be cash and cash equivalents:

	2019			2018		
	Primary Government	Discretely Presented Component Unit - JPA	Total	Primary Government	Discretely Presented Component Unit - JPA	Total
Demand Deposits	\$ 76,738	\$ 939,036	\$ 1,015,774	\$ 9,679	\$ 692,269	\$ 701,948
Petty Cash	2,200	-	2,200	2,200	-	2,200
California Local Agency Investment Fund	27,364,659	7,764,192	35,128,851	30,565,839	3,589,815	34,155,654
Total cash and cash equivalents	\$ 27,476,704	\$ 8,703,228	\$ 36,179,932	\$ 30,577,718	\$ 4,282,084	\$ 34,859,802

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 3 – Cash and Investments (Continued)

Fair Value Measurement

At June 30, 2019 and 2018, investments are reported at fair value. The following table presents the fair value measurement of investments on a recurring basis and the levels within GASB 72 fair value hierarchy in which the fair value measurements fall at June 30, 2019 and 2018:

	2019			2018		
	Significant Other Observable Input (Level 2)	Uncategorized	Total	Significant Other Observable Input (Level 2)	Uncategorized	Total
	Money market mutual funds	\$ -	\$ 33,107	\$ 33,107	\$ -	\$ -
Municipal Bonds	13,088,448	-	13,088,448	9,722,457	-	9,722,457
Federal Agricultural Mortgage Corporation	2,507,352	-	2,507,352	969,390	-	969,390
Federal Farm Credit Bank	9,057,520	-	9,057,520	6,886,480	-	6,886,480
Federal Home Loan Bank	9,126,770	-	9,126,770	7,847,450	-	7,847,450
Federal Home Loan Mortgage Corporation	12,013,540	-	12,013,540	12,795,210	-	12,795,210
Federal Nation Mortgage Association	5,975,700	-	5,975,700	5,878,020	-	5,878,020
Certificate of Deposit	5,897,900	-	5,897,900	4,080,409	-	4,080,409
California Local Agency Investment Fund	-	32,328,257	32,328,257	-	31,388,976	31,388,976
Investment with fiscal agents:						
California Local Agency Investment Fund	-	2,800,594	2,800,594	-	2,766,678	2,766,678
Total investments	\$ 57,667,230	\$ 35,161,958	\$ 92,829,188	\$ 48,179,416	\$ 34,155,654	\$ 82,335,070

Demand Deposits

Demand deposits are held in pool by the District. The carrying amounts of cash deposits were \$1,015,774 and \$701,948 at June 30, 2019 and 2018, respectively. Bank balances at June 30, 2019 and 2018 were \$1,630,171 and \$932,664, respectively, which were fully insured and/or collateralized with securities held by the pledging financial institutions in the District’s name as discussed below.

The California Government Code requires California banks and savings and loan associations to secure the District’s cash deposits by pledging securities as collateral. This Code states that collateral pledged in this manner shall have the effect of perfecting a security interest in such collateral superior to those of a general creditor. Thus, collateral for cash deposits is considered to be held in the District’s name.

The fair value of pledged securities must equal at least 110% of the District’s cash deposits. California law also allows institutions to secure the District’s deposits by pledging first trust deed mortgage notes having a value of 150% of the District’s total cash deposits. The District may waive collateral requirements for cash deposits, which are fully insured up to \$250,000 by the Federal Deposit Insurance Corporation. The District, however, has not waived the collateralization requirements.

California Local Agency Investment Funds

The District is a voluntary participant in the California Local Agency Investment Fund (“LAIF”) that is regulated by California Government Code Section 18429 under the oversight of the Treasurer of the State of California. LAIF is overseen by the Local Agency Investment Advisory Board, which consists of five members, in accordance with State statute. The District’s investments with LAIF include a portion of the pool funds invested in Structured Notes and Asset-Backed Securities.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 3 – Cash and Investments (Continued)

California Local Agency Investment Funds (Continued)

These investments include the following:

- **Structured Notes** – debt securities (other than asset-backed securities) whose cash flow characteristics (coupon rate, redemption amount, or stated maturity) depend upon one or more indices and/or that have embedded forwards or options.
- **Asset-Backed Securities** – the bulk of which are mortgage-backed securities, entitle their purchasers to receive a share of the cash flows from a pool of assets such as principal and interest repayments from a pool of mortgages (such as CMO’s) or credit card receivables.

JPA’s investment in LAIF was pooled with the District. As of June 30, 2019, and 2018, the District had \$35,128,851 and \$34,155,654, respectively, invested in LAIF, which had invested 1.77% and 2.67% of the pool investment funds in Structured Notes and Asset-Backed Securities, respectively. The value of the investment in this pool is reported in the accompanying financial statements at amounts based upon the District’s pro-rata share of the fair value provided by LAIF for the entire portfolio (in relation to the amortized cost of that portfolio). The balance available for withdrawal is based on the accounting records maintained by LAIF, which are reported at net asset value.

Investments Authorized by the California Code and The District’s Investment Policy

The table below identifies the investment types that are authorized for the District by the California Government Code (or the District’s investment policy, where more restrictive). The table also identifies certain provisions of the California Government Code (or the District’s investment policy, where more restrictive) that address interest rate risk, credit risk, and concentration of credit risk.

This table does not address investments of debt proceeds held by bond trustees that are governed by the provisions of debt agreements of the District, rather than the general provisions of the California Government Code or the District’s investment policy.

<u>Authorized Investment Type</u>	<u>Maximum Maturity</u>	<u>Percentage of Portfolio</u>	<u>Maximum Investment in One Issuer</u>
United States Treasury Bills, Bonds and Notes	5 years	None	None
United States Government Sponsored Agency Securities	5 years	None	None
Time Deposits	1 year	25%	None
Repurchase Agreements/Reverse Repurchase Agreement	30 days	25%/10%	None
California Local Agency Investment Fund (LAIF)	None	25%	\$65,000,000
Bonds Issue by Local Agencies or States	5 years	None	None
Certificates of Deposits	5 years	25%	\$250,000

Investments Authorized by Debt Agreements

Investments of debt proceeds held by bond trustees are governed by provisions of the debt agreements, rather than the general provisions of the California Government Code or the District’s investment policy. The table below identifies the investment types that are authorized for investments held by bond trustees.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 3 – Cash and Investments (Continued)

Investments Authorized by Debt Agreements (Continued)

The table also identifies certain provisions of these debt agreements that address interest rate risk and concentration of risk.

Authorized Investment Type	Maximum Maturity	Percentage of Portfolio	Maximum Investment in One Issuer
United States Treasury Obligations	None	None	None
United States Government Sponsored Agency Securities	3 years	None	None
Time Deposits	360 days	None	None
Banker's Acceptances	360 days	None	None
Money Market Mutual Fund	None	None	None
California Local Agency Investment Fund	None	None	None
Commercial Paper	270 days	None	None
Investment Agreement	None	None	None
Other investments approved by bond insurer	None	None	None

Disclosures Relating to Interest Rate Risk

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. One of the ways that the District manages its exposure to interest rate risk is by purchasing a combination of shorter term and longer term investments and by timing cash flows from maturities so that a portion of the portfolio is maturing or coming close to maturity as necessary to provide the cash flow and liquidity needed for operations.

Information about the sensitivity of the fair values of the District's investments (including investments held by bond trustee) to market interest rate fluctuations is provided by the following tables that shows the distribution of the District's investments by maturity as of June 30, 2019 and 2018.

Investment Type	2019						Fair Value Total
	Remaining Maturity (in Years)						
	Less Than 1 Year	1 to 2 Years	2 to 3 Years	3 to 4 Years	4 to 5 Years		
Money market mutual funds	\$ 33,107	\$ -	\$ -	\$ -	\$ -	\$ 33,107	
Municipal Bonds	1,999,380	4,949,044	2,607,902	1,478,272	2,053,850	13,088,448	
Federal Agricultural Mortgage Corporation	-	-	465,702	1,005,920	1,035,730	2,507,352	
Federal Farm Credit Bank	994,170	1,001,280	-	3,026,280	4,035,790	9,057,520	
Federal Home Loan Bank	-	998,770	1,993,450	4,059,550	2,075,000	9,126,770	
Federal Home Loan Mortgage Corporation	1,992,100	1,999,490	4,017,110	1,002,120	3,002,720	12,013,540	
Federal Nation Mortgage Association	3,986,310	1,989,390	-	-	-	5,975,700	
Certificate of Deposit	1,469,108	732,570	977,460	1,232,707	1,486,055	5,897,900	
California Local Agency Investment Fund	32,328,257	-	-	-	-	32,328,257	
Investment with fiscal agents:							
California Local Agency Investment Fund	2,800,594	-	-	-	-	2,800,594	
	<u>\$ 45,603,026</u>	<u>\$ 11,670,544</u>	<u>\$ 10,061,624</u>	<u>\$ 11,804,849</u>	<u>\$ 13,689,145</u>	<u>\$ 92,829,188</u>	

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 3 – Cash and Investments (Continued)

Disclosures Relating to Interest Rate Risk (Continued)

Investment Type	2018					Fair Value Total
	Remaining Maturity (in Years)					
	Less Than 1 Year	1 to 2 Years	2 to 3 Years	3 to 4 Years	4 to 5 Years	
Municipal Bonds	\$ 903,725	\$ 985,410	\$ 4,854,263	\$ 1,562,228	\$ 1,416,831	\$ 9,722,457
Federal Agricultural Mortgage Corporation	-	-	-	-	969,390	969,390
Federal Farm Credit Bank	1,985,140	1,976,330	-	-	2,925,010	6,886,480
Federal Home Loan Bank	1,992,430	-	977,960	1,941,740	2,935,320	7,847,450
Federal Home Loan Mortgage Corporation	-	1,969,650	1,963,310	3,894,830	4,967,420	12,795,210
Federal Nation Mortgage Association	-	3,931,850	1,946,170	-	-	5,878,020
Certificate of Deposit	488,870	971,389	717,654	709,635	1,192,861	4,080,409
California Local Agency Investment Fund	31,388,976	-	-	-	-	31,388,976
Investment with fiscal agents:						
California Local Agency Investment Fund	2,766,678	-	-	-	-	2,766,678
	<u>\$ 39,525,819</u>	<u>\$ 9,834,629</u>	<u>\$ 10,459,357</u>	<u>\$ 8,108,433</u>	<u>\$ 14,406,832</u>	<u>\$ 82,335,070</u>

Disclosures Relating to Credit Risk

Generally, credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. State law limits investments in commercial paper and corporate bonds to the top two ratings issued by nationally recognized statistical rating organizations (NRSROs). It is the District's policy to limit its investments in these investment types to the top rating issued by NRSROs, including raters Standard and Poor's, and Moody's Investors Service. Presented in the following tables are the Standard and Poor's credit ratings for the Districts investments as of June 30, 2019 and 2018.

Investment	2019					
	Total As of June 30, 2019	Minimum Legal Requirement	AAA	AA+/-	A+	Unrated
Money market mutual funds	\$ 33,107	None	\$ 33,107	-	-	-
Municipal Bonds	13,088,448	AA-	2,009,010	10,079,028	1,000,410	-
Federal Agricultural Mortgage Corporation	2,507,352	None	-	-	-	2,507,352
Federal Farm Credit Bank	9,057,520	None	-	6,032,910	-	3,024,610
Federal Home Loan Bank	9,126,770	None	-	6,133,320	-	2,993,450
Federal Home Loan Mortgage Corporation	12,013,540	None	-	4,998,020	-	7,015,520
Federal Nation Mortgage Association	5,975,700	None	-	2,988,830	-	2,986,870
Certificate of Deposit	5,897,900	None	-	-	-	5,897,900
California Local Agency Investment Fund	32,328,257	None	-	-	-	32,328,257
Investment with fiscal agents:						
California Local Agency Investment Fund	2,800,594	None	-	-	-	2,800,594
	<u>\$ 92,829,188</u>		<u>\$ 2,042,117</u>	<u>\$ 30,232,108</u>	<u>\$ 1,000,410</u>	<u>\$ 59,554,553</u>

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 3 – Cash and Investments (Continued)

Disclosures Relating to Credit Risk (Continued)

Investment	2018					
	Total As of June 30, 2018	Minimum Legal Requirement	AAA	AA+/-	A+	Unrated
Municipal Bonds	\$ 9,722,457	AA-	\$1,969,820	\$ 7,207,991	\$ 544,646	\$ -
Federal Agricultural Mortgage Corporation	969,390	None	-	-	-	969,390
Federal Farm Credit Bank	6,886,480	None	-	4,915,140	-	1,971,340
Federal Home Loan Bank	7,847,450	None	-	3,934,270	-	3,913,180
Federal Home Loan Mortgage Corporation	12,795,210	None	-	6,891,130	-	5,904,080
Federal Nation Mortgage Association	5,878,020	None	987,730	1,954,740	-	2,935,550
Certificate of Deposit	4,080,409	None	-	-	-	4,080,409
California Local Agency Investment Fund	31,388,976	None	-	-	-	31,388,976
Investment with fiscal agents:						
California Local Agency Investment Fund	2,766,678	None	-	-	-	2,766,678
	<u>\$ 82,335,070</u>		<u>\$ 2,957,550</u>	<u>\$ 24,903,271</u>	<u>\$ 544,646</u>	<u>\$ 53,929,603</u>

Disclosures Relating to Concentration of Credit Risk

Investments in any one issuer that represents 5% or more of total District's investments (excluding cash with fiscal agents) are as follows:

Issuer	Investment Type	2019		2018	
		Reported Amount	Percentage of Investments	Reported Amount	Percentage of Investments
Municipal Bonds	Other investments approved by bond issuer	\$ 13,088,448	14.54%	\$ 9,722,457	12.22%
Federal Farm Credit Bank	United States Government Sponsored Agency Securities	9,057,520	10.06%	6,886,480	8.65%
Federal Home Loan Bank	United States Government Sponsored Agency Securities	9,126,770	10.14%	7,847,450	9.86%
Federal Home Loan Mortgage Corporation	United States Government Sponsored Agency Securities	12,013,540	13.34%	12,795,210	16.08%
Federal National Mortgage Association	United States Government Sponsored Agency Securities	5,975,700	6.64%	5,878,020	7.39%
California Local Agency Investment Fund	California Local Agency Investment Fund	32,328,257	35.91%	31,388,976	39.45%

Disclosures Relating to Custodial Credit Risk

The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty (e.g., broker-dealer) to a transaction, a government will not be able to recover the value of its investment or collateral securities that are in the possession of another party. The California Government Code and the District's investment policy do not contain legal or policy requirements that would limit the exposure to custodial credit risk for investments. With respect to investments, custodial credit risk generally applies only to direct investments in marketable securities. Custodial credit risk does not apply to a local government's indirect investment in securities through the use of mutual funds or government investment pools (such as LAIF).

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 4 – Accounts Receivable

Accounts receivable primarily consist of sales and services fees as well as the District’s allocation of property taxes collected but not remitted by Los Angeles County. As of June 30, 2019, and 2018, sales and services receivable, net of allowance for uncollectible accounts, were in the amount of \$7,042,513 and \$7,468,124 for the District and \$683,809 and \$1,112,207 for the JPA, respectively.

Note 5 – Inventories

Inventories consisted of the following as of June 30, 2019 and 2018:

	2019	2018
<u>Primary Government</u>		
Material and supplies	\$ 1,008,909	\$ 875,683
Water in storage	7,025,445	6,160,748
Total	\$ 8,034,354	\$ 7,036,431
<u>Discretely Presented Component Unit - JPA</u>		
Material and supplies	\$ -	\$ 171,555

Water in storage was calculated by taking the volume of the reservoir and tanks times the average cost per acre foot.

Note 6 – Investment in Joint Powers Authority

The District was the designated administering agent for the Las Virgenes-Triunfo Joint Powers Authority (“JPA”). Costs and capital contributions are generally shared by the two districts in accordance with capacity rights reserved in each component of the joint system. Maintenance and operating costs are pro-rated to the districts in accordance with the average monthly flows contributed by each to the system. The allocation of construction costs related to projects in process is based upon engineering estimates of the capacity rights and is subject to increase or decrease when final costs are determined.

A summary of changes in investment in Joint Powers Authority is as follows:

	2019	2018
Beginning of year	\$ 62,520,957	\$ 62,556,150
Contributions	15,575,937	13,683,030
Share in income (loss):		
Sanitation expenses	(9,766,869)	(9,545,571)
Depreciation expenses	(4,191,025)	(4,172,500)
Loss on disposal of capital assets	(1,264)	(152)
End of year	\$ 64,137,736	\$ 62,520,957

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 6 – Investment in Joint Powers Authority (Continued)

Investment in Joint Powers Authority includes capitalized interests for the debt issued for the JPA's facilities held under the District's name as follows:

	2019	2018
Primary government's net investment in JPA's capital assets	\$ 62,372,682	\$ 60,563,415
Capitalized interest, net	1,765,054	1,957,542
Investment in JPA	\$ 64,137,736	\$ 62,520,957

Condensed financial statement of the JPA as of and for the year ended June 30, 2019 and 2018 including the participants' approximate percentage shares as follows:

	2019			2018		
	Amount	Las Virgenes Municipal Water District	Triunfo Sanitation District	Amount	Las Virgenes Municipal Water District	Triunfo Sanitation District
	Total assets	\$ 104,189,582	67%	33%	\$ 97,785,119	66%
Total liabilities	10,509,988	67%	33%	6,310,493	67%	33%
Total equity	93,679,591	70%	30%	91,174,626	66%	34%
Billings to participants	13,710,518	67%	33%	13,264,203	68%	32%
Depreciation	5,721,381	70%	30%	5,695,161	70%	30%
Construction cost	8,229,325	71%	29%	6,097,896	71%	29%

The amount due from the JPA at June 30, 2019 and 2018 consisted of the following:

	2019	2018
Beginning of year	\$ 2,830,105	\$4,097,705
Additions (Deletions)	1,668,356	(1,267,600)
End of year	\$ 4,498,461	2,830,105

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 7 – Capital Assets

Primary Government

A summary of changes in capital assets for the year ended June 30, 2019 is as follows:

	Balance July 1, 2018	Additions	Deletions	Reclassification	Balance June 30, 2019
Capital assets, not depreciated					
Land and land rights:					
Water plant	\$ 6,804,111	\$ 6	\$ -	\$ -	\$ 6,804,117
Sanitation plant	111,235	-	-	-	111,235
Construction in progress	1,289,556	1,698,210	-	(1,132,417)	1,855,349
Total capital assets, not depreciated	8,204,902	1,698,216	-	(1,132,417)	8,770,701
Capital assets, being depreciated					
Water plant:					
Source of supply	41,737,630	-	-	-	41,737,630
Plant	125,759,072	1,187,082	(24,094)	478,260	127,400,320
Structure	20,672,454	347,546	-	41,975	21,061,975
Sanitation plant:					
Plant	7,472,620	-	-	-	7,472,620
Machinery and equipment	17,318	-	-	-	17,318
General utility plant					
Building and improvements	22,094,343	-	(42,436)	43,021	22,094,928
Machinery and equipment	11,327,047	-	(217,609)	569,161	11,678,599
Total capital assets, being depreciated	229,080,484	1,534,628	(284,139)	1,132,417	231,463,390
Less accumulated depreciation					
Water plant:					
Source of supply	(11,348,647)	(906,052)	-	-	(12,254,699)
Plant	(56,660,410)	(1,818,045)	22,617	-	(58,455,838)
Structure	(17,776,983)	(251,792)	-	-	(18,028,775)
Sanitation plant:					
Plant	(3,914,702)	(144,360)	-	-	(4,059,062)
Machinery and equipment	(17,318)	-	-	-	(17,318)
General utility plant					
Building and improvements	(12,886,524)	(523,433)	28,856	-	(13,381,101)
Machinery and equipment	(10,155,096)	(371,889)	217,609	-	(10,309,376)
Total accumulated depreciation	(112,759,680)	(4,015,571)	269,082	-	(116,506,169)
Total capital assets, being depreciated, net	116,320,804	(2,480,943)	(15,057)	1,132,417	114,957,221
Total capital assets, net	\$ 124,525,706	\$ (782,727)	\$ (15,057)	\$ -	\$ 123,727,922

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 7 – Capital Assets (Continued)

A summary of changes in capital assets for the year ended June 30, 2018 is as follows:

	Balance July 1, 2017	Additions	Deletions	Reclassification	Balance June 30, 2018
Capital assets, not depreciated					
Land and land rights:					
Water plant	\$ 6,804,099	\$ 12	\$ -	\$ -	\$ 6,804,111
Sanitation plant	111,235	-	-	-	111,235
Construction in progress	6,108,328	1,733,845	(39,554)	(6,513,063)	1,289,556
Total capital assets, not depreciated	13,023,662	1,733,857	(39,554)	(6,513,063)	8,204,902
Capital assets, being depreciated					
Water plant:					
Source of supply	41,737,630	-	-	-	41,737,630
Plant	118,986,331	987,670	(127,117)	5,912,188	125,759,072
Structure	20,512,668	14,679	(1,868)	146,975	20,672,454
Sanitation plant:					
Plant	7,472,620	-	-	-	7,472,620
Machinery and equipment	17,318	-	-	-	17,318
General utility plant					
Building and improvements	22,023,030	-	(129,165)	200,478	22,094,343
Machinery and equipment	11,084,233	47,603	(58,211)	253,422	11,327,047
Total capital assets, being depreciated	221,833,830	1,049,952	(316,361)	6,513,063	229,080,484
Less accumulated depreciation					
Water plant:					
Source of supply	(10,442,596)	(906,051)	-	-	(11,348,647)
Plant	(54,918,909)	(1,824,542)	83,041	-	(56,660,410)
Structure	(17,586,292)	(192,560)	1,869	-	(17,776,983)
Sanitation plant:					
Plant	(3,766,851)	(147,851)	-	-	(3,914,702)
Machinery and equipment	(16,454)	(864)	-	-	(17,318)
General utility plant					
Building and improvements	(12,454,599)	(520,177)	88,252	-	(12,886,524)
Machinery and equipment	(9,862,231)	(351,076)	58,211	-	(10,155,096)
Total accumulated depreciation	(109,047,932)	(3,943,121)	231,373	-	(112,759,680)
Total capital assets, being depreciated, net	112,785,898	(2,893,169)	(84,988)	6,513,063	116,320,804
Total capital assets, net	\$ 125,809,560	\$ (1,159,312)	\$ (124,542)	\$ -	\$ 124,525,706

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 7 – Capital Assets (Continued)

Discretely Presented Component Unit – JPA

A summary of changes in capital assets for the year ended June 30, 2019 is as follows:

	Balance July 1, 2018	Additions	Deletions	Reclassification	Balance June 30, 2019
Capital assets, not depreciated					
Land and land rights	\$ 14,368,150	\$ -	\$ -	\$ -	\$ 14,368,150
Construction in progress	4,954,472	8,229,325	(1,185)	(7,071,620)	6,110,992
Total capital assets, not depreciated	19,322,622	8,229,325	(1,185)	(7,071,620)	20,479,142
Capital assets, being depreciated					
Sewer and treatment plant	121,094,776	-	(41,842)	2,635,729	123,688,663
Compost plant and farm	71,782,886	-	-	4,435,891	76,218,777
Recycled water system	34,819,404	-	-	-	34,819,404
Total capital assets, being depreciated	227,697,066	-	(41,842)	7,071,620	234,726,844
Less accumulated depreciation					
Sewer and treatment plant	(84,624,554)	(2,929,460)	40,048	-	(87,513,966)
Compost plant and farm	(50,115,201)	(1,816,105)	-	-	(51,931,306)
Recycled water system	(21,105,307)	(975,816)	-	-	(22,081,123)
Total accumulated depreciation	(155,845,062)	(5,721,381)	40,048	-	(161,526,395)
Total capital assets, being depreciated, net	71,852,004	(5,721,381)	(1,794)	7,071,620	73,200,449
Total capital assets, net	\$ 91,174,626	\$ 2,507,944	\$ (2,979)	\$ -	\$ 93,679,591

A summary of changes in capital assets for the year ended June 30, 2018 is as follows:

	Balance July 1, 2017	Additions	Deletions	Reclassification	Balance June 30, 2018
Capital assets, not depreciated					
Land and land rights	\$ 12,258,791	\$ -	\$ -	\$ 2,109,359	\$ 14,368,150
Construction in progress	3,039,783	5,860,424	-	(3,945,735)	4,954,472
Total capital assets, not depreciated	15,298,574	5,860,424	-	(1,836,376)	19,322,622
Capital assets, being depreciated					
Sewer and treatment plant	120,681,832	-	(6,215)	419,159	121,094,776
Compost plant and farm	71,196,292	-	(9,278)	595,872	71,782,886
Recycled water system	34,013,089	-	(15,030)	821,345	34,819,404
Total capital assets, being depreciated	225,891,213	-	(30,523)	1,836,376	227,697,066
Less accumulated depreciation					
Sewer and treatment plant	(81,808,847)	(2,821,922)	6,215	-	(84,624,554)
Compost plant and farm	(48,236,081)	(1,888,398)	9,278	-	(50,115,201)
Recycled water system	(20,135,282)	(984,841)	14,816	-	(21,105,307)
Total accumulated depreciation	(150,180,210)	(5,695,161)	30,309	-	(155,845,062)
Total capital assets, being depreciated, net	75,711,003	(5,695,161)	(214)	1,836,376	71,852,004
Total capital assets, net	\$ 91,009,577	\$ 165,263	\$ (214)	\$ -	\$ 91,174,626

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 8 – Compensated Absences

A summary of changes in compensated absences for the year ended June 30, 2019 is as follows:

Balance July 1, 2018	Additions	Deletions	Balance June 30, 2019	Due within One Year	Due in More than One Year
\$ 2,152,000	\$ 814,991	\$ (841,186)	\$ 2,125,805	\$ 854,249	\$ 1,271,556

A summary of changes in compensated absences for the year ended June 30, 2018 is as follows:

Balance July 1, 2017	Additions	Deletions	Balance June 30, 2018	Due within One Year	Due in More than One Year
\$ 2,123,351	\$ 895,961	\$ (867,312)	\$ 2,152,000	\$ 938,425	\$ 1,213,575

Note 9 – Long-Term Debt

A summary of changes in long-term debt for the year ended June 30, 2019 is as follows:

	Balance July 1, 2018	Additions	Deletions	Balance June 30, 2019	Due within One Year	Due in More Than One Year
2009 Sanitation Refunding Revenue Bonds	\$ 14,670,000	\$ -	\$ (2,210,000)	\$ 12,460,000	\$ 2,305,000	\$ 10,155,000
Add: Unamortized Premium	862,846	-	(159,295)	703,551	-	703,551
Capital Lease	63,379	-	(23,075)	40,304	24,815	15,489
Total long-term debt	\$ 15,596,225	\$ -	\$ (2,392,370)	\$ 13,203,855	\$ 2,329,815	\$ 10,874,040

A summary of changes in long-term debt for the year ended June 30, 2018 is as follows:

	Balance July 1, 2017	Additions	Deletions	Balance June 30, 2018	Due within One Year	Due in More Than One Year
2009 Sanitation Refunding Revenue Bonds	\$ 16,795,000	\$ -	\$ (2,125,000)	\$ 14,670,000	\$ 2,210,000	\$ 12,460,000
Add: Unamortized Premium	1,022,141	-	(159,295)	862,846	-	862,846
Capital Lease	84,846	-	(21,467)	63,379	23,075	40,304
Total long-term debt	\$ 17,901,987	\$ -	\$ (2,305,762)	\$ 15,596,225	\$ 2,233,075	\$ 13,363,150

2009 Sanitation Refunding Revenue Bonds

The District issued Sanitation Refunding Revenue Bonds (“2009 Bonds”) dated December 1, 2009, totaling \$29,415,000. The purpose of the 2009 Bonds was to advance refund 1998 Installment Purchase Refunding Revenue Bonds.

The 2009 Bonds mature through November 1, 2023, and bear interest at rates ranging from 1.00% to 5.00%. Interest is payable semiannually on May 1 and November 1, beginning May 1, 2010. The 2009 Bonds are subject to optional early redemption provisions. The 2009 Bonds fully mature on November 1, 2023.

The District completed the refunding to reduce its debt service over the next 14 years by approximately \$7,604,000 and to obtain an economic gain (difference between the present values of the old and new debt service payments) of approximately \$4,796,000.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 9 – Long-Term Debt (Continued)

Total balance outstanding as of June 30, 2019 and 2018, net of unamortized premium was as follows:

	2019	2018
Principal outstanding	\$ 12,460,000	\$ 14,670,000
Add unamortized premium	703,551	862,846
Net bonds outstanding	\$ 13,163,551	\$ 15,532,846

The annual debt service requirements at June 30, 2019 are as follows:

Year Ending June 30,	Principal	Interest	Total
2020	2,305,000	450,450	2,755,450
2021	2,400,000	353,825	2,753,825
2022	2,480,000	272,975	2,752,975
2023	2,580,000	174,075	2,754,075
2024	2,695,000	58,513	2,753,513
Total	\$ 12,460,000	\$ 1,309,838	\$ 13,769,838

Capital Leases

The District entered into various leases agreement for the copiers at interest rates range from 2% to 6.72%. These leases are classified as capital leases and have been recorded at the present value of the future minimum lease payments at the inception date of the leases. The assets acquired through capital leases are included in the District's capital assets in the amount of \$128,377, net of accumulated depreciation in the amount of \$93,892.

Year Ended June 30,	
2020	24,815
2021	15,489
Subtotal	40,304
Less amount representing interest	(2,512)
Present value of future minimum lease payments	\$ 37,792

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 10 – Pension Plan – Defined Benefit Plan

The net pension liabilities and the related deferred outflows of resources and deferred inflows of resources at June 30, 2019 and 2018 are as follows:

	2019	2018
Deferred outflows of resources:		
Pension contribution after measurement date	\$ 2,414,889	\$ 2,063,540
Projected earning on pension plan investments in excess of actual earnings on pension plan investments	184,579	919,804
Changes of assumption	1,955,480	3,585,046
Total deferred outflows of resources	\$ 4,554,948	\$ 6,568,390
Net pension liabilities:		
Net pension liabilities	\$ 16,055,823	\$ 20,493,355
Total net pension liabilities	\$ 16,055,823	\$ 20,493,355
Deferred inflows of resources:		
Difference between expected and actual experiences	\$ 1,574,290	\$ 2,098,046
Changes of assumption	1,805,795	175,573
Total deferred inflows of resources	\$ 3,380,085	\$ 2,273,619

General Information about the Pension Plan

Plan Description

The District contributes to the California Public Employees’ Retirement System (“CalPERS”), an agent multiple-employer public employee defined benefit pension plan. CalPERS acts as a common investment and administrative agent for participating public entities within the State of California. Benefit provisions and all other requirements are established by state statute. A full description of the pension plan regarding number of employees covered, benefit provisions, assumptions (for funding, but not accounting purposes), and membership information are listed in the June 30, 2017 Annual Actuarial Valuation Report. This report and CalPERS’ audited financial statements are publicly available reports that can be obtained at CalPERS’ website under Forms and Publications.

Benefits Provided

CalPERS provides retirement and disability benefits, annual cost-of-living adjustments, and death benefits to plan members and beneficiaries. A classic CalPERS member becomes eligible for service retirement upon attainment of age 55 with at least five years of credited service. PEPRAs miscellaneous members become eligible for service retirement upon attainment of age 62 with at least five years of service. The service retirement benefit is a monthly allowance equal to the product of the benefit factor, years of service, and final compensation. The final compensation is the monthly average of the member's highest 36 or 12 consecutive months' full-time equivalent monthly pay. Retirement benefits for classic miscellaneous employees are calculated as 2% of the average final 12 months compensation. Retirement benefits for PEPRAs miscellaneous employees are calculated as 2% of the average final 36 months compensation.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 10 – Pension Plan – Defined Benefit Plan (Continued)

General Information about the Pension Plan (Continued)

Benefits Provided (Continued)

Participant is eligible for non-industrial disability retirement if becomes disabled and has at least 5 years of credited service. There is no special age requirement. The standard non-industrial disability retirement benefit is a monthly allowance equal to 1.8 percent of final compensation, multiplied by service. Industrial disability benefits are not offered. Upon the death of a retiree, a one-time lump sum payment of \$500 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Benefit terms provide for annual cost-of-living adjustments to each employee's retirement allowance. Beginning the second calendar year after the year of retirement, retirement and survivor allowances will be annually adjusted on a compound basis by 3 percent.

Employees Covered by Benefit Terms

At June 30, 2017 and 2016 valuation date, the members covered by the benefit terms are as follows:

	2017	2016
<u>Employees covered by benefit terms</u>		
Active employees	114	111
Transferred and terminated employees	73	74
Retired employees and beneficiaries	150	141
	337	326

Contributions

Section 20814(c) of the California Public Employees' Retirement Law ("PERL") requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. The total plan contributions are determined through CalPERS' annual actuarial valuation process. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The employer is required to contribute the difference between the actuarially determined rate and the contribution rate of employees. For the measurement periods ended June 30, 2018 and 2017, the employees' contribution rates were 6.958% and 6.990% of annual pay, and the employer's contribution rates were 8.845% and 17.351% of employee annual payroll, respectively.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 10 – Pension Plan – Defined Benefit Plan (Continued)

Net Pension Liability

Actuarial Methods and Assumptions Used to Determine Total Pension Liability

For the measurement period ended June 30, 2018, the total pension liability was determined by rolling forward the June 30, 2017 total pension liability. The June 30, 2018 total pension liability was based on the following actuarial methods and assumptions:

Actuarial Cost Method	Entry Age Normal
Actuarial Assumptions:	
Discount Rate	7.15%
Inflation	2.50%
Salary Increases	Varies by Entry Age and Service
Investment Rate of Return	7.15%
Mortality Rate Table	Derived using CalPERS' Membership Data for all Funds. The mortality table used was developed based on CalPERS' specific data. The table includes 20 years of mortality improvements using Society of Actuaries Scale BB.
Post Retirement Benefit Increase	Contract COLA up to 2.00% until Purchasing Power Protection Allowance Floor on Purchasing Power applies, 2.50% thereafter

All other actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from 1997 to 2011, including updates to salary increase, mortality and retirement rates. The Experience Study report can be obtained at CalPERS' website under Forms and Publications.

For the measurement period ended June 30, 2017, the total pension liability was determined by rolling forward the June 30, 2016 total pension liability. The June 30, 2017 total pension liability was based on the following actuarial methods and assumptions:

Actuarial Cost Method	Entry Age Normal
Actuarial Assumptions:	
Discount Rate	7.15%
Inflation	2.75%
Salary Increases	Varies by Entry Age and Service
Investment Rate of Return	7.15%
Mortality Rate Table	Derived using CalPERS' Membership Data for all Funds. The mortality table used was developed based on CalPERS' specific data. The table includes 20 years of mortality improvements using Society of Actuaries Scale BB.
Post Retirement Benefit Increase	Contract COLA up to 2.75% until Purchasing Power Protection Allowance Floor on Purchasing Power applies, 2.75% thereafter

All other actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period from 1997 to 2011, including updates to salary increase, mortality and retirement rates. The Experience Study report can be obtained at CalPERS' website under Forms and Publications.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 10 – Pension Plan – Defined Benefit Plan (Continued)

Discount Rate

The discount rate used to measure the June 30, 2018 and 2017 total pension liability was 7.15 percent. To determine whether the municipal bond rate should be used in the calculation of the discount rate for each plan, CalPERS stress tested plans that would most likely result in a discount rate that would be different from the actuarially assumed discount rate. The tests revealed the assets would not run out. Therefore, the current 7.15 percent discount rate is appropriate and the use of the municipal bond rate calculation is not deemed necessary. The long-term expected discount rate of 7.15 percent is applied to all plans in the Public Employees' Retirement Fund ("PERF"). The cash flows used in the testing were developed assuming that both members and employers will make their required contributions on time and as scheduled in all future years. The stress test results are presented in a detailed report called "GASB Crossover Testing Report" that can be obtained at CalPERS website under the GASB 68 section.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

In determining the long-term expected rate of return, CalPERS took into account both short-term and long-term market return expectations as well as the expected pension fund (PERF) cash flows. Taking into account historical returns of all the Public Employees Retirement Funds' asset classes (which includes the agent plan and two cost-sharing plans or PERF A, B, and C funds), expected compound (geometric) returns were calculated over the short-term (first 10 years) and the long-term (11-60 years) using a building-block approach. Using the expected nominal returns for both short-term and long-term, the present value of benefits was calculated for each PERF fund. The expected rate of return was set by calculating the single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns. The expected rate of return was then set equal to the single equivalent rate calculated above and rounded down to the nearest one quarter of one percent.

The table below reflects long-term expected real rate of return by asset class. The rate of return was calculated using the capital market assumptions applied to determine the discount rate and asset allocation. The target allocation shown was adopted by the Board effective on July 1, 2017.

Asset Class ¹	New Strategic Allocation	Real Return Years 1 - 10 ²	Real Return Years 11+ ³
Global Equity	50.00%	4.80%	5.98%
Fixed Income	28.00%	1.00%	2.62%
Inflation Assets	0.00%	0.77%	1.81%
Private Equity	8.00%	6.30%	7.23%
Real Estate	13.00%	3.75%	4.93%
Liquidity	1.00%	0.00%	-0.92%
	<u>100.00%</u>		

¹ In the CalPERS's CAFR, Fixed Income is included in Global Debt Securities; Liquidity is included in Short-Term Investments; Inflation Assets are included in both Global Equity Securities and Global Debt Securities.

² An expected inflation of 2.0% used

³ An expected inflation of 2.92% used

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 10 – Pension Plan – Defined Benefit Plan (Continued)

Changes in the Net Pension Liability

The following table shows the changes in net pension liability recognized over the measurement period of July 1, 2017 to June 30, 2018.

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability/(Asset)
	(a)	(b)	(c) = (a) - (b)
Balance at June 30, 2017 (Valuation Date)	\$ 95,765,371	\$ 75,272,016	\$ 20,493,355
Changes Recognized for the Measurement Period:			
Service cost	1,744,796	-	1,744,796
Interest on the total pension liability	6,486,599	-	6,486,599
Changes of benefit terms	-	-	-
Difference between expected and actual experience	(1,061,287)	-	(1,061,287)
Changes of assumptions	(2,708,692)	-	(2,708,692)
Net plan to plan resource movement	-	(185)	185
Contributions from the employer	-	2,100,676	(2,100,676)
Contributions from employees	-	815,450	(815,450)
Net investment income, net of administrative expense	-	6,323,046	(6,323,046)
Benefit payments, including refunds of employee contributions	(4,292,253)	(4,292,253)	-
Administrative expense	-	(117,295)	117,295
Other miscellaneous income (expense)	-	(222,744)	222,744
Net Changes during July 1, 2017 to June 30, 2018	169,163	4,606,695	(4,437,532)
Balance at June 30, 2018 (Measurement Date)	\$ 95,934,534	\$ 79,878,711	\$ 16,055,823

The following table shows the changes in net pension liability recognized over the measurement period of July 1, 2016 to June 30, 2017.

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability/(Asset)
	(a)	(b)	(c) = (a) - (b)
Balance at June 30, 2016 (Valuation Date)	\$ 88,299,511	\$ 68,736,476	\$ 19,563,035
Changes Recognized for the Measurement Period:			
Service Cost	1,813,978	-	1,813,978
Interest on the total pension liability	6,456,858	-	6,456,858
Changes of benefit terms	-	-	-
Difference between expected and actual experience	(2,211,229)	-	(2,211,229)
Changes of assumptions	5,214,612	-	5,214,612
Contributions from the employer	-	1,992,743	(1,992,743)
Contributions from employees	-	741,264	(741,264)
Net investment income, net of administrative expense	-	7,711,377	(7,711,377)
Benefit payments, including refunds of employee contributions	(3,808,359)	(3,808,359)	-
Administrative Expense	-	(101,485)	101,485
Net Changes during July 1, 2016 to June 30, 2017	7,465,860	6,535,540	930,320
Balance at June 30, 2017 (Measurement Date)	\$ 95,765,371	\$ 75,272,016	\$ 20,493,355

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 10 – Pension Plan – Defined Benefit Plan (Continued)

Changes in the Net Pension Liability (Continued)

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the Plan as of the measurement date, calculated using the discount rate of 7.15%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1 percentage-point lower (6.15%) or 1 percentage-point higher (8.15%) than the current rate:

	Plan's Net Pension Liability/(Asset)		
	Discount Rate - 1%	Current Discount	Discount Rate + 1%
	(6.15%)	Rate (7.15%)	(8.15%)
June 30, 2018 Measurement Date	\$ 28,268,898	\$ 16,055,823	\$ 5,867,115

	Plan's Net Pension Liability/(Asset)		
	Discount Rate - 1%	Current Discount	Discount Rate + 1%
	(6.15%)	Rate (7.15%)	(8.15%)
June 30, 2017 Measurement Date	\$ 33,105,020	\$ 20,493,355	\$ 9,989,785

Pension Plan Fiduciary Net Position

Detailed information about the plan's fiduciary net position is available in the separately issued CalPERS financial report.

For the measurement periods ended June 30, 2018 and 2017, the District incurred a pension expense of \$1,317,624 and \$2,126,219, respectively.

As of measurement dates of June 30, 2018 and 2017, the District has deferred outflows and deferred inflows of resources related to pensions as follows:

	2018		2017	
	Deferred outflows of Resources	Deferred inflows of Resources	Deferred outflows of Resources	Deferred inflows of Resources
Pension contribution made after the measurement period	\$ 2,414,889	\$ -	\$ 2,063,540	\$ -
Difference between expected and actual experience	-	(1,574,290)	-	(2,098,046)
Changes of assumptions	1,955,480	(1,805,795)	3,585,046	(175,573)
Net difference between projected and actual earning on pension plan investments	184,579	-	919,804	-
Total	\$ 4,554,948	\$ (3,380,085)	\$ 6,568,390	\$ (2,273,619)

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 10 – Pension Plan – Defined Benefit Plan (Continued)

Pension Expense and Deferred Outflows and Deferred Inflows of Resources Related to Pensions

\$2,414,889 and \$2,063,540 were reported as deferred outflows of resources related to pension resulting from the District’s contributions subsequent to the measurement date during the year ended June 30, 2018 and 2017, respectively, was recognized as a reduction of the net pension liability in the years ended June 30, 2018 and 2017 respectively. Other amounts reported as deferred outflows and deferred inflows of resources related to pensions will be recognized in future pension expense as follows:

	2019
Year Ended June 30,	Deferred Outflows/(Inflows) of Resources
2020	\$ 590,136
2021	(855,111)
2022	(772,584)
2023	(202,467)
Total	\$ (1,240,026)

Note 11 – Other Post-Employment Benefits

Aggregate net OPEB liabilities and deferred outflows of resources and deferred inflows of resources are reported in the accompanying Statement of Net Position as follows:

	2019	2018
Deferred outflows of resources:		
OPEB contribution after measurement date	\$ 2,695,215	\$ 1,632,555
Changes of assumptions	762,807	-
Total deferred outflows of resources	\$ 3,458,022	\$ 1,632,555
Net OPEB liabilities:		
Net OPEB liabilities	\$ 19,301,046	\$ 19,183,096
Total net OPEB liabilities	\$ 19,301,046	\$ 19,183,096
Deferred inflows of resources:		
Difference between expected and actual experiences	\$ 150,132	\$ -
Difference between projected and actual earnings	105,890	-
Total deferred inflows of resources	\$ 256,022	\$ -

General Information about the OPEB Plan

Plan Description

The District contributes to a multiple employer defined benefit plan to provide post-employment medical benefits. Specifically, the District provides postretirement medical benefits to all employees who retire from the District. The level of benefit and vesting time varies based on the entry date and employee bargaining unit. Benefits range from 100% coverage for employee plus one dependent after five years of service to 75% of the lowest cost plan for employee only after ten years of service. The plan does not provide a publicly available financial report.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 11 – Other Post-Employment Benefits (Continued)

General Information about the OPEB Plan (Continued)

The District has elected to join the *California Employers' Retiree Benefit Trust* (the "Trust") in accordance with GASB Statement No. 75, which provides a means to fund the annual OPEB costs, referred to as the *Actuarially Determined Contribution* (ADC). The ADC includes the normal cost (current accrual for benefits being earned) plus an amortization of the unfunded accrued liability or net OPEB liability over 15 years on level-percentage of pay basis. The ADC for fiscal year ended 2018 and 2017 was \$1,364,910 and \$1,553,193, respectively.

Eligibility

Employees of the District are eligible for retiree health benefits if they retire from the District and commence pension benefits under PERS (typically on or after age 50 with at least five years of PERS eligible service). Membership in the plan consisted of the following at June 30, 2018 and 2017, the date of the latest actuarial valuations, respectively.

	2018	2017
Active employees	109	109
Retired employees and beneficiaries	87	85
	196	194

Net OPEB Liability

Actuarial Assumptions

The net OPEB liability in the June 30, 2018 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Actuarial Cost Method	Entry Age Normal
Actuarial Assumptions:	
Discount Rate	6.00%
Inflation	3.00%
Salary Increases	Varies by Entry Age and Service
Investment Rate of Return	6.00%
Mortality Rate Table	2014 CalPERS Active Mortality for Miscellaneous Employees
Retirement Rates	Hired before 2013: 2014 CalPERS 2.0%@55 Rates for Miscellaneous Employees. Hired after 2013: 2014 CalPERS Retirement Rates for Miscellaneous Employees 2%@60 adjusted to minimum retirement age of 52

The actuarial assumptions used in the June 30, 2018 valuation were based on the results of an actuarial experience study for the period July 1, 2017 to June 30, 2018.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 11 – Other Post-Employment Benefits (Continued)

Net OPEB Liability (Continued)

Actuarial Assumptions (Continued)

The net OPEB liability in the June 30, 2017 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Actuarial Cost Method	Entry Age Normal
Actuarial Assumptions:	
Discount Rate	6.00%
Inflation	2.75%
Salary Increases	Varies by Entry Age and Service
Investment Rate of Return	6.00%
Mortality Rate Table	2014 CalPERS Active Mortality for Miscellaneous Employees
Retirement Rates	Hired before 2013: 2009 CalPERS 2.0%@55 Rates for Miscellaneous Employees. Hired after 2012: 2009 CalPERS Retirement Rates for Miscellaneous Employees 2%@60 adjusted to minimum retirement age of 52

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period July 1, 2016 to June 30, 2017.

Discount Rate

The discount rate used to measure the net OPEB liability was 6.0%. This discount rate assumes the District continues to fully fund for its retiree health benefits through the California Employers' Retiree Benefit Trust (CERBT) under its investment allocation strategy 1. The rate reflects the CERBT published median interest rate for strategy 1 of 7.28% with an additional margin for adverse deviation.

The tables below reflect long-term expected real rate of return by asset class. The rate of return was calculated using the capital market assumptions applied to determine the discount rate and asset allocation. These geometric rates of return are net of administrative expenses.

Measurement date June 30, 2018:

Asset Class	Percentage of Portfolio	Real Return ¹
Global ex-U.S. Equity	24.00%	5.500%
U.S. Fixed	39.00%	1.500%
Treasury Inflation Protected Securities (TIPS)	26.00%	1.200%
Real Estate	8.00%	3.700%
Commodities	3.00%	0.600%
	100.00%	

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 11 – Other Post-Employment Benefits (Continued)

Net OPEB Liability (Continued)

Discount Rate (Continued)

Measurement date June 30, 2017:

Asset Class	Percentage of Portfolio	Real Return ¹
US Large Cap	24.00%	7.795%
Long-Term Corporate Bonds	34.00%	5.295%
Long-Term Government Bonds	8.00%	4.500%
US Small Cap	8.00%	7.795%
Treasury Inflation Protected Securities (TIPS)	15.00%	7.795%
US Real Estate	8.00%	7.795%
All Commodities	3.00%	7.795%
	<u>100.00%</u>	

Change in the Net OPEB Liability

	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability/(Asset) (c) = (a) - (b)
Balance at June 30, 2017 (Valuation Date)	\$ 24,540,649	\$ 5,357,553	\$ 19,183,096
Changes Recognized for the Measurement Period:			
Service cost	650,429	-	650,429
Interest on the total OPEB liability	1,424,176	-	1,424,176
Changes of benefit terms	-	-	-
Difference between expected and actual experience	(179,003)	-	(179,003)
Changes of assumptions	909,501	-	909,501
Contributions from the employer	-	2,216,227	(2,216,227)
Net investment income, net of administrative expense	-	470,926	(470,926)
Benefit payments, including refunds of employee contributions	(1,632,555)	(1,632,555)	-
Administrative expense	-	-	-
Net Changes during July 1, 2017 to June 30, 2018	<u>1,172,548</u>	<u>1,054,598</u>	<u>117,950</u>
Balance at June 30, 2018 (Measurement Date)	<u>\$ 25,713,197</u>	<u>\$ 6,412,151</u>	<u>\$ 19,301,046</u>

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability of the District, as well as what the District's net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (5.00%) or 1-percentage point higher (7.00%) than the current discount rate:

	Plan's OPEB Liability/(Asset)		
	Discount Rate - 1% (5.00%)	Current Discount Rate (6.00%)	Discount Rate + 1% (7.00%)
June 30, 2018 Measurement Date	<u>\$ 22,174,034</u>	<u>\$ 19,301,046</u>	<u>\$ 16,859,801</u>

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 11 – Other Post-Employment Benefits (Continued)

Change in the Net OPEB Liability (Continued)

	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability/(Asset) (c) = (a) - (b)
Balance at June 30, 2016 (Valuation Date)	\$ 23,976,480	\$ 4,254,341	\$ 19,722,139
Changes Recognized for the Measurement Period:			
Service cost	174,032	-	174,032
Interest on the total OPEB liability	1,412,981	-	1,412,981
Contributions from the employer	-	1,657,742	(1,657,742)
Net investment income, net of administrative expense	-	472,252	(472,252)
Benefit payments, including refunds of employee contributions	(1,022,844)	(1,022,844)	-
Administrative expense	-	(3,938)	3,938
Net Changes during July 1, 2016 to June 30, 2017	<u>564,169</u>	<u>1,103,212</u>	<u>(539,043)</u>
Balance at June 30, 2017 (Measurement Date)	<u>\$ 24,540,649</u>	<u>\$ 5,357,553</u>	<u>\$ 19,183,096</u>

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability of the District, as well as what the District's net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (5.00%) or 1-percentage point higher (7.00%) than the current discount rate:

	Plan's OPEB Liability/(Asset)		
	Discount Rate - 1% (5.00%)	Current Discount Rate (6.00%)	Discount Rate + 1% (7.00%)
June 30, 2017 Measurement Date	\$ 22,667,120	\$ 19,183,096	\$ 16,364,870

OPEB Liabilities, OPEB Expense and Deferred Outflows/Inflows of Resources to OPEB

Under GASB 74 and 75, OPEB expense includes service cost, interest cost, change in Total OPEB Liability ("TOL") due to plan changes; all adjusted for deferred inflows and outflows. The District determined that it was not reasonable to rerun prior valuations under GASB 75. Therefore, we used the transition approach provided in GASB 75, Paragraph 244 where in circumstances in which OPEB is provided through OPEB plans that are not administered through trusts, no other beginning balances for deferred outflows of resources and deferred inflows of resources related to OPEB should be reported. If restatement of all prior periods presented is not practical, the cumulative effect, if any, of applying this Statement should be reported as a restatement of beginning net position (or fund balance or fund net position, as applicable) for the earliest period restated. That means that there are no deferred inflows/outflows in the first year (with the possible exception of contributions after the measurement date). The OPEB expense shown below is considered to be preliminary because there can be employer specific deferred items (e.g., contributions made after the measurement date, and active employee contributions toward the OPEB plan).

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 11 – Other Post-Employment Benefits (Continued)

OPEB Liabilities, OPEB Expense and Deferred Outflows/Inflows of Resources to OPEB (Continued)

Certain types of TOL changes are subject to deferral, as are investment gains/losses. To qualify for deferral, gains and losses must be based on GASB 74/75 compliant valuations. Since the District’s prior valuation was performed in accordance with GASB 43/45, it is not practical to calculate compliant deferred outflows and inflows as stated in GASB 75 Appendix E, Paragraph 244. Therefore, valuation-based deferred items will not begin until the next valuation. However, there could be employer-specific deferred items that need to be reflected, as mentioned earlier.

For the year ended June 30, 2019 and 2018, the District recognized OPEB expense of \$867,823 and \$1,118,700, respectively, for the District Plan. At June 30, 2019 and 2018 the District reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	2019		2018	
	Deferred outflows of Resources	Deferred inflows of Resources	Deferred outflows of Resources	Deferred inflows of Resources
OPEB contribution made after the measurement period	\$ 2,695,215	\$ -	\$ 1,632,555	\$ -
Difference between expected and actual experience	-	(150,132)	-	-
Changes of assumptions	762,807	-	-	-
Net difference between projected and actual earning on OPEB plan investments	-	(105,890)	-	-
Total	\$ 3,458,022	\$ (256,022)	\$ 1,632,555	\$ -

The \$2,695,215 reported as deferred outflows of resources related to OPEB resulting from the District’s contributions subsequent to the measurement date during the year ended June 30, 2019 will be recognized as a reduction of the net OPEB liability in the year ending June 30, 2020. Other amounts reported as deferred outflows and deferred inflows of resources related to OPEB will be recognized in future pension expense as follows:

Year Ended June 30,	2019
	Deferred Outflows/(Inflows) of Resources
2020	\$ 91,351
2021	91,351
2022	91,351
2023	91,351
2024	117,823
Thereafter	23,558
Total	\$ 506,785

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 12 – Net Position

Net position represents the difference between assets, deferred outflows of resources, liabilities and deferred inflows of resources. Designations of unrestricted net position represent the District management’s intentions for the use of resources. The net position amounts were as follows:

Restricted Net Position:

	2019	2018
	Debt Service	Debt Service
Restricted Assets:		
Restricted cash and investments	\$ 2,801,720	\$ 2,766,678
Restricted receivables		
Interest	16,988	12,090
Other	-	-
Total restricted assets	2,818,708	2,778,768
Current Liabilities Payable from		
Restricted Assets:		
Interest payable	(84,679)	(95,729)
Other liabilities	-	-
Total current liabilities payable	(84,679)	(95,729)
from restricted assets	(84,679)	(95,729)
Total restricted net position	\$ 2,734,029	\$ 2,683,039

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 12 – Net Position (Continued)

As of June 30, 2019, and 2018, the net position for the District consisted of the following:

	2019		2018	
	Primary Government	Discretely Presented Component Unit - JPA	Primary Government	Discretely Presented Component Unit - JPA
Net investment in capital assets:				
Capital assets, net of accumulated depreciation	\$ 123,727,922	\$ 93,679,591	\$ 124,525,706	\$ 91,174,626
Less:				
Capital lease obligations	(40,303)	-	(63,379)	-
2009 Sanitation refunding revenue bond, net	(12,458,681)	-	(14,668,382)	-
Total net investment in capital assets	<u>111,228,938</u>	<u>93,679,591</u>	<u>109,793,945</u>	<u>91,174,626</u>
Restricted for:				
Debt Service	2,734,029	-	2,683,039	-
Total restricted	<u>2,734,029</u>	<u>-</u>	<u>2,683,039</u>	<u>-</u>
Unrestricted:				
Designated for:				
Investment in JPA	64,137,736	-	62,520,957	-
Rate stabilization	8,000,000	-	7,750,000	-
Insurance	7,560,087	-	7,554,513	-
Operating emergencies	10,948,870	-	13,466,301	-
Pure water	15,000,000	-	15,000,000	-
Undesignated	14,411,447	-	(425,417)	-
Total unrestricted	<u>120,058,140</u>	<u>-</u>	<u>105,866,354</u>	<u>-</u>
Total net position	<u>\$ 234,021,107</u>	<u>\$ 93,679,591</u>	<u>\$ 218,343,338</u>	<u>\$ 91,174,626</u>

Prior Period Adjustment

The District recorded the following prior period adjustments to the beginning net position in order to record beginning balances of OPEB-related items as part of GASB Statement 75 implementation.

Net position at July 1, 2017, as previously reported	\$ 222,512,214
To implement GASB 75 for the net OPEB liability	<u>(18,064,396)</u>
Net position at July 1, 2017, as restated	<u>\$ 204,447,818</u>

Note 13 – Risk Management

The District retained Tolman & Wiker Insurance Services, LLC, for general liability, property, inverse condemnation, auto and physical damage. In addition, reinsurance support for the program is provided by Swiss Reinsurance of America and Travelers Reinsurance. The coverage for the general liability provides \$11 million per occurrence and \$61 million in the aggregate with a \$50,000 self-insured retention limit per occurrence. The coverage for the property provides \$61 million of coverage with a deductible of \$50,000 per occurrence. The District paid premiums of \$835,844 for the year ended June 30, 2018.

Las Virgenes Municipal Water District
Notes to the Basic Financial Statements (Continued)
For the Years Ended June 30, 2019 and 2018

Note 13 – Risk Management (Continued)

Effective August 1, 2012, the District retained the Association of California Water Agencies Joint Powers Insurance Authority (ACWA/APIA) for its workers' compensation insurance coverage. The District paid premiums of \$241,408 and \$272,048 the year ended June 30, 2019 and 2018, respectively.

Note 14 – Construction and Other Significant Commitments

Lawsuits

The District is a defendant in various lawsuits. Although the outcome of these lawsuits is not presently determinable, it is the option of the District's legal counsel and the District's management that resolution of these matters will not have a material adverse effect on the financial condition of the District.

Contract Commitments

As of June 30, 2019, the District had one material construction commitments evidenced by contractual commitments with contractors in the amount of \$462,062.

Project Name	Contractual Commitment
Weather Based Irrigated Controllers	\$ 462,062
Total	\$ 462,062

As of June 30, 2019, the JPA had four material construction commitments evidenced by contractual commitments with contractors in the amount of \$939,014.

Project Name	Contractual Commitment
Pure Water Project Demonstration	\$ 939,014
Total	\$ 939,014

As of June 30, 2018, the District had no material construction commitments.

As of June 30, 2018, the JPA had five material construction commitments evidenced by contractual commitments with contractors in the amount of \$171,713.

Project Name	Contractual Commitment
Pure Water Project Demonstration	\$ 171,713
Total	\$ 171,713

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)



Las Virgenes Municipal Water District
Required Supplementary Information (Unaudited)
Schedule of Changes in Net Pension Liability and Related Ratios
For the Years Ended June 30, 2019 and 2018

Last Ten Fiscal Years

California Public Employees' Retirement System ("CalPERS") Pension Plan

Measurement period	2017-18 ¹	2016-17	2015-16	2014-15	2013-14
Total pension liability					
Service cost	\$1,744,796	\$1,813,978	\$ 1,511,819	\$ 1,593,701	\$ 1,694,463
Interest	6,486,599	6,456,858	6,362,749	6,129,355	6,040,285
Differences between expected and actual experience	(1,061,287)	(2,211,229)	(600,876)	(2,996,239)	-
Changes of assumptions	(2,708,692)	5,214,612	-	(1,492,369)	-
Benefit payments, including refunds of employee contributions	(4,292,253)	(3,808,359)	(3,984,639)	(4,076,072)	(3,145,116)
Net change in total pension liability	169,163	7,465,860	3,289,053	(841,624)	4,589,632
Total pension liability - beginning	95,765,371	88,299,511	85,010,458	85,852,082	81,262,450
Total pension liability - ending (a)	<u>\$ 95,934,534</u>	<u>\$ 95,765,371</u>	<u>\$ 88,299,511</u>	<u>\$ 85,010,458</u>	<u>\$ 85,852,082</u>
Pension fiduciary net position					
Contributions - employer	\$ 2,100,676	\$ 1,992,743	\$ 1,888,232	\$ 1,701,878	\$ 1,780,006
Contributions - employee	815,450	741,264	694,766	700,118	919,090
Net investment income ²	6,323,046	7,711,377	341,006	1,610,606	10,570,584
Benefit payments, including refunds of employee contributions	(4,292,253)	(3,808,359)	(3,984,639)	(4,076,072)	(3,145,116)
Other	(340,224)	(101,485)	(42,564)	(78,615)	-
Net change in plan fiduciary net position	4,606,695	6,535,540	(1,103,199)	(142,085)	10,124,564
Plan fiduciary net position - beginning	75,272,016	68,736,476	69,839,675	69,981,760	59,857,196
Plan fiduciary net position - ending (b)	<u>\$ 79,878,711</u>	<u>\$ 75,272,016</u>	<u>\$ 68,736,476</u>	<u>\$ 69,839,675</u>	<u>\$ 69,981,760</u>
District's net pension liability - ending (a) - (b)	<u>\$ 16,055,823</u>	<u>\$ 20,493,355</u>	<u>\$ 19,563,035</u>	<u>\$ 15,170,783</u>	<u>\$ 15,870,322</u>
Plan fiduciary net position as a percentage of the total pension liability	<u>83.26%</u>	<u>78.60%</u>	<u>77.84%</u>	<u>82.15%</u>	<u>81.51%</u>
Covered payroll	<u>\$ 10,448,503</u>	<u>\$ 10,538,421</u>	<u>\$ 9,882,462</u>	<u>\$ 10,333,277</u>	<u>\$ 10,635,596</u>
District's net pension liability as a percentage of covered payroll	<u>153.67%</u>	<u>194.46%</u>	<u>197.96%</u>	<u>146.81%</u>	<u>149.22%</u>

¹ Historical information is presented only for measurement periods for which GASB 68 is applicable.

² Net of administrative expenses in 2013-14.

Notes to Schedule:

Benefit Changes: The figures above do not include any liability impact that may have resulted from plan changes which occurred after the June 30, 2015 valuation date. This applies for voluntary benefit changes as well as any offers of Two Years Additional Service Credit (a.k.a. Golden Handshakes).

Changes of Assumptions: In 2017, amounts reported reflect an adjustment of the discount rate from 7.65 percent (net of administrative expense) to 7.15 percent (without a reduction for pension plan administrative expense). In 2016, there were no changes. In 2015, amounts reported reflect an adjustment of the discount rate from 7.5 percent (net of administrative expense) to 7.65 percent (without a reduction for pension plan administrative expense.) In 2014, amounts reported were based on the 7.5 percent discount rate.

**Las Virgenes Municipal Water District
Required Supplementary Information (Unaudited)
Schedule of Contributions
For the Years Ended June 30, 2019 and 2018**

Last Ten Fiscal Years

California Public Employees' Retirement System ("CalPERS") Pension Plan

	2018-19 ¹	2017-18 ¹	2016-17 ¹	2015-16	2014-15	2013-14
Actuarially determined contribution	\$ 2,414,889	\$ 2,063,540	\$ 1,992,743	\$ 1,888,232	\$ 1,701,878	\$ 1,780,006
Contributions in relation to the actuarially determined contribution	(2,414,889)	(2,063,540)	(1,992,743)	(1,888,232)	(1,701,878)	(1,780,006)
Contribution deficiency (excess)	-	-	-	-	-	-
Covered payroll ²	\$ 11,180,211	\$ 10,854,574	\$ 10,538,421	\$ 9,882,462	\$ 10,333,277	\$ 10,635,596
Contributions as a percentage of covered-employee payroll ²	21.60%	19.01%	18.91%	19.11%	16.47%	16.74%

¹ Historical information is presented only for measurement periods for which GASB 68 is applicable.

² Payroll from 2017-18 in the amount of \$10,854,574 was assumed to increase by the 3.00 percent payroll growth assumption.

Notes to Schedule:

Valuation date:

The actuarial methods and assumptions used to set the actuarially determined contributions for Fiscal Year 2018-19 were from the June 30, 2017 public agency valuations.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level percentage of payroll
Remaining amortization period	20 years
Asset valuation method	Market Value of Assets
Inflation	2.75%
Salary increases	Varies by Entry Age and Service
Payroll Growth	3.00%
Investment rate of return	7.15%, net of pension plan investment expense, including inflation
Retirement age	The probabilities of retirement are based on a CalPERS Experience study for the period from 1997 to 2011.
Mortality	Derived using CalPERS' Membership Data for all Funds. The mortality table used was developed based on CalPERS' specific data. The table includes 20 years of mortality improvements using Society of Actuaries Scale BB.

Las Virgenes Municipal Water District
Required Supplementary Information (Unaudited)
Schedule of Changes in Net OPEB Liability and Related Ratios
For the Years Ended June 30, 2019 and 2018

Measurement period	2017-18 ¹	2016-17 ¹
Total OPEB liability		
Service cost	\$ 650,429	\$ 174,032
Interest	1,424,176	1,412,981
Changes of benefit terms	-	-
Differences between expected and actual experience	(179,003)	-
Changes of assumptions	909,501	-
Benefit payments, including refunds of employee contributions	(1,632,555)	(1,022,844)
Net change in total OPEB liability	1,172,548	564,169
Total OPEB liability - beginning	24,540,649	23,976,480
Total OPEB liability - ending (a)	\$ 25,713,197	\$ 24,540,649
OPEB fiduciary net position		
Contributions - employer	\$ 2,216,227	\$ 1,657,742
Contributions - employee	-	-
Net investment income ²	470,926	472,252
Benefit payments, including refunds of employee contributions	(1,632,555)	(1,022,844)
Other	-	(3,938)
Net change in plan fiduciary net position	1,054,598	1,103,212
Plan fiduciary net position - beginning	5,357,553	4,254,341
Plan fiduciary net position - ending (b)	\$ 6,412,151	\$ 5,357,553
District's net OPEB liability - ending (a) - (b)	\$ 19,301,046	\$ 19,183,096
Plan fiduciary net position as a percentage of the total OPEB liability	24.94%	21.83%
Covered payroll	\$ 10,687,095	\$ 10,031,195
District's net OPEB liability as a percentage of covered payroll	180.60%	191.23%

¹ Ten year historical information is not available.

Las Virgenes Municipal Water District
Required Supplementary Information (Unaudited)
Schedule of Contributions - OPEB
For the Years Ended June 30, 2019 and 2018

	2019	2018
Actuarially determined employer contribution	\$ 2,216,227	\$ 1,657,743
Actual employer contribution	(2,216,227)	(1,657,743)
Contribution deficiency (excess)	-	-
Covered payroll	\$ 10,687,095	\$ 10,031,195
Contributions as a percentage of covered-employee payroll	20.74%	16.53%

Las Virgenes Municipal Water District
Index to Statistical Section
June 30, 2019

This part of the Las Virgenes Municipal Water District's comprehensive annual financial report presents detailed information as a context for understanding what the information in the financial states, note disclosures, and required supplementary information say about the District's overall financial health.

Contents:

Pages

Financial Trends - These schedules contain information to help the reader understand how the District's financial performance and well-being have changed over time.

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Revenue Capacity - These schedule contain information to help the reader assess the District's most significant revenue source.

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Operating Information - These schedules contain service and infrastructure data to help the reader understand how the information in the District's financial report relates to the services the District provides and the activities it performs.

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Note: The District has no governmental funds; therefore, does not present information about changes in fund balances. Also, the District has no legal debt limitations.

Schedule 1
Las Virgenes Municipal Water District
Net Position
Last Ten Fiscal Years (accrual basis of accounting)
(in thousands of dollars)

	Fiscal Year				
	2010	2011	2012	2013	2014
Business-type Activities					
Net investment in capital assets	\$ 77,351	\$ 79,319	\$ 83,425	\$ 82,870	\$ 90,476
Restricted:					
Debt service	2,602	2,581	2,588	2,595	2,608
Capital projects	9,766	7,645	5,935	4,614	1,498
Total restricted	<u>12,368</u>	<u>10,226</u>	<u>8,523</u>	<u>7,208</u>	<u>4,106</u>
Unrestricted	<u>140,981</u>	<u>140,373</u>	<u>137,785</u>	<u>140,793</u>	<u>139,671</u>
Total Net Position	<u>\$ 230,700</u>	<u>\$ 229,918</u>	<u>\$ 229,733</u>	<u>\$ 230,871</u>	<u>\$ 234,253</u>

Schedule 1
Las Virgenes Municipal Water District
Net Position (Continued)
Last Ten Fiscal Years (accrual basis of accounting)
(in thousands of dollars)

	Fiscal Year				
	2015	2016	2017	2018	2019
Business-type Activities					
Net investment in capital assets	\$ 100,170	\$ 101,272	\$ 108,930	\$ 109,794	\$ 111,254
Restricted:					
Debt service	2,617	2,634	2,654	2,683	2,734
Capital projects	1,264	-	-	-	-
Total restricted	<u>3,881</u>	<u>2,634</u>	<u>2,654</u>	<u>2,683</u>	<u>2,734</u>
Unrestricted	<u>110,269</u>	<u>111,195</u>	<u>110,928</u>	<u>105,866</u>	<u>120,033</u>
Total Net Position	<u>\$ 214,320</u>	<u>\$ 215,101</u>	<u>\$ 222,512</u>	<u>\$ 218,343</u>	<u>\$ 234,021</u>

Schedule 2
Las Virgenes Municipal Water District
Changes in Net Position
Last Ten Fiscal Years (accrual basis of accounting)
(in thousands of dollars)

	Fiscal Year				
	2010	2011	2,012	2013	2014
Expenses					
Water	\$ 30,845	\$ 31,556	\$ 35,972	\$ 38,468	\$ 42,270
Sanitation(includes JPA)	15,628	15,727	14,894	15,022	15,421
Total Operating Expenses	<u>46,473</u>	<u>47,283</u>	<u>50,866</u>	<u>53,490</u>	<u>57,691</u>
Program Revenues					
Water	26,160	26,974	31,205	35,637	41,177
Sanitation	15,473	16,402	16,394	16,588	16,552
Capital contributions	1,632	859	1,569	2,168	1,540
Other	414	278	749	842	951
Total Program Revenues	<u>43,679</u>	<u>44,513</u>	<u>49,917</u>	<u>55,235</u>	<u>60,220</u>
Net (Expense)/Revenue	<u>(2,794)</u>	<u>(2,770)</u>	<u>(950)</u>	<u>1,745</u>	<u>2,529</u>
General Revenues and Other Changes in Net Assets					
Taxes and penalties	898	879	884	888	892
Investment earnings	1,297	890	747	610	496
Miscellaneous(includes JPA)	(1,312)	219	(828)	(1,655)	(536)
Total General Revenues	<u>883</u>	<u>1,988</u>	<u>804</u>	<u>(157)</u>	<u>852</u>
Changes in Net Assets (Business-type activities)	<u>\$ (1,911)</u>	<u>\$ (782)</u>	<u>\$ (146)</u>	<u>\$ 1,587</u>	<u>\$ 3,381</u>

Schedule 2
Las Virgenes Municipal Water District
Changes in Net Position (Continued)
Last Ten Fiscal Years (accrual basis of accounting)
(in thousands of dollars)

	Fiscal Year				
	2015	2016	2017	2018	2019
Expenses					
Water	\$ 42,497	\$ 38,940	\$ 38,857	\$ 37,294	\$ 37,835
Sanitation(includes JPA)	15,412	15,115	14,859	15,594	15,994
Total Operating Expenses	57,909	54,055	53,716	52,888	53,829
Program Revenues					
Water	37,547	34,019	39,962	46,250	44,316
Sanitation	16,726	17,050	18,614	18,818	18,923
Capital contributions	990	377	620	2,566	3,900
Other	1,911	1,960	1,219	1,649	1,735
Total Program Revenues	57,174	53,406	60,415	69,283	68,874
Net (Expense)/Revenue	(735)	(649)	6,699	16,395	15,045
General Revenues and Other Changes in Net Assets					
Taxes and penalties	904	926	953	945	984
Investment earnings	477	574	254	452	3,096
Miscellaneous(includes JPA)	(953)	(70)	(495)	(3,898)	(3,447)
Total General Revenues	428	1,430	712	(2,501)	633
Changes in Net Assets (Business-type activities)	\$ (307)	\$ 781	\$ 7,411	\$ 13,894	\$ 15,678

Schedule 3
Las Virgenes Municipal Water District
Revenue Base
Last Ten Fiscal Years

Potable Water					
Fiscal Year	Operating Revenue in thousand \$	Number of Customers			Total
		Residential	Commercial	Irrigation	
2010	\$ 22,050	19,320	776	237	20,333
2011	23,220	19,184	802	254	20,240
2012	26,754	18,799	814	241	19,854
2013	30,472	18,806	818	255	19,879
2014	35,402	18,820	820	253	19,893
2015	34,306	18,853	825	257	19,935
2016	29,417	18,873	825	255	19,953
2017	35,146	18,881	832	257	19,970
2018	40,502	19,053	874	287	20,214
2019	40,713	18,745	836	266	19,847

Sanitation				
Fiscal Year	Operating Revenue in thousand \$	Number of Customers		Total
		Residential	Commercial	
2010	\$ 15,473	16,087	639	16,726
2011	16,402	16,050	690	16,740
2012	16,394	16,093	699	16,792
2013	16,588	16,100	702	16,802
2014	16,552	16,113	704	16,817
2015	16,726	16,133	712	16,845
2016	17,050	16,157	711	16,868
2017	18,614	16,202	715	16,917
2018	18,818	16,328	749	17,077
2019	18,923	16,171	724	16,895

Schedule 4
Las Virgenes Municipal Water District
Revenue Rates
Last Ten Fiscal Years

NOTE: Effective January 1, 2016, the District implemented a new water budget based rate structure. "-" indicates no rate established

Potable Water Rates for Residential and Commercial Customers:

Readiness to Serve Charge

Meter Size	7/1/2009	7/1/2010	7/1/2011	1/1/2013	1/1/2014	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019	Monthly
3/4"	\$ 25.34	\$ 26.35	\$ 27.40	\$ 28.77	\$ 30.21	\$ 31.73	\$ 18.30	\$ 21.73	\$ 25.43	\$ 29.42	
1"	37.31	38.80	40.35	42.37	44.49	46.72	29.47	35.14	41.25	47.87	
1-1/2"	67.22	69.91	72.71	76.35	80.17	84.18	57.39	68.65	80.80	90.95	
2"	103.00	107.00	112.00	117.60	123.48	129.66	90.89	108.86	128.26	149.25	
3"	199.00	207.00	215.00	225.75	237.04	248.90	196.97	236.20	278.55	324.37	
4"	307.00	319.00	332.00	348.60	366.03	384.34	353.30	423.85	500.02	582.48	
6"	606.00	630.00	655.00	675.75	722.14	758.25	894.89	1,073.94	1,267.29	1,476.47	
8"	965.00	1,003.00	1,044.00	1,096.20	1,151.01	1,208.57	1,564.89	1,878.17	2,216.48	2,582.49	
10"	1,384.00	1,439.00	1,497.00	1,571.85	1,650.45	1,732.98	2,346.55	2,816.44	3,323.86	3,872.84	

Volume Charges (per 100 cubic feet of water use)

	2009 - 2010	2011-2012	1/1/2012	1/1/2013	1/1/2014	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
Tier 1	\$1.32 - \$1.53	\$1.58 - \$1.71	\$ 1.78	\$ 1.98	\$ 2.19	\$ 2.31	\$ 2.36	\$ 2.46	\$ 2.59	\$ 2.71
Tier 2	\$1.65 - \$1.86	\$1.93 - \$2.08	2.15	2.37	2.60	2.80	3.18	3.24	3.32	3.41
Tier 3	\$2.46 - \$2.67	\$2.77 - \$2.95	3.02	3.29	3.56	3.81	3.96	4.00	4.06	4.16
Tier 4	\$3.69 - \$3.90	\$4.05 - \$4.28	4.35	4.68	5.02	5.34	4.98	5.02	5.08	5.14
Tier 1 End(Hcf)	16.00	16.00	16.00	16.00	16.00	16.00	varies	varies	varies	varies
Tier 2 End(Hcf)	67.00	67.00	67.00	67.00	67.00	67.00	by water	by water	by water	by water
Tier 3 End(Hcf)	200.00	200.00	200.00	200.00	200.00	200.00	budget	budget	budget	budget

Elevation Surcharges (per 100 cubic feet of water use)

	07/01/2009	07/01/2010	2011-2012	01/01/2013	01/01/2014	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
Zone 1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Zone 2	0.34	0.35	0.36	0.38	0.40	0.42	0.42	0.44	0.46	0.52
Zone 3	0.58	0.60	0.62	0.66	0.70	0.74	0.98	1.03	1.08	1.19
Zone 4	1.01	1.05	1.09	1.15	1.21	1.28	1.56	1.64	1.72	1.82
Zone 5	2.03	2.11	2.19	2.30	2.42	2.55	-	-	-	-

Monthly Recycled Water Charges:

Readiness to Serve Charge

Meter Size	7/1/2009	7/1/2010	7/1/2011	1/1/2013	1/1/2014	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
3/4"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9.15	\$ 13.04	\$ 19.08	\$ 25.01
1"	-	-	-	-	-	-	14.74	21.09	30.94	40.69
1-1/2"	-	-	-	-	-	-	28.70	41.19	60.60	79.86
2"	-	-	-	-	-	-	45.45	65.32	96.20	126.87
3"	-	-	-	-	-	-	98.49	141.72	208.92	275.72
4"	-	-	-	-	-	-	176.65	254.31	375.02	495.07
6"	-	-	-	-	-	-	447.45	644.37	950.47	1,255.00
8"	-	-	-	-	-	-	782.45	1,126.91	1,662.36	2,195.12
10"	-	-	-	-	-	-	1,173.28	1,689.87	2,492.90	3,291.92

Volume Charges (per 100 cubic feet of water use)

	1/1/2010	1/1/2011	1/1/2013	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
Tier 1	\$ 1.00	\$ 1.04	\$ 1.07	\$ 1.09	\$ 1.18	\$ 1.19	\$ 1.19	\$ 1.18
Tier 2	1.31	1.36	1.40	1.42	2.91	2.83	2.67	2.52
Tier 3	2.08	2.16	2.23	2.26	3.73	3.67	3.52	3.37
Tier 4	3.23	3.36	3.46	3.51	-	-	-	-

Elevation Surcharges (per 100 cubic feet of water use)

	1/1/2010	1/1/2011	1/1/2013	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
L. V. Valley	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
East/West	0.22	0.23	0.24	0.24	0.33	0.34	0.35	0.36

Schedule 4
Las Virgenes Municipal Water District
Revenue Rates (Continued)
Last Ten Fiscal Years

Bi-Monthly Sewer Service Charges:

	<u>07/01/2009</u>	<u>2010-2012</u>	<u>7/1/2013</u>	<u>7/1/2014</u>	<u>7/1/2013</u>	<u>7/1/2014</u>
Residential						
Single-family	\$ 102.00	\$ 108.00	\$74.31-\$108.56	\$75.80-\$110.74	\$74.31-\$108.56	\$75.80-\$110.74
Multi-family	64.25	68.03	68.59	69.97	68.59	69.97
Commercial						
ERU-based Charge	\$ 90.79	\$ 90.79	\$ 91.35	\$ 91.35	\$ 91.35	\$ 91.35
Account Service	16.25	17.21	17.21	17.21	17.21	17.21
Base Water Use:						
Class 1 (Hcf)	29.50	29.50	29.50	29.50	29.50	29.50
Per hcf of water	2.91	3.08	3.10	3.10	3.10	3.10
Class 2 (Hcf)	17.30	17.30	17.30	17.30	17.30	17.30
Per hcf of water	4.96	5.25	5.29	5.29	5.29	5.29
Class 3 (Hcf)	11.40	11.40	11.40	11.40	11.40	11.40
Per hcf of water	7.53	7.96	8.02	8.02	8.02	8.02

Monthly Sewer Charge

	<u>1/1/2016</u>	<u>1/1/2017</u>	<u>1/1/2018</u>	<u>1/1/2019</u>
Residential				
Household Size:				
1	\$ 21.37	\$ 21.37	\$ 21.82	\$ 22.27
2	35.75	35.75	36.51	37.27
3	50.13	50.13	51.20	52.27
4	64.51	64.51	65.89	67.27
5	78.90	78.90	80.58	82.27
6 or more	93.28	93.28	95.27	97.27
Commercial				
Account Charge	\$ 6.98	\$ 6.98	\$ 7.12	\$ 7.27
Base Charge, inclusive of 6.6 hcf/ERU				
Class 1	\$ 41.94	\$ 41.94	\$ 42.78	\$ 43.64
Class 2	57.82	57.82	58.98	60.16
Class 3	76.56	76.56	78.10	79.67
Class 4	96.36	96.36	98.29	100.26
Per Excess ERU				
Class 1	\$ 6.35	\$ 6.35	\$ 6.48	\$ 6.61
Class 2	8.75	8.75	8.93	9.11
Class 3	11.58	11.58	11.82	12.06
Class 4	14.58	14.58	14.88	15.18

Schedule 5
Las Virgenes Municipal Water District
Principal Revenue Payers
Current Fiscal Year and Nine Years Ago

Potable Water Customer Name	2019			2010		
	Potable Water Revenue	Rank	Percentage of Total Operating Revenue	Potable Water Revenue	Rank	Percentage of Total Operating Revenue
ERP-Operating Ltd Partnership	\$ 170,747	1	0.30%	\$ 119,673	4	0.28%
Westlake Wellbeing Properties LLC	170,279	2	0.30%	205,460	2	0.49%
Malibu Canyon Apartments	152,407	3	0.27%	84,774	7	0.20%
LVUSD	146,725	4	0.26%			0.00%
Calabasas Crest LTD	131,967	5	0.23%	80,447	8	0.19%
Malibu Conference Center	121,408	6	0.21%	101,383	5	0.24%
Archstone Communities Calabasas	115,320	7	-	-		0.00%
LACO Internal Service Dept.	107,916	8	-	119,942	3	0.29%
California West HOA	107,224	9	-	-		0.00%
Annandale II HOA	98,244	10	0.17%	66,730	10	0.16%
Malibu Golf Club, LLC	-		0.00%	327,252	1	0.78%
The Cheesecake Factory	-		-	98,700	6	0.23%
Oakview Garden Homes	-		-	75,267	9	0.18%
Total	\$ 1,322,237		1.74%	\$ 1,279,628		3.04%

Sanitation Customer Name	2019			2010		
	Sanitation Revenue	Rank	Percentage of Total Operating Revenue	Sanitation Revenue	Rank	Percentage of Total Operating Revenue
Archstone Communities Calabasas	\$ 376,302	1	0.66%	\$ 211,370	2	0.50%
Westlake Wellbeing Properties LLC	375,444	2	0.66%	123,619	5	0.29%
Malibu Canyon Apts	293,309	3	0.51%	244,844	1	0.58%
Archstone Oak Creek I LLC	210,583	4	0.37%	-		0.00%
Annandale II HOA	182,521	5	0.32%	106,925	7	0.25%
LVUSD	178,259	6	0.31%	168,102	3	0.40%
The Cheesecake Factory	164,899	7	0.29%	142,492	4	0.34%
Westpark Condominiums	145,022	8	-	-		0.00%
Pepperdine University	130,122	9	0.23%	-		0.00%
Summit Mobile Park	126,026	10	0.22%	-		0.00%
Archstone-Smith	-		-	117,844	6	0.28%
ERP-Operating Ltd Partnership	-		-	104,832	8	0.25%
Oak Park Calabasas HOA	-		-	101,078	9	0.24%
Town & Country HOA	-		0.00%	98,739	10	0.23%
Total	\$ 2,182,487		3.57%	\$ 1,419,845		3.36%

Schedule 6
Las Virgenes Municipal Water District
Property Tax Levies, Special Assessment and Collections
Last Ten Fiscal Years
(in thousands of dollars)

Property Tax Levies and Collections:

Fiscal Year	Total Tax Levy for Fiscal Year	Collected within the Fiscal Year of the Levy		Collections in Subsequent Years	Total Collections to Date	
		Amount	Percentage of Levy		Amount	Percentage of Levy
2010	\$ 361	\$ 333	92.24%	\$ 28	\$ 361	100.00%
2011	352	328	93.18%	24	352	100.00%
2012	354	324	91.53%	30	354	100.00%
2013	358	345	96.37%	13	358	100.00%
2014	369	360	97.56%	9	369	100.00%
2015	379	377	99.47%	2	379	100.00%
2016	405	396	97.78%	9	405	100.00%
2017	427	409	95.78%	18	427	100.00%
2018	451	429	95.12%	15	444	98.45%
2019	467	452	96.79%	-	452	96.79%

Note:

1. Total tax collection does not include standby charge direct assessments.

Special Assessment and Collections:

Fiscal Year	Standby Charge (Direct Assessment)	Collected within the Fiscal Year of the Levy		Collections in Subsequent Years	Total Collections to Date	
		Amount	Percentage of Levy		Amount	Percentage of Levy
2010	\$ 520	\$ 439	84.42%	\$ 81	\$ 520	100.00%
2011	519	441	84.97%	78	519	100.00%
2012	514	443	86.19%	71	514	100.00%
2013	510	467	91.57%	43	510	100.00%
2014	509	463	90.96%	46	509	100.00%
2015	495	455	91.92%	40	495	100.00%
2016	497	457	91.95%	40	497	100.00%
2017	496	457	92.14%	39	496	100.00%
2018	488	438	89.75%	3	441	90.37%
2019	487	433	88.91%	-	433	88.91%

Note: Standby charge is imposed at \$10 per acre or parcel.

Schedule 7
Las Virgenes Municipal Water District
Ratios of Outstanding Debt by Type
Last Ten Fiscal Years (dollars in thousands, except per capita)

Fiscal Year	Business-Type Activities		Total	Percentage of Personal Income	Per Capita
	Refunding Revenue Bonds	Capital Lease Payable			
2010	\$ 29,261	68	\$ 29,329	0.84%	1,753
2011	27,622	76	27,698	0.79%	1,655
2012	25,944	69	26,013	0.75%	1,549
2013	24,230	71	24,301	0.70%	1,446
2014	22,585	61	22,646	0.65%	1,347
2015	20,745	36	20,781	0.60%	1,234
2016	18,820	105	18,925	0.54%	1,122
2017	16,795	84	16,879	0.48%	998
2018	14,670	63	14,733	0.42%	863
2019	12,460	40	12,500	0.36%	740

Note:

1. Per Capita is based on number of customers for the District.
2. Personal Income is based on 2010 census information with population of 53,514.

Schedule 8
Las Virgenes Municipal Water District
Ratios of General Bonded Debt Outstanding
Last Ten Fiscal Years (dollars in thousands, except per capita)

<u>Fiscal Year</u>	<u>Business-Type Activities Refunding Revenue Bonds</u>	<u>Total</u>	<u>Percentage of Gross Revenue for Bond Coverage</u>	<u>Per Capita</u>
2010	\$ 29,261	\$ 29,261	176.47%	1,749
2011	27,622	27,622	159.03%	1,650
2012	25,944	25,944	145.39%	1,545
2013	24,230	24,230	132.82%	1,442
2014	22,585	22,585	124.44%	1,343
2015	20,745	20,745	119.95%	1,232
2016	18,820	18,820	108.17%	1,116
2017	16,795	16,795	90.23%	993
2018	14,670	14,670	77.96%	859
2019	12,460	12,460	65.85%	737

Note:

1. Gross revenue includes operating, non-operating and capacity fee revenues
2. Per Capita is based on number of customers for the District.

Schedule 9
Las Virgenes Municipal Water District
Direct and Overlapping District Debt
June 30, 2019

2018-19 Assessed Valuation: \$ 24,211,488,636

	Total Debt June 30, 2019	Percent Applicable (1)	District's Share of Debt June 30, 2019
DIR:			
Metropolitan Water District	\$ 48,050,000	0.830%	\$ 398,815
Los Angeles Community College District	3,930,390,000	2.715%	106,710,089
Santa Monica Community College District	619,229,246	1.980%	12,260,739
Las Virgenes Joint Unified School District	127,817,728	95.152%	121,621,125
Los Angeles Unified School District	10,106,450,000	0.126%	12,734,127
Santa Monica-Malibu Unified School District	459,369,497	1.976%	9,077,141
City of Los Angeles	877,260,000	0.024%	210,542
Las Virgenes Municipal Water District	\$	100.000%	- (2)
City of Calabasas Community Facilities District No. 1998-1	\$ 3,031,055	100.000%	3,031,055
City of Calabasas Community Facilities District No. 2001-1	16,642,930	100.000%	16,642,930
Los Angeles County Regional Park and Open Space Assessment District	13,620,000	1.595%	217,239
TOTAL DIRECT AND OVERLAPPING TAX AND ASSESSMENT DEBT			\$ 282,903,803
Less :Los Angeles Unified School District General Obligation Bonds, Election of 2005 Series J -2010 Qualified School Construction Bonds: Amount accumulated in Interest and Sinking Fund and Set Aside for Repayment			34,436
TOTAL NET DIRECT AND OVERLAPPING TAX AND ASSESSMENT DEBT			\$ 282,869,367

- (1) The percentage of overlapping debt applicable to the District is estimated using taxable assessed property value. Applicable percentages were estimated by determining the portion of the overlapping District's assessed value that is within the boundaries of the District divided by the overlapping District's total taxable assessed value.
- (2) Excludes revenue issues.
- (3) Excludes tax and revenue anticipation notes, enterprise revenue, mortgage revenue and tax allocation bonds and non-bonded capital lease obligations.

Schedule 9
Las Virgenes Municipal Water District
Direct and Overlapping District Debt (Continued)
June 30, 2019

	Total Debt June 30, 2019	Percent Applicable (1)	District's Share of Debt June 30, 2019
OVERLAPPING GENERAL FUND DEBT:			
Los Angeles County General Fund Obligations	\$ 2,153,701,630	1.595%	\$ 34,351,541
Los Angeles County Superintendent of Schools Certificates of Participation	5,827,868	1.595%	92,954
Santa Monica Community College District Certificates of Participation	14,475,050	1.980%	286,606
Las Virgenes Joint Unified School District Certificates of Participation	10,405,193	95.152%	9,900,749
Los Angeles Unified School District Certificates of Participation	180,545,000	0.126%	227,487
Santa Monica-Malibu Unified School District Certificates of Participation	5,452,318	1.976%	107,738
City of Agoura Hills General Fund Obligations	12,730,000	100.000%	12,730,000
City of Calabasas Certificates of Participation	39,860,000	99.187%	39,535,938
City of Los Angeles General Fund and Judgment Obligations	1,578,383,141	0.024%	378,812
City of Westlake Village Certificates of Participation	15,485,000	100.000%	15,485,000
TOTAL GROSS OVERLAPPING GENERAL FUND DEBT			113,096,825
Less: Los Angeles Unified School District self-supporting QZABs supported by investment fund			\$9,324
TOTAL NET OVERLAPPING GENERAL FUND DEBT			<u>\$ 113,087,501</u>
<u>OVERLAPPING TAX INCREMENT DEBT (Successor Agency):</u>	6,135,000	100.000%	\$ 6,135,000
TOTAL DIRECT DEBT			\$ -
TOTAL GROSS OVERLAPPING DEBT			\$ 402,135,628
TOTAL NET OVERLAPPING DEBT			\$ 402,091,868
GROSS COMBINED TOTAL DEBT			\$ 402,135,628 (3)
NET COMBINED TOTAL DEBT			\$ 402,091,868

- (1) The percentage of overlapping debt applicable to the District is estimated using taxable assessed property value. Applicable percentages were estimated by determining the portion of the overlapping District's assessed value that is within the boundaries of the District divided by the overlapping District's total taxable assessed value.
- (2) Excludes revenue issues.
- (3) Excludes tax and revenue anticipation notes, enterprise revenue, mortgage revenue and tax allocation bonds and non-bonded capital lease obligations.

Ratios to 2017-18 Assessed Valuation:

Direct Debt	0.00%
Total Direct and Overlapping Tax and Assessment Debt	1.17%
Gross Combined Total Debt	1.66%
Net Combined Total Debt	1.66%

Ratios to Redevelopment Successor Agency Incremental Valuation (\$709,566,625)

Total Overlapping Tax Increment Debt	0.84%
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Schedule 10
Las Virgenes Municipal Water District
Pledged-Revenue Coverage
Last Ten Fiscal Years
(dollars in thousands except coverage)

Fiscal Year	Refunding Revenue Bonds					
	Gross Revenues	Less: Operating Expenses	Net Available Revenue	Debt Service		Coverage
				Principal	Interest	
2010	16,581	10,984	5,597	2,025	731	2.03
2011	17,369	10,902	6,467	1,650	1,103	2.35
2012	17,845	10,077	7,768	1,690	1,065	2.82
2013	18,243	10,209	8,034	1,725	1,031	2.92
2014	18,149	10,692	7,457	1,765	987	2.71
2015	17,429	10,653	6,776	1,840	903	2.47
2016	17,398	10,260	7,138	1,925	814	2.61
2017	18,613	10,584	8,029	2,025	731	2.91
2018	18,818	11,449	7,369	2,125	610	2.69
2019	18,923	11,803	7,120	2,210	531	2.60

Note:

1. Gross revenues include operating, non-operating, and capacity fee revenues.
2. Operating expenses exclude depreciation and amortization.

Schedule 11
Las Virgenes Municipal Water District
Demographic and Economic Statistics
Current Year, Year 2010, Year 2000 and Year 1990

<u>Year</u>	<u>Population</u>	<u>Total Personal Income (thousand of dollars)</u>	<u>Per Capita Personal Income</u>	<u>Unemployment Rate</u>	<u>Population 25 and Over</u>	<u>High School Graduate</u>	<u>Bachelor's Degree or Higher</u>
1990	29,574	\$973,106	\$32,904	n/a	18,803	17,647	8,498
2000	50,813	\$2,372,138	\$46,684	5.20%	33,634	32,199	17,847
2010	53,514	\$3,488,456	\$64,795	11.50%	36,440	38,102	22,634
2019	55,344	n/a	n/a	4.30%	n/a	n/a	n/a

Note:

1. Population includes City of Calabasas, City of Hidden Hills, City of Agoura Hills, City of Westlake Village
 However, 1990 population does not include City of Calabasas, which was incorporated in 1991.
2. Total Personal Income and Per Capita Personal Income information are based on 2010, 2000 and 1990 Census information.
3. Unemployment rate is for the area of Los Angeles-Long Beach-Anaheim, CA Metropolitan area, Source: U.S. Department of Labor
4. Population 25 and over, High School Graduate, and Bachelor's degree or higher are based on 2010, 2000 and 1990 census information.

Schedule 12
Las Virgenes Municipal Water District
Principal Employers
Current Fiscal Year and Nine Years Ago

Employer by Industry	2019			2010		
	Number of Employees	Rank	Percentage of Total Area Employment	Number of Employees	Rank	Percentage of Total Area Employment
Professional, Scientific, and Technical Services	4,942	1	13.22%	4,507	1	14.17%
Finance and Insurance	4,453	2	11.91%	3,526	3	11.08%
Accommodation and Food Services	4,306	3	11.52%	3,768	2	11.84%
Administrative, Support, Waste Management & Remediation Service	2,863	4	7.66%	2,878	4	9.05%
Retail Trade	2,734	5	7.31%	2,680	5	8.42%
Educational Services	2,220	6	5.94%	1,565	10	4.92%
Health Care and Social Assistance	2,012	7	5.38%	-		0.00%
Construction	1,981	8	5.30%	-		0.00%
Manufacturing	1,947	9	5.21%	2,122	6	6.67%
Government	1,891	10	5.06%	1,737	9	5.46%
Information	-		0.00%	1,839	7	5.78%
Wholesale Trade	-		0.00%	1,802	8	5.66%
Total	29,349		78.52%	26,424		83.05%

Source: California State Employment Development Department Labor Market Information Division
Quarterly Census of Employment and Wages - 1st Quarter 2019-Revised Data

Schedule 13
Las Virgenes Municipal Water District
Full-Time Equivalent District Employees by Function
Last Ten Fiscal Years

Function	Fiscal Year									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
General Manager Office	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Facilities and Operations:										
Administration	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Facilities Maintenance	17.5	17.2	17.2	16.2	16.2	16.2	16.2	16.2	16.7	16.7
Water Treatment and Production	13.5	12.8	11.8	11.8	11.8	11.8	11.8	11.8	11.3	11.3
Reclamation	25.0	25.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Construction	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	6.0	6.0
Technical Service	9.0	9.0	9.0	8.0	8.0	8.0	8.0	8.0	9.0	9.0
<i>Subtotal</i>	<i>76.0</i>	<i>75.0</i>	<i>71.0</i>	<i>69.0</i>						
Finance and Administration:										
Administration	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Finance and Accounting	10.0	10.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Human Resources	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Information System	5.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
<i>Subtotal</i>	<i>19.0</i>									
Resource Conservation and Public Outreach:										
Administration	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Customer Service	18.0	18.0	19.0	19.0	19.0	19.0	20.0	20.0	19.0	19.0
Water Conservation	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Public Information	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Planning/New Customer	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Subtotal</i>	<i>31.0</i>	<i>31.0</i>	<i>27.0</i>	<i>27.0</i>	<i>27.0</i>	<i>27.0</i>	<i>28.0</i>	<i>28.0</i>	<i>27.0</i>	<i>27.0</i>
Total	128.0	127.0	119.0	117.0	117.0	117.0	118.0	118.0	117.0	117.0

Schedule 14
Las Virgenes Municipal Water District
Operating Indicators by Function
Last Ten Fiscal Years

Function	2010	2011	2012	2013	2014
Water:					
New Connections	25	15	14	51	18
Water Main Leak Repairs	55	28	56	39	47
Average Daily Consumption (thousands of gallons)	17,029	16,954	18,577	19,879	21,310
Potable Water:					
Connections	20,333	20,240	19,854	19,879	19,893
Deliveries (acre-feet)	19,072	18,988	20,806	22,264	23,867
Realized Capacity Fee/Connection Fee Deposits	\$ 823,836	\$ 283,662	\$ 282,454	\$ 513,062	\$ 359,934
Wastewater/Sanitation:					
Connections	16,726	16,740	16,792	16,802	16,817
Average Daily Sewage Flow/Dry Weather Flow (thousands of gallons):					
Tapia Plant	8,001	8,053	7,610	7,579	7,281
LVMWD	5,322	5,400	4,983	5,031	4,880
Triunfo Sanitation District	2,679	2,653	2,627	2,548	2,401
Realized Capacity Fee/Connection Fee Deposits	\$ 537,800	\$ 448,350	\$ 918,600	\$ 1,085,000	\$ 1,124,550

Function	2015	2016	2017	2018	2019
Water:					
New Connections	15	15	11	32	19
Water Main Leak Repairs	83	67	48	49	51
Average Daily Consumption (thousands of gallons)	18,132	15,316	16,202	17,227	16,566
Potable Water:					
Connections	19,935	19,953	19,970	20,214	19,847
Deliveries (acre-feet)	20,307	17,153	18,146	19,294	18,553
Realized Capacity Fee/Connection Fee Deposits	\$ 342,868	\$ 143,068	\$ 138,833	\$ 386,226	\$ 641,334
Wastewater/Sanitation:					
Connections	16,845	16,868	16,917	17,077	16,895
Average Daily Sewage Flow/Dry Weather Flow (thousands of gallons):					
Tapia Plant	6,397	6,109	6,029	6,246	6,118
LVMWD	3,956	3,667	3,688	3,941	3,815
Triunfo Sanitation District	2,441	2,442	2,341	2,305	2,303
Realized Capacity Fee/Connection Fee Deposits	\$ 462,000	\$ 224,000	\$ 458,590	\$ 790,921	\$ 553,000

Source: LVMWD Operations and Accounting

Schedule 15
Las Virgenes Municipal Water District
Capital Assets Statistics by Function
Last Ten Fiscal Years

Function	2010	2011	2012	2013	2014
Potable Water					
Water Main (miles)	382.4	383.6	384.5	387.1	389.1
Fire Hydrants (#)	3,134	3,138	3,147	3,154	3,167
Valves (#)	4,395	4,419	4,434	4,452	4,477
Storage Capacity (millions of gallons)					
Reservoirs	3,100	3,100	3,100	3,100	3,100
Tanks	33.3	33.3	33.3	33.3	33.3
Recycled Water					
Water Main (miles)	63.8	65.5	65.9	65.9	66.2
Valves (#)	338	344	341	342	342
Storage Capacity (millions of gallons)					
Reservoirs	19.3	19.3	19.3	19.3	19.3
Tanks	5.6	5.6	5.6	5.6	5.6
Wastewater					
Sanitary Sewers (miles)	57.1	56.2	56.2	56.1	56.9
Treatment Capacity (millions of gallons)	16	16	16	16	16
Function	2015	2016	2017	2018	2019
Potable Water					
Water Main (miles)	389.3	388.8	389.2	390.3	391.5
Fire Hydrants (#)	3,172	3,171	3,175	3,181	3,192
Valves (#)	4,485	4,472	4,447	4,461	4,489
Storage Capacity (millions of gallons)					
Reservoirs	3,100	3,100	3,100	3,100	3,100
Tanks	33.3	38.8	38.8	38.8	38.8
Recycled Water					
Water Main (miles)	66.2	67.1	68.1	68.1	68.1
Valves (#)	342	359	365	366	367
Storage Capacity (millions of gallons)					
Reservoirs	19.3	19.3	19.3	19.3	19.3
Tanks	5.6	5.6	5.6	5.6	5.6
Wastewater					
Sanitary Sewers (miles)	56.9	56.9	56.9	56.8	57.4
Treatment Capacity (millions of gallons)	16	16	16	16	16

Schedule 16
Las Virgenes Municipal Water District
Annual Water and Sewer Capacity Fee Deposits Report
Per Government Code Section 66013 (d) and (e)
Fiscal Year Ended June 30, 2019

Beginning Balance:			
Capacity Fees		\$ 8,285,466	
Developer Fees		837,729	
Interest		<u>1,584,901</u>	
Total Beginning Balance			\$ 10,708,096
Fees Collected:			
Capacity Fees	\$ 1,522,013		
Developer Fees	<u>88,685</u>		
Total Fees Collected		\$ 1,610,698	
Reimbursed to Developer/Rec. as Exp.		-	
Interest Earned		<u>252,363</u>	
Fees Available		\$ 1,863,061	
Applied to:			
Capital Costs Funded by:			
Capacity Fees	\$ 2,318,564		
Meter Installation	46,788		
Developer Fees	116,204		
Interest Earned	<u>107,855</u>		
Total Capital Costs		\$ 2,589,411	
Refunds		<u>57,635</u>	
Total Funds Applied		\$ 2,647,046	
Net Changes for the Year			(783,985)
Ending Balance:			
Capacity Fees		\$ 7,403,458	
Developer Fees		791,244	
Interest (1)		<u>1,729,409</u>	
Total Ending Balance			<u><u>\$ 9,924,111</u></u>

(1): Interest earned is not reflected as a liability on the Statement of Net Position.

California Government Code (CGC) Section 66013(c) requires the District to place capital facilities connection fees received and any interest income earned from the investment of these monies in a separate capital facilities fund. These monies are to be used solely for the purposes for which they were collected and not commingled with other District funds.

CGC Section 66013(d) requires the District to make certain information available to the public within 180 days after the close of each fiscal year. CGC Section 66013(e) allows the required information to be included in the District's annual financial report. The Annual Connection Fee Report shown above meets this requirement.

Capacity fees are imposed for initiating water and sewer connection service by the District at the request of the customer. No fees are imposed upon real property or upon persons as an incident of property ownership, but rather as a condition of service.

Developer fees are imposed for other services such as plan check, right-of-way, inspection and coring fees.

The District has a plan in the next five years to utilize these capacity fee deposits for Capital Improvement Projects in the amount of \$3,821,968 for Potable Water Projects, \$470,328 for Recycled Water Projects, and \$669,028 for Sanitation Projects.





December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Engineering and External Affairs

Subject : 2019 Local Hazard Mitigation Plan: Adoption

SUMMARY:

In response to damages caused by the Woolsey Fire, the District has prepared a Local Hazard Mitigation Plan, which is a Federal Emergency Management Agency (FEMA) requirement to apply for federal hazard mitigation funding. The purpose of the plan is to reduce or remove long-term risk and protect people and property within the District's service area from the effects of events such as fire, flood, earthquake or other disasters. The plan must be adopted by resolution by the Board to enable the District to be eligible for FEMA's Hazard Mitigation Grant programs.

RECOMMENDATION(S):

Pass, approve and adopt proposed Resolution No. 2566, adopting the 2019 Hazard Mitigation Plan.

RESOLUTION NO. 2566

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE LAS VIRGENES MUNICIPAL WATER DISTRICT ADOPTING THE 2019 HAZARD MITIGATION PLAN

(Reference is hereby made to Resolution No. 2566 on file in the District's Resolution Book and by this reference the same is incorporated herein.)

FISCAL IMPACT:

No

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

There is no financial impact associated with the adoption of a Hazard Mitigation Plan.

DISCUSSION:

The Federal Disaster Mitigation Act of 2000 requires that local governments develop and submit local hazard mitigation plans to the Federal Emergency Management Agency (FEMA) as a condition of receiving FEMA Hazard Mitigation Grant program funds after 2004.

In response to damages throughout the District caused by the Woolsey Fire, staff hired MLC & Associates, Inc., to develop a Local Hazard Mitigation Plan (HMP) for the District. An adopted HMP allows the District to be eligible for FEMA funding and grants available to public agencies for disaster relief. Furthermore, the development of this HMP assists the District in reducing risk from hazards by identifying resources, information and strategies for risk reduction. The 2019 HMP is the first Hazard Mitigation Plan drafted for the District and will require updating every five years.

The attached HMP is a detailed report providing the service area background, the District's vulnerabilities and a thorough risk assessment. It has been developed using the Local Hazard Mitigation Plan Review Tool, which meets the regulatory standards outlined in 44 CFR 201.6. As required, the HMP has been advertised and posted to the District's website for public review and comment. In addition, FEMA reviewed the 2019 HMP and tentatively approved the document, pending adoption by the Board.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Development of a Hazard Mitigation Plan is a requirement to secure federal grants for disaster recovery and mitigation.

Prepared by: Veronica Hurtado, Assistant Engineer

ATTACHMENTS:

2019 Hazard Mitigation Plan
Proposed Resolution No. 2566



LAS VIRGENES
MUNICIPAL WATER DISTRICT

Las Virgenes Municipal Water District Hazard Mitigation Plan

July 3, 2019

Version 1.0
7/03/2019

Las Virgenes Municipal Water District HMP.docx



MLC & Associates, Inc.

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SECTION 1: INTRODUCTION

ACKNOWLEDGEMENTS

This Hazard Mitigation Plan (HMP) was a coordinated effort that involved multiple individuals within the Las Virgenes Municipal Water District (LVMWD). Participants in the process included the Planning Group and LVMWD Steering Committee that provided overall guidance and oversight. The Board of Directors was responsible for final approval of the HMP.

Planning Group Members

Angela Saccareccia	Finance
Douglas Anders	Facilities & Operations
Eric Schlageter	Technical Services / HMP Project Manager
James Korkosz	Facilities & Operations
Mercedes Acevedo	Facilities & Operations

Steering Committee Members

David W. Pedersen	General Manager
John Zhao	Facilities & Operations, Interim Director
Don Patterson	Finance & Administration, Director
Joe McDermott	Resource Conservation and Public Outreach, Director

Board of Directors

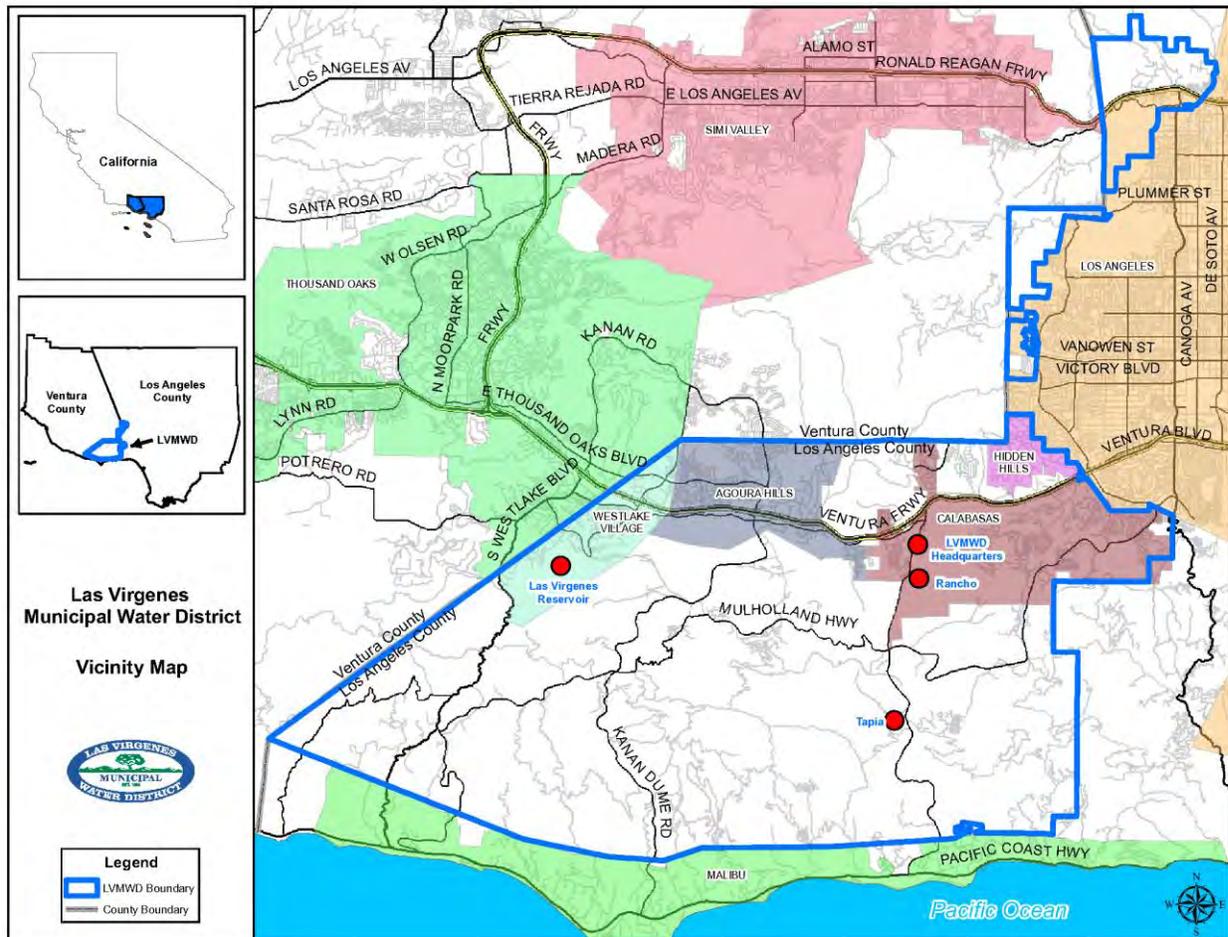
Charles Caspary	Division 1 Director, Secretary
Lynda Lo-Hill	Division 2 Director, Treasurer
Lee Renger	Division 3 Director
Leonard E. Polan	Division 4 Director, Vice President
Jay Lewitt	Division 5 Director, President
Glen Peterson	MWD Representative

EXECUTIVE SUMMARY

Las Virgenes Municipal Water District provides potable water, wastewater treatment, recycled water and biosolids composting to more than 75,000 residents in the cities of Agoura Hills, Calabasas, Hidden Hills, Westlake Village, and unincorporated areas of western Los Angeles County.

City	Population (2017 U.S. Census Estimate)
Agoura Hills	20,692
Calabasas	24,202
Hidden Hills	1,921
Westlake Village	8,440
Total	55,255

SOURCE: U.S. Census Bureau



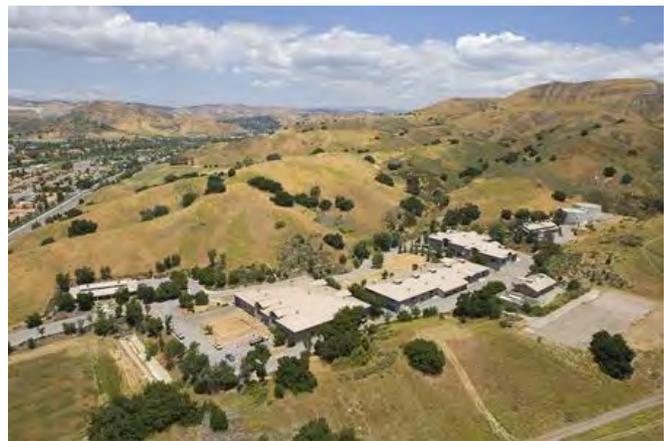
Map 1: LVMWD Service Area Map

Joint Powers Authority

In 1964, the Las Virgenes – Triunfo Joint Powers Authority (JPA) was established between Las Virgenes and Triunfo Sanitation Districts to treat wastewater within the Malibu Creek watershed. The JPA owns and operates the Tapia Water Reclamation Facility (Tapia). Tapia began operating at 0.5 million gallons per day in 1965. In 1972, the district began the practice of applying recycled water from Tapia to local landscapes.



In light of burgeoning local population in the late 1980s and early 1990s, Tapia's capacity was again expanded to its ultimate build-out of 16 million gallons per day. In 1994, the JPA began operations at the Rancho Las Virgenes Composting Facility which transforms biosolids extracted from wastewater into market-ready soil amendment.



Calleguas-Las Virgenes Public Financing Authority

In 1993, the Calleguas-Las Virgenes Public Financing Authority (PFA) was formed under the Marks-Roos Local Bond Pooling Act of 1985 (Act) to provide Calleguas Municipal Water District and Las Virgenes Municipal Water District with greater flexibility to finance essential water and wastewater infrastructure. The Act allows local agencies to form a joint powers authority that may be used, among other purposes, to consolidate the financing of several capital projects to achieve lower overall borrowing costs. The PFA may issue bonds and loan the proceeds to one or both of its member agencies who are responsible for the debt service.

The PFA Board meets at least once annually alternating between Calleguas Municipal Water District, 2100 Olsen Road, Thousand Oaks, and Las Virgenes Municipal Water District, 4232 Las Virgenes Road, Calabasas. The PFA Board is comprised of 10 members: five Board Members from Calleguas Municipal Water District and five Board Members from Las Virgenes Municipal Water District.

LVMWD Ability to Support Mitigation

The LVMWD has incorporated the following capabilities into its ability to support hazard mitigation.

Type of Resource	Resource Group	Ability to Support Mitigation
<p>Planning and Policy</p>	<p>General Manager</p>	<p>The LVMWD General Manager acts as the District's chief executive officer. The General Manager implements policies adopted by the elected Board of Directors and oversees the business of the District. The General Manager provides leadership in the administration of District programs including hazard mitigation planning; ensures that District services meet the needs of customers; coordinates the effective use of facilities, finances and personnel to achieve District goals and objectives in the Strategic Plan; and keeps the Board fully informed. The three departments that report directly to the General Manager are:</p> <ul style="list-style-type: none"> • Facilities and Operation • Finance and Administration • Resource Conservation and Public Outreach
<p>Administrative and Technical</p>	<p>Finance & Administration</p>	<p>The Finance and Administration Department is responsible for the management of the District's finances, investments, budgets, human resources and information technology systems. The department is also in charge of warehousing, purchasing, risk management and other administrative programs. All of these functions support hazard mitigation planning and implementation including financial controls, budgeting, personnel, technology, and procurement. The following groups are under Finance and Administration:</p> <ul style="list-style-type: none"> • Finance • Human Resources • Information Systems • Purchasing

Type of Resource	Resource Group	Ability to Support Mitigation
<p>Operations and Infrastructure</p> <p>Implementation of Capital Improvement Programs</p> <p>Sustaining Ongoing Operations</p>	<p>Facilities & Operations</p>	<p>The Facilities and Operations Department is responsible for the day-to-day operation, maintenance, regulatory compliance and replacement needs of the District's potable water, recycled water and sanitation facilities. The department is also responsible for the planning, engineering and construction of new facilities to serve current and future customers. As such, Facilities and Operations is the main group responsible for the planning and implementation of hazard mitigation programs for the District. The groups within Facilities and Operations are:</p> <ul style="list-style-type: none"> • Potable Water • Recycled Water • Sanitation • Tapia Water Reclamation Facility • Rancho Las Virgenes Composting Facility • Technical Services (Planning/Engineering) • Pure Water Project - Las Virgenes - Triunfo
<p>Public Information</p> <p>Training</p> <p>Public Outreach</p> <p>Environmental Affairs</p>	<p>Resource Conservation and Public Outreach</p>	<p>The Resource Conservation and Public Outreach Department is responsible for providing customer service, community outreach, legislative monitoring and public information functions. The Department implements the District's website, education, conservation and watershed stewardship programs. As such, hazard mitigation public outreach is managed and coordinated by this group.</p>
<p>Plans</p>		
<p>Plan Resource</p>	<p>Strategic Plan</p>	<p>General Plan outlines long-term direction for development and policy in the unincorporated areas of the county. There are opportunities to coordinate local hazard mitigation actions with policies for the unincorporated area as governed</p>
<p>Plan Resource</p>	<p>Hazard Mitigation Plan</p>	<p>The District's Hazard Mitigation Plan identifies the risks caused by natural hazards as well as other events that threaten the LVMWD the communities that the District serves. The Hazard Mitigation Plan also formalizes the District's hazard mitigation approach, provides a forum for public input, and describes the strategies and projects being implemented to reduce risk and better coordinate action with local communities – which will help foster a consistent and unified approach to hazard mitigation.</p>

Hazard Mitigation Plan Purpose

The Robert T. Stafford Disaster Relief and Emergency Assistance Act provides the basis for federal assistance to state and local governments impacted by a disaster and outlines the requirements for mitigation planning. Hazard Mitigation is considered the first step in preparing for emergencies (rather than placing a reliance on recovery after an event).

The Federal Emergency Management Agency (FEMA) requires state and local governments to establish then update their hazard mitigation plans every 5 years. The HMP allows the Las Virgenes Municipal Water District (LVMWD) to be eligible for FEMA mitigation programs including the Hazard Mitigation Grant Program and Flood Mitigation Assistance Program.

The Disaster Mitigation Act of 2000 (DMA 2000), Section 322 (a-d) requires that local governments maintain mitigation plans that describe the process for identifying hazards, risks and vulnerabilities, identifies and prioritizes mitigation actions, encourages the development of local mitigation, and provides technical support for those efforts as a condition of receiving federal disaster mitigation funds. This Hazard Mitigation Plan serves to meet these requirements.

Furthermore, this plan assists the LVMWD in reducing risk from hazards by identifying resources, information, and strategies for risk reduction, while helping to guide and coordinate mitigation activities. Mitigation strategies for reducing the potential losses identified in the risk assessment are outlined in this HMP and are based on existing authorities, policies, programs, resources, and the ability to expand on and improve these existing tools. In summary, the information and mitigation strategies within the Hazard Mitigation Plan:

- Establishes a basis for coordination and collaboration between the LVMWD, its departments, and the public
- Identifies and prioritizes future mitigation projects
- Assists in meeting the requirements of federal assistance programs

REQUIREMENTS FOR MITIGATION PLANS

Federal and State Requirements

The following Federal requirements must be met for approval of a Hazard Mitigation Plan:

- The public must be afforded opportunities for involvement in: identifying and assessing risk, drafting a plan, and public involvement in approval stages of the plan
- Community cooperation, with opportunity for other local government agencies, the business community, educational institutions, and non-profits to participate in the process
- Incorporation existing programs and other pertinent documents

The following components must be part of the planning process:

- Complete documentation of the planning process
- A detailed risk assessment on hazard exposures in the community
- A comprehensive mitigation strategy, which describes the goals and objectives, including proposed strategies, programs & actions to avoid long-term vulnerabilities
- A plan maintenance process, which describes the method and schedule of monitoring, evaluating and updating the plan and integration of the Hazard Mitigation Plan into other planning mechanisms
- Formal adoption by the Board of Directors
- Plan Review by Cal-OES and FEMA

Plan Mission

The Mission of the Las Virgenes Municipal Water District Hazard Mitigation Plan is to promote sound public policy and programs designed to protect the public, critical facilities, infrastructure, private and public property, and the environment from natural and human generated hazards. This will be achieved by developing, implementing, and maintaining this plan to guide the LVMWD towards creating and maintaining a safer more sustainable community.

Plan Goals

The Plan Goals describe the overall direction that the LVMWD can take to minimize the impacts of hazards. The Plan Goals help to guide the direction of future activities aimed at reducing risk and preventing losses. The Plan Goals are the foundation for the broad direction of the Mission Statement and the specific recommendations that are outlined in the strategies. These goals are divided into 4 major categories:

To Protect Life, Property, Environment

- Implement activities that assist in protecting lives by improving infrastructure, critical facilities, and other property to be more resistant to hazards.
- Reduce losses and repetitive damages for chronic hazard events.
- Encourage preventative measures in areas vulnerable to hazards.

Public Awareness

- Develop and implement education and outreach programs to increase public awareness of the risks associated with hazards.
- Provide information on tools and other opportunities to assist in implementing mitigation activities.

Partnerships and Implementation

- Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.

Emergency Management

- Establish policies to ensure mitigation projects for critical facilities, services, and infrastructure.
- Enforce and update current practices to support mitigation.
- Strengthen emergency operations by increasing collaboration and coordination among departments, public agencies, non-profit organizations, business, and industry.
- Coordinate and integrate hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

Whom Does the Mitigation Plan Affect?

This Hazard Mitigation Plan affects the entire LVMWD Service Area Region and provides a framework for pre-emptive planning for hazards. The resources and background information in the plan are applicable area-wide, and the goals and recommendations lay the groundwork for mitigation plans and partnerships with neighboring communities.

How is the Plan Used?

Each section of the Hazard Mitigation Plan provides information and resources to assist in understanding the region and the hazard-related issues facing citizens, businesses, and the environment. The sections of the HMP combine to create a document that guides the mission to reduce risk and prevent loss from future hazard events.

Plan Development and Update Process

The HMP is monitored on an ongoing basis and formal updates are scheduled every five (5) years. The development, monitoring, and update process is the responsibility of the Planning Group. The HMP Steering Committee is responsible for providing guidance to the process and approval of the HMP and mitigation strategies.

The workflow below depicts the basic process for future HMP updates.

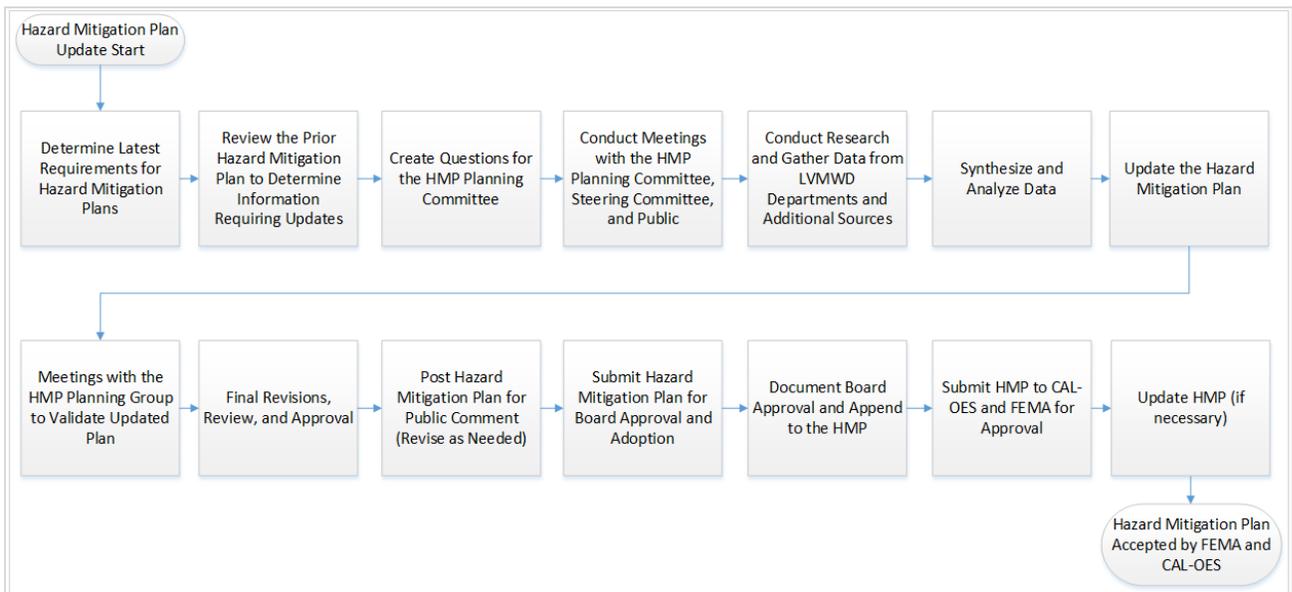


Figure 1: HMP Update Process Workflow

Plan Participants

The development of the Las Virgenes Municipal Water District Hazard Mitigation Plan has been a collaborative effort. The planning process was facilitated by a variety of departments along with a consulting agency, MLC & Associates, Inc. The LVMWD Steering Committee and Planning Group provided guidance in developing and updating the plan. Further, the LVMWD coordinates its disaster planning and mitigation efforts with the cities within its Service Area (Agoura Hills, Calabasas, Hidden Hills, and Westlake Village) and Los Angeles County.

The public was invited to participate in the development and update of the plan. In addition, ongoing disaster preparedness and mitigation information is routinely provided through public notices, the LVMWD website, LVMWD publications, and via public Board meeting.

The LVMWD HMP Steering Committee provided needed direction, guidance, and approval. The Planning Group provided key information, supporting documentation, and the prioritization of hazards within the LVMWD Service Area. The hazards were rated according to probability, magnitude/severity, warning time and duration.

Internal Input

The Steering Committee was composed of the Las Virgenes Municipal Water District General Manager and Directors and was established in order to provide guidance to facilitate the planning process, provide feedback, and approval.

The Hazard Mitigation Steering Committee along with Planning Group, and LVMWD staff were involved in developing the plan. This process involved meetings, discussion and individual reviews and input. The planning process included:

- Planning sessions with LVMWD representatives
- Reviews of historical disaster events in the local area that impacted the LVMWD
- A review of activities related to hazard mitigation from existing programs, Capital Improvement projects, and other projects

External Input

Existing mitigation plans, programs and activities from other agencies were reviewed as well as current FEMA hazard mitigation planning standards and the State of California Hazard Mitigation Plan Guidance document. In addition, geographic area and hazard specific data were generated to develop scenario-based hazard maps. These resources were valuable in developing the LVMWD Hazard Mitigation Plan (see **Annex A Resources** for source information).

Information from the sources noted above was evaluated and (when applicable) incorporated into the plan. In addition, the information gathered served as a basis for the strategy sessions that were conducted to document ongoing and future mitigation activities.

Hazard Mitigation Plan Organization

This Hazard Mitigation Plan contains background information on the purpose and methodology used to develop the mitigation plan, a profile of the Las Virgenes Municipal Water District Service Area Region, sections on the identified hazards that threaten the Region as well as the associated risks, a five-year mitigation strategy action plan matrix, and supporting information contained in the Appendices.

Strategy Organization

The data collection, research and the public participation process resulted in the development of the hazard mitigation strategies listed. The strategies outline activities in which each of the various cities and citizens can be engaged to reduce risk. They reflect future action to be taken in order to reduce the loss of property and life. [Section 13 Hazard Mitigation Goals and Strategies](#) provides brief descriptions of the projects and strategies developed.

Plan Implementation, Monitoring, and Evaluation

[Section 12 Plan Maintenance and Monitoring](#) details the formal process that describes how the Las Virgenes Municipal Water District Hazard Mitigation Plan is maintained. The plan maintenance process included a schedule for monitoring and evaluating the plan and producing a plan revision every five years. In addition, this section also describes how the LVMWD integrated public participation in the plan maintenance and update process.

Finally, the Plan Implementation, Monitoring, and Evaluation section includes an explanation of how the Las Virgenes Municipal Water District has incorporated the mitigation strategies outlined into existing planning mechanisms.

Plan Adoption

In 2019, the Las Virgenes Municipal Water District adopted this Hazard Mitigation Plan. The HMP Project Manager was responsible for submitting the plan to the State Hazard Mitigation Officer at the Governor's Office of Emergency Services (Cal OES). Cal OES then submitted the updated plan to the Federal Emergency Management Agency (FEMA) for review. This review addressed the federal criteria outlined in *Title 44 CFR Emergency Management and Assistance: Part 201 – Mitigation Planning*. Upon acceptance by FEMA, Las Virgenes Municipal Water District will maintain its eligibility for Hazard Mitigation Grant Program funds.

Coordinating Body

The Las Virgenes Municipal Water District Hazard Mitigation Planning Group was responsible for coordinating implementation of plan strategies and undertaking the formal review process. The Planning Group was also responsible for supporting the HMP Steering Committee who provided oversight for the project.

Coordination with Existing Programs

The LVMWD has incorporated its hazard mitigation goals, strategies, and implementation plans into existing and future efforts. [Section 13 Hazard Mitigation Goals and Strategies](#) provides a list of this coordination. Further, the LVMWD coordinates with the cities within its Service Area (Agoura Hills, Calabasas, Hidden Hills, and Westlake Village) which are part of the Las Virgenes-Malibu Council of Governments (LVMCOG). The LVMWD has incorporated key parts of the LVMCOG Multi-Jurisdictional Hazard Mitigation Plan into its HMP planning process.

Economic Analysis of Mitigation Projects

Determining the economic feasibility of mitigating hazards can provide decision makers with an understanding of the potential benefits and costs of an activity, as well as provide a basis upon which to compare alternative projects. The Federal Emergency Management Agency's approach to identify costs and benefits associated with hazard mitigation strategies or projects falls into two general categories: benefit-cost analysis and cost-effectiveness analysis.

Conducting a benefit-cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now in order to avoid disaster-related damages later. A cost-effectiveness analysis evaluates how best to spend a given amount of money to achieve a specific goal. For the purposes of this HMP, an estimate of the benefit/cost ratio was used to evaluate the relative feasibility of the mitigation projects and strategies outlined in [Section 13 Hazard Mitigation Goals and Strategies](#).

Formal Review Process

The LVMWD established a formal review process to evaluate this HMP and each mitigation strategy developed to ensure that the program will meet its goals and to provide the oversight required to ensure the soundness of the program. In addition, the Planning Group is responsible for monitoring and evaluating the progress of the mitigation strategies in the plan.

Continued Public Involvement

The LVMWD is dedicated to involving the public directly in the continual review and updating of the Hazard Mitigation Plan. Copies of the plan are made available on the LVMWD web site.

Mitigation Strategy Five-Year Action Plan

The Las Virgenes Municipal Water District Hazard Mitigation Action Plan includes resources and information to assist residents, public and private sector organizations, and others interested in participating in planning for hazards. The Mitigation Strategy Action Plan provides a list of activities designed to assist the LVMWD to reduce risk and prevent losses from future hazard events. The strategies address multi-hazard issues, as well as hazard specific activities such as for earthquakes, fires, flooding, landslide, windstorms, and terrorism.

HAZARD MITIGATION PLAN ORGANIZATION

The Hazard Mitigation Plan is organized as follows:

Section 1: Introduction

The Introduction provides an overview of the Hazard Mitigation Plan Mission, Goals, and Strategies. In addition, this section outlines the process used to develop the goals and strategies that cut across the hazards addressed in the Hazard Mitigation Plan. Finally, this section describes the background and purpose of developing the Hazard Mitigation Plan and the planning process.

Section 2: Service Area Region Profile

This section presents the history, geography, demographics, and socio-economics of Las Virgenes Municipal Water District Service Area Region. It serves as a tool to provide a historical perspective of hazards in the area, potential impacts, and identifies at risk populations.

Section 3: Risk Assessment

The Risk Assessment section provides information on hazard identification, vulnerability, and risk associated with hazards in Las Virgenes Municipal Water District Service Area Region.

HAZARD SPECIFIC INFORMATION

The following hazard specific sections are addressed in the HMP. Continuing hazards occur on an ongoing and/or seasonal basis and may be predicted through historic evidence and scientific methods. Each of the hazard-specific sections includes information on the history, hazard causes and characteristics, hazard assessment, mitigation goals and strategies. Continuing hazards addressed in the plan include:

Section 4: Earthquake	Section 8: Landslide and Debris Flow
Section 5: Wildfire	Section 9: Windstorm
Section 6: Climate Change	Section 10: Flood and Severe Winter Storm
Section 7: Energy Disruption	Section 11: Terrorism

Section 12: Plan Maintenance and Monitoring

The Plan Maintenance section provides information on plan implementation, monitoring and evaluation.

Section 13: Multi-Hazard Goals and Strategies

The Multi-Hazard Goals and Strategies section describes the mitigation strategies developed for the HMP. The strategies address multi-hazard issues, as well as hazard-specific activities that can be implemented to reduce risk and prevent loss from future events.

ANNEXES

The Annexes includes references to the information used to gather data and conduct analytical research to assemble the LVMWD Hazard Mitigation Plan. The Resources section also includes a description of the tools used to develop the plan as well as documentation of the meetings, discussions and events that were involved in the planning process.

Annex A: Resources

This section provides a list of resources for Regional, County, State, and Federal agencies and organizations that may be referenced directly and indirectly within the LVMWD Hazard Mitigation Plan.

Annex B: Meeting Agendas and Attendees

This section provides key meeting agendas related to mitigation planning and the LVMWD Hazard Mitigation Plan.

Annex C: Planning and Public Involvement

This section provides a description of public involvement activities including meetings and other public outreach efforts related to the Hazards Mitigation Plan update. This section also provides

Annex D: Plan Approval Documentation

This section provides a copy of Plan Approval documents related to the LVMWD Hazard Mitigation Plan.

Annex E: Local Hazard Mitigation Plan Review Tool

This section includes the Local Hazard Mitigation Plan Review Tool. The tool provides a quick reference to key sections of the plan.

SECTION 2: LVMWD SERVICE AREA REGION PROFILE

Identifying population groups and the risks posed by hazards provides the basis for implementing strategies to reduce potential impacts; thereby protecting the lives and property of citizens and communities. The result is the development and implementation of strategies, coordination of resources, and increased public awareness that will reduce risk and prevent loss from future hazard events.

This section of the Hazard Mitigation Plan provides an overview of the cities within the Las Virgenes Municipal Water District Service Area Region. City specific profiles contained within this section provide brief summaries of the vulnerable populations, structures, and economic base of each community.

POPULATION

According to 2017 Census data, the population of the four cities in the Las Virgenes Municipal Water District Service Area Region totaled 55,255. Within the region, Calabasas represents the largest population closely followed by Agoura Hills. Calabasas also represented the fastest growth area (5.0%) outpacing Los Angeles County (3.5%) through the period from 2010 to 2017. The population levels of the other cities within the area also grew since 2010. Due to terrain restrictions, designated parks and reserves, and local planning/zoning requirements, local populations are centered along the Ventura 101 Freeway.

Las Virgenes Municipal Water District Service Area Population Data				
Location	2017 Estimated Population	% of Los Angeles County	2010 Population	% Change from 2010 to 2017
Agoura Hills	20,692	0.20%	20,330	1.8%
Calabasas	24,202	0.24%	23,058	5.0%
Hidden Hills	1,921	0.02%	1,856	3.5%
Westlake Village	8,440	0.08%	8,270	2.1%
LVMWD Cities	55,255	0.54%	53,514	3.3%
Los Angeles County	10,163,507	100.00%	9,818,605	3.5%

GEOGRAPHY AND THE ENVIRONMENT

The geography includes mountainous terrain as well as small rivers and seasonal waterways (depending on rainfall). The climate is Mediterranean characterized by warm to hot, dry summers and mild to cool, wet winters. Summer temperatures in the cities of Agoura Hills, Calabasas, Hidden Hills and Westlake Village can reach into the high 90's. (see **CLIMATE** section for additional details).



Map 2: LVMWD Region Map

CLIMATE

Temperature

The region is characterized by warm to hot dry summers and mild to cool wet winters typical of a Mediterranean climate.

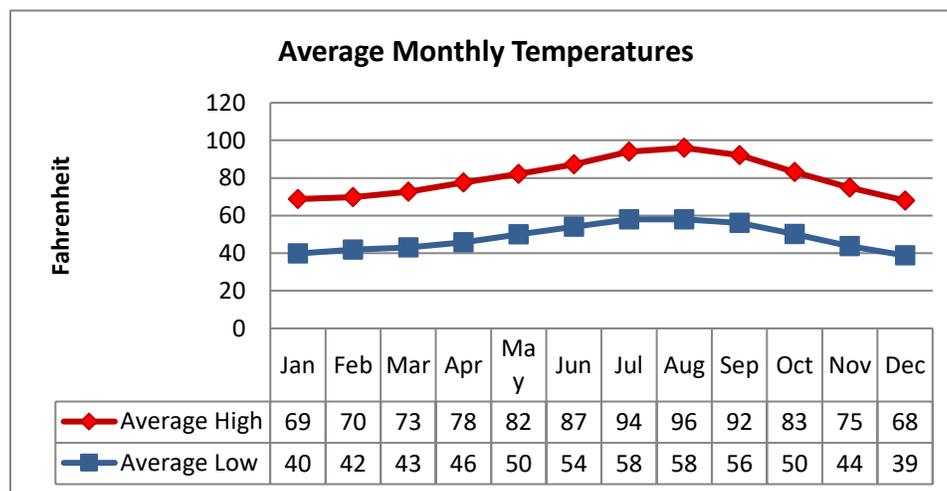


Figure 2: : Average Temperature by Month

The average high in the summer ranges from the mid to upper 90 degrees Fahrenheit. Average lows in the winter months range from the upper 30 to low 40 degrees Fahrenheit.

August tends to be the hottest month and December tends to be the coldest month. However, it should be noted that temperatures can vary over a wide range.

For example, Santa Ana winds typically occur in late fall and early winter. The Santa Ana winds are characterized by strong dry offshore winds originating from the Great Basin and Upper Mojave Desert.

Wind temperatures can range from extremely hot to cold. Damage can occur directly from the high wind speeds generated or from the secondary effects of very low humidity – which increases the threat of wildfires.

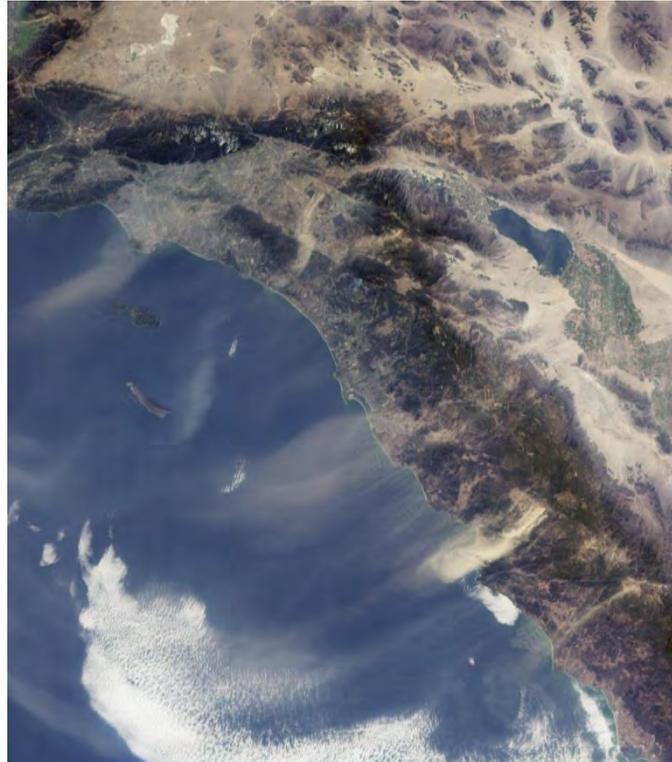


Figure 3: Santa Ana Winds (Feb 2002)

SOURCE: NASA/JPL-Caltech)

Rainfall

Rainfall in the LVMWD region averages approximately 19 inches per year. However, the term “average rainfall” is misleading because over the recorded history of rainfall in the region, rainfall amounts have ranged from no rain at all in some years to well over normal averages in very wet years. Furthermore, actual rainfall in Southern California tends to fall in large amounts during sporadic and often heavy storms rather than in consistent amounts throughout the year.

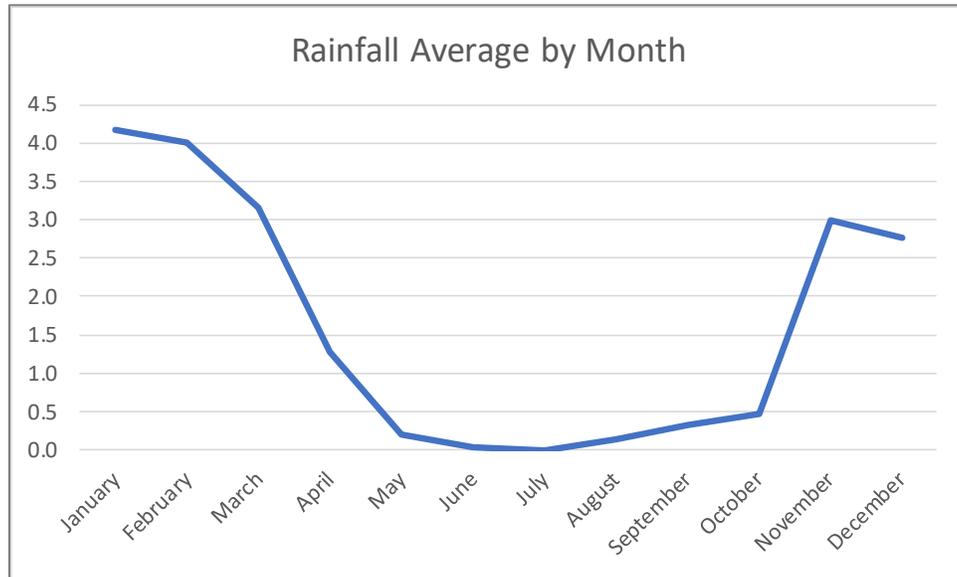


Figure 4: Average Rainfall by Month

El Niño and La Niña

Periodically, Southern California and the LVMWD region are subject to the effects of El Niño or La Niña conditions:

- El Niño is characterized by unusually warm ocean temperatures in the Equatorial Pacific resulting in increased rainfall in the southern tier of the U.S. El Niño conditions can result in flooding, mudslides, and traffic disruptions in the LVMWD region.
- La Niña is characterized by unusually cold ocean temperatures in the Equatorial Pacific resulting in decreased rainfall in the southern tier of the U.S. La Niña conditions can result in drought and increased danger from wildfires.

SECTION 3: RISK ASSESSMENT

The goal of mitigation is to reduce the future impacts of hazards. Hazards can result in injuries and the loss of life, cause property damage, disrupt the local economy, and force the expenditure of large amounts of public and private funds to assist with recovery. In order to focus efforts on the most likely and highest impact scenarios, mitigation must be based on a comprehensive Risk Assessment.

A Risk Assessment measures the potential loss from a hazard event by evaluating the vulnerability of buildings, infrastructure and people. It identifies the characteristics and potential consequences of hazards, how much of the community could be affected by a hazard, and the impact on community assets. Risk Assessments consist of:

- Hazard Identification and Risk Analysis
- Vulnerability Analysis / Loss Estimates

Note: This Risk Assessment presents loss estimates and provides a foundation for evaluating mitigation measures should a real hazard event occur. The loss estimates are intended to support the decision-making process for mitigation efforts.

It is important to note that the loss estimates calculated for this Risk Assessment used available data and methodologies and are approximate. These estimates should be used to understand the relative risk from hazards and potential losses and are not intended to be predictive of precise results.

Uncertainties are inherent in any loss estimation methodology arising in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment. Uncertainties also result from approximations and simplifications that are necessary in developing vulnerability estimates (e.g., risk of loss projections and relative likelihood of occurrence). These factors can result in a range of uncertainty in loss estimates produced by this analysis.

DISASTER HISTORY

Emergencies and disasters can cause damage to the Las Virgenes Municipal Water District and the cities within the LVMWD Service Area Region. Natural disasters have occurred in the past and continue to have the potential for future events. While the risk of disasters cannot be eliminated, the effects can be reduced through a well-organized public education and awareness effort, preparedness and mitigation. In addition, the LVMWD must be prepared to provide efficient and effective response and recovery. Furthermore, careful planning and collaboration among public agencies, private sector organizations, and citizens within the community can minimize the losses that result from disasters.

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To illustrate the potential hazards to the region, a review of historical events can provide indicators for future threats to the area. The table below provides a summary of FEMA declared disasters occurring in Los Angeles County since 1995.

Disaster Number	IH Program Declared	IA Program Declared	PA Program Declared	HM Program Declared	Disaster Type	Incident Type	Title	Incident Begin Date	Incident End Date
4353	Yes	No	Yes	Yes	DR	Fire	WILDFIRES, FLOODING, MUDFLOWS, AND DEBRIS FLOWS	12/4/2017	
3396	No	No	Yes	No	EM	Fire	WILDFIRES	12/4/2017	12/29/2017
4305	No	No	Yes	Yes	DR	Flood	SEVERE WINTER STORMS, FLOODING, AND MUDSLIDES	1/18/2017	1/23/2017
2851	No	No	Yes	No	FM	Fire	CROWN FIRE	7/29/2010	8/3/2010
1884	No	No	Yes	Yes	DR	Severe Storm(s)	SEVERE WINTER STORMS, FLOODING, AND DEBRIS AND MUD FLOWS	1/17/2010	2/6/2010
2830	No	No	Yes	No	FM	Fire	STATION FIRE	8/27/2009	9/25/2009
2828	No	No	Yes	No	FM	Fire	PV FIRE	8/27/2009	8/29/2009
1810	Yes	No	Yes	Yes	DR	Fire	WILDFIRES	11/13/2008	11/28/2008
2792	No	No	Yes	No	FM	Fire	FREEWAY FIRE COMPLEX	11/15/2008	11/20/2008
2791	No	No	Yes	No	FM	Fire	SAYRE FIRE	11/14/2008	
2789	No	No	Yes	No	FM	Fire	SESNON FIRE	10/13/2008	10/19/2008
2788	No	No	Yes	No	FM	Fire	MAREK FIRE	10/12/2008	10/17/2008
2763	No	No	Yes	No	FM	Fire	SANTA ANITA FIRE	4/26/2008	5/2/2008
1731	Yes	Yes	Yes	Yes	DR	Fire	WILDFIRES, FLOODING, MUD FLOWS, AND DEBRIS FLOWS	10/21/2007	3/31/2008
3279	No	No	Yes	No	EM	Fire	WILDFIRES	10/21/2007	3/31/2008
2736	No	No	Yes	No	FM	Fire	RANCH FIRE	10/20/2007	
2733	No	No	Yes	No	FM	Fire	BUCKWEED FIRE	10/21/2007	
2732	No	No	Yes	No	FM	Fire	CANYON FIRE	10/21/2007	
2708	No	No	Yes	No	FM	Fire	CANYON FIRE	7/7/2007	7/10/2007
2694	No	No	Yes	No	FM	Fire	ISLAND FIRE	5/10/2007	5/15/2007
2691	No	No	Yes	No	FM	Fire	GRIFFITH PARK FIRE	5/8/2007	5/11/2007
1689	No	Yes	No	Yes	DR	Freezing	SEVERE FREEZE	1/11/2007	1/17/2007
2583	No	No	Yes	No	FM	Fire	TOPANGA FIRE	9/28/2005	10/10/2005
3248	No	No	Yes	No	EM	Hurricane	HURRICANE KATRINA EVACUATION	8/29/2005	10/1/2005
1585	No	No	Yes	Yes	DR	Severe Storm(s)	SEVERE STORMS, FLOODING, LANDSLIDES, AND MUD AND DEBRIS FLOWS	2/16/2005	2/23/2005
1577	Yes	Yes	Yes	Yes	DR	Severe Storm(s)	SEVERE STORMS, FLOODING, DEBRIS FLOWS, AND MUDSLIDES	12/27/2004	1/11/2005
2535	No	No	Yes	No	FM	Fire	CA-CROWN WILDFIRE-07-21-2004	7/20/2004	7/23/2004
2534	No	No	Yes	No	FM	Fire	CA-FOOTHILL WILDFIRE-07-18-2004	7/17/2004	7/23/2004
2528	No	No	Yes	No	FM	Fire	CA - PINE FIRE - 7-13-2004	7/12/2004	7/21/2004

Disaster Number	IH Program Declared	IA Program Declared	PA Program Declared	HM Program Declared	Disaster Type	Incident Type	Title	Incident Begin Date	Incident End Date
1498	Yes	Yes	Yes	Yes	DR	Fire	WILDFIRES, FLOODING, MUDFLOW AND DEBRIS FLOW DIRECTLY RELATED T	10/21/2003	3/31/2004
2502	No	No	Yes	No	FM	Fire	CA-VERDALE FIRE 10-25-2003	10/24/2003	10/29/2003
2466	No	No	Yes	No	FM	Fire	CA - WILDFIRE (PACIFIC FIRE) - 01-06-2003	1/6/2003	1/10/2003
2464	No	No	Yes	No	FS	Fire	WILLIAMS FIRE	9/22/2002	9/29/2002
2462	No	No	Yes	No	FS	Fire	LEONA FIRE	9/3/2002	9/12/2002
2417	No	No	Yes	No	FS	Fire	CA - COPPER FIRE - 06-06-2002	6/5/2002	6/14/2002
1203	No	Yes	Yes	No	DR	Severe Storm(s)	SEVERE WINTER STORMS AND FLOODING	2/2/1998	4/30/1998
3120	No	Yes	Yes	Yes	EM	Fire	SEVERE FIRESTORMS	10/21/1996	10/31/1996
1046	No	Yes	Yes	Yes	DR	Severe Storm(s)	SEVERE WINTER STORMS, FLOODING LANDSLIDES, MUD FLOW	2/13/1995	4/19/1995
1044	No	Yes	Yes	Yes	DR	Severe Storm(s)	SEVERE WINTER STORMS, FLOODING, LANDSLIDES, MUD FLOWS	1/3/1995	2/10/1995

Source: FEMA

FEMA Disaster Declaration Key

Disaster Number Sequentially assigned number used to designate an event or incident declared as a disaster.

IH Denotes whether the Individuals and Households program was declared for this disaster

IA Denotes whether the Individual Assistance program was declared for this disaster.

PA Denotes whether the Public Assistance program was declared for this disaster.

HM Denotes whether the Hazard Mitigation program was declared for this disaster.

Disaster Type Two-character code that defines if this is a major disaster, fire management or emergency declaration.

Incident Type Type of incident such as fire or flood. The incident type affects the types of assistance available.

FEDERAL REQUIREMENTS FOR RISK ASSESSMENTS

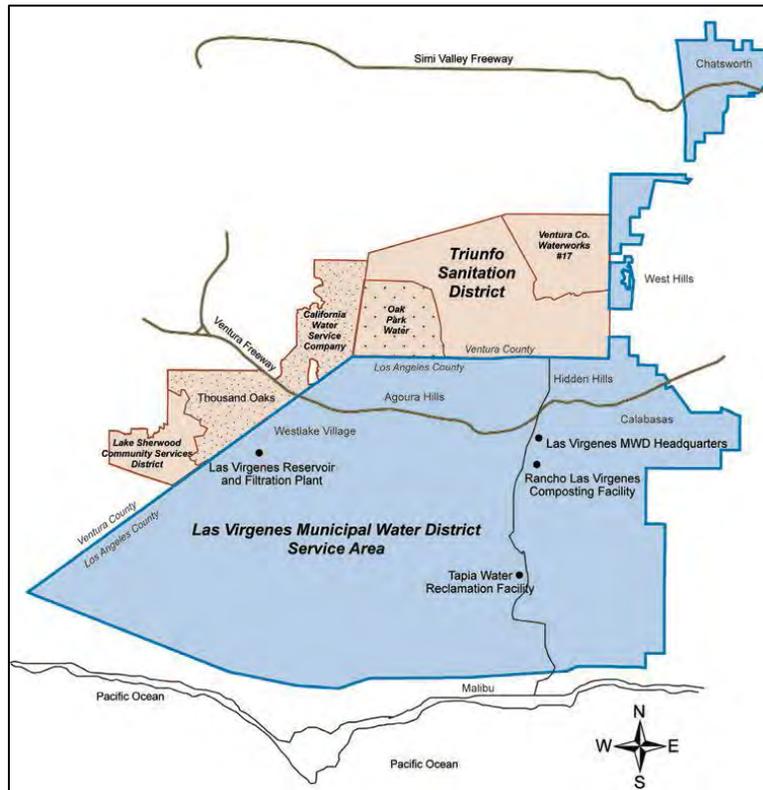
Federal regulations for hazard mitigation plans outlined in 44 CFR Part 201 include a requirement for conducting a Risk Assessment. This Risk Assessment requirement is intended to provide information that will help communities identify and prioritize mitigation activities that will reduce losses from the identified hazards. The hazards profiled in this mitigation plan, include: earthquakes, earth movement (including landslide), flooding, fires (including wildland and structural), windstorms and terrorism.

The Federal criteria for conducting Risk Assessments under 44 CFR Part 201 (Section 322 of the Stafford Act, 42 U.S.C. 5165) and information on how the Las Virgenes Municipal Water District Hazard Mitigation Plan meets those criteria are outlined below.

Section 322 Plan Requirement	How is this addressed?
Identifying Hazards	Each hazard section includes an inventory of selected available data sources that identify hazard areas. Maps identifying the locations of hazards in the LVMWD Region are provided in this Risk Assessment and in each individual hazard section, i.e., Earthquake, Wildfire, Wind, Landslide, Flood, and Terrorism.
Profiling Hazard Events	Each hazard section includes documentation of the history and causes and characteristics of the hazard in the Region.
Assessing Vulnerability: Identifying Assets	The “hazard identification” and “risk assessment” provide a summary of the vulnerability assessment from each hazard and (where data is available) the assets at risk.
Assessing Vulnerability: Estimating Potential Losses	The calculations of the impact of the hazard (if data was available), the economic exposure, and physical losses, are discussed in this Risk Assessment and under each hazard of this Hazard Mitigation Plan. Vulnerability assessments were completed for the hazards addressed in the plan, and quantitative estimates were made (when data was available) for each hazard.
Assessing Vulnerability: Analyzing Development Trends	The LVMWD Service Area Region Profile Section of this plan provides a description of the development trends in the Region including the geography, environment, and populations.

HAZARD IDENTIFICATION AND RISK ANALYSIS

Hazard identification consists of (1) defining the study area in terms of scale and coverage; and (2) collecting and compiling a list of prevalent hazards in the study area to help narrow the focus of the analysis. The figure below depicts the study area.



Map 3: LVMWD HMP Study Area

Identified Hazards

Based on the local area history and assessment of local risks, the following hazards are included in this Hazard Mitigation Plan:

- Earthquake
- Wildfire
- Climate Change (including Drought and Extreme Heat)
- Energy Disruption / Power Outage
- Landslide (including Earth Movement/Debris Flow)
- Windstorm
- Flood and Severe Winter Storm
- Terrorism

Each of these disasters can have widespread effects that include loss of life and property, disruption to critical infrastructure (utilities, communications, transportation, etc.), and economic impact to the area. Although terrorism is a threat, it is viewed as unlikely, however the lack of warning time and potential impact warrants inclusion into this HMP.

VULNERABILITY AND LOSS ESTIMATES

Assessing vulnerability is a three-step process. The first step is to identify existing structures and critical facilities that are located within the hazard area. Critical facilities are of particular concern because these facilities and infrastructure provide essential products and services to the general public that are necessary to preserve the welfare and quality of life in the Region and fulfill important public safety, emergency response, and/or disaster recovery functions.

Once existing structures are identified, the next step is to include an estimate of losses for the identified asset. Estimating potential loss involves assessing the damage, injuries, and financial costs likely to be sustained in a geographic area over a given period of time. This level of analysis involves using mathematical models.

The two measurable components of risk analysis are magnitude of the harm that may result and the likelihood of the harm occurring. Describing vulnerability in terms of dollar losses provides the community and the state with a common framework in which to measure the effects of hazards on assets. The last step in assessing the Region's vulnerability to hazards is to analyze development trends in the Region.

The following loss exposures have been developed using HAZUS-MH base data in terms of the residential, commercial, and industrial properties at risk. For example if a major wildfire occurred and spread due to a lack of water resources.

NOTE: HAZUS-MH utilizes data at the block level from diverse sources such as the U.S. Census. Due to the data compilation process, estimates based on city boundaries are difficult to generate. Consequently, the HAZUS-MH data presented in this Risk Assessment groups some areas as indicated. Neighboring cities are included for reference purposes.

City Name	Total Exposure [\$B]	Residential [\$B]	Commercial [\$B]	Industrial [\$B]
Agoura Hills (including Agoura)	3.892	3.291	0.508	0.093
Calabasas / Hidden Hills	2.132	1.826	0.271	0.035
Westlake Village Area	2.25	1.661	0.522	0.067
Totals	8.274	6.778	1.301	0.195

Future Development Trends

The summaries below provide brief descriptions of development trends in the Las Virgenes Municipal Water District Service Area Region. Development trends provide an indication of future risk – either from urban area growth in previously undeveloped land (resulting in increased risk from wildfire, landslide, flood, etc.), changes in the building inventory, or increased population densities.

Agoura Hills Development Trends

Residential neighborhoods are fully developed and there are limited opportunities for infill development. From 2012 to 2016, the total number of residential housing units increased slightly by approximately 0.6% however there was a significant increase in the number of large units (3 or more units) and mobile homes.

Agoura Hills also contains multiple commercial zones and established business centers. The table below provides a summary of Commercial and Mixed-Use development and Residential projects in Agoura Hills (Source: City of Agoura Hills Development Summary, Department of Planning and Community Development, June 2018 2nd Quarter Report).

Commercial and Mixed-Use Projects

Status	Category	Acres	Use Square Feet	No. of Units / Lots / Projects
In Review	Commercial - New	64.85	360,103	6
	Commercial - Additions	9.72	15,740	2
	Commercial – Rebuild	17.57	3,600	213
	Commercial – Remodel	3.7	2,800	2
	Residential - New	N/A	162,681	N/A
	Subdivision	N/A	N/A	N/A
	Outdoor Use	N/A	5,800	1
Approved	Commercial - New	30.54	549,926	7
	Commercial - Additions	1.33	744	1
	Commercial – Rebuild	0	0	N/A
	Commercial – Remodel	12.75	134,098	3
	Residential	N/A	118,878	110
	Subdivision	4.22	N/A	3
	Outdoor Use	6.79	19,995	1
Completed	Commercial - New	1.93	21,782	1
	Commercial - Additions	0	0	N/A
	Commercial – Rebuild	0	0	N/A
	Commercial – Remodel	1.86	3,400	1
	Residential - New	0	0	N/A
	Subdivision	0	0	N/A
	Outdoor Use	0	0	N/A

Residential Projects

Status	Category	Acres	Square Feet	No. of Units / Lots
In Review	New Construction	10.12	16,563	3
	Room Additions	3.08	5,324	3
	Subdivision	0	0	0
	Other	0	0	0
Approved	New Construction	62.34	53,096	9
	Room Additions	1.52	27,295	4
	Subdivision	0	N/A	0
	Other	0	0	0
Completed	New Construction	1.52	8,805	2
	Room Additions	0.48	938	1
	Subdivision	0	0	0
	Other	0	0	0

Calabasas Development Trends

Most developable areas within the City are already built out and the majority of undeveloped land will remain undeveloped due to environmental constraints and terrain limitations. From 2012 to 2016, the total number of residential housing units increased by approximately 4% with the greatest growth in structures in 1-unit attached and multi-unit structures. Although the City is mainly residential, there are a number of established commercial business parks and shopping centers. The table below provides a summary of pending and current development projects in Calabasas (Source: City of Calabasas Projects, Plans & Reports in the City of Calabasas as of 9/25/2018 <http://www.cityofcalabasas.com/projects.html>).

Name	Location	Description	Number of Units	Size
Audi Calabasas	24650 Calabasas Road	Remodel and Addition to an Existing Audi Calabasas auto dealership	Auto Dealership Expansion	Approximately 111,608 square feet to the existing 35,058 square foot site
Avanti	23500 Park Sorrento	Mixed use development including 80 condominium units (two- and three-bedroom units) and 8 one- and two-bedroom affordable rent units. On-site amenities including: pool, club house, outdoor recreation, etc.	88 Residential Units	212,400 square-feet 10,700 square-feet of commercial use space with 294 parking spaces

Name	Location	Description	Number of Units	Size
Calabasas Hilton Garden Inn Expansion	4150 Park Sorrento	Proposed expansion to be built behind an existing three-story, 141-room hotel (Calabasas Hilton Garden Inn)	Detached three-story, 51-room structure	28,787 square feet
Las Virgenes Road / Thousand Oaks Blvd. Commercial Center	5741 Las Virgenes Road	Commercial Center	Two-One Story Buildings	45,040 square-feet
The Paxton Calabasas Project	4240 Las Virgenes Road	Residential development on 5 acres of a 21-acre site (16 acres will remain open space)	78-unit townhome	21-acre site
Raznick Mixed Use	23480 Park Sorrento	Commercial Mixed Use (CMU), Age Restricted (55 years old or over) Apartment Complex and Retail	42 Residential Units 1,620 Retail square feet	0.92 acres
Rondell Oasis Site	26300 Rondell Street	3-story self-storage facility and associated office	Storage Facility	67,177 square-feet
West Village Calabasas	4790 Las Virgenes Road at the eastern terminus of Agoura Road (APNs: 2069078009; and 011)	The proposed project involves the development of residential, commercial, and public open space/trail uses on an undeveloped site. The residential component includes 15 three-story multifamily housing buildings. Each building would provide 12 dwelling units for a total of 180 units. The commercial component consists of a 5,867 square-foot retail center.	180 Residential Units 5,867 Retail square feet	77.22 acres 66.1 acres preserved as open space

Hidden Hills Development Trends

Hidden Hills is a fully developed master planned residential community with a small restricted commercial zone (a single real estate office). Any further development or home modifications must be approved by the Hidden Hills Community Association Architectural Committee. As a result, minimal or no new development is anticipated.

Westlake Village

Westlake Village is a master-planned community with an array of housing types including: townhomes, condominiums, mobile homes, single-family and lakefront residences, and view-oriented estates. From 2012 to 2016, the total number of residential housing units increased by approximately 5.5% with 5 to 9 unit structures exhibiting the greatest increase followed by 20 or more unit structures while mobile home, 3 to 4 unit, and 10 to 19 unit structures decreased. Within Westlake Village, there are approximately 866 commercial and light industrial businesses (Source: U.S. Census Bureau 2012 Economic Census of the U.S.). Future growth is controlled by the City Planning Department and City Council who work with active and organized homeowner's associations to maintain the high quality of development within the City.

Currently there are three current or proposed significant development projects in Westlake Village (Source: Westlake Village Planning Department, List of Current Projects as of 9/25/2018 <https://www.wlv.org/212/Current-Projects>).

Street Address	Occupant	Zone	Description
Westlake Village Inn 31943 Agoura Road, Westlake Village, CA 91361	Westlake Village Inn	CPD	<u>Westlake Village Inn Spa Addition</u> The City has approved an expansion to the Westlake Village Inn to include 16 new hotel rooms and a spa complex. As part of the project, the Planning Department conducted an Initial Study and determined that the appropriate document to comply with the California Environmental Quality Act is a Mitigated Negative Declaration. The original document has been revised and is being recirculated. It can be viewed by accessing the link below, in addition to plans for the approved project.
Thousand Oaks Blvd. and Lindero Canyon Road	TBD	CPD BP PI	<u>Westlake Village Business Park</u> Approximately 183 net acres (54 parcels) In May of 2011, the Ad-hoc Committee recommended a preferred development alternative to the City Council, at which time the City Council directed staff and The Arroyo Group to proceed with preparation of a Specific Plan utilizing the preferred development concept.
Calvary Community Church 5495 Via Rocas Westlake Village, CA 91362	Calvary Community Church	PI	<u>Calvary Community Church Addition</u> Calvary Community Church has submitted an application to construct 13,000 square feet of multipurpose space, 1,140 square feet of storage space, and a variety of landscaping and hardscape improvements to provide age specific playgrounds and recreational space.

Profiling Hazards

The Las Virgenes Municipal Water District serves the cities of Agoura Hills, Calabasas, Hidden Hills and Westlake Village. Key infrastructure includes 24 major water tanks and 24 pumping stations, 10,000 acre-foot Las Virgenes Reservoir, and the Westlake Village Filtration Plant.

- The Las Virgenes Reservoir dam is located at 2860 Three Springs Drive, Westlake Village. The water filtration plant is located at 32601 Torchwood Place, Westlake Village. Water is also purchased from the Metropolitan Water District of Southern California (MWD).
- The LVMWD takes precautions to secure their facilities including fencing sites and securing facilities with alarms. Major facilities have security access gates locked 24/7 and a security company monitors and responds to alarms.
- The district has operating and response procedures to ensure that any potential interruption of services will be as short as possible. Further, the district has completed a Vulnerability Assessment as required by federal law to assess and mitigate any potential security issues.

The profiling hazards process describes the causes and characteristics of each hazard, how the selected hazard has affected the Las Virgenes Municipal Water District Service Area Region in the past, and what part of the population, infrastructure, and environment has historically been vulnerable to each specific hazard. A careful examination of hazard event profiles within the study area provides a reference point for understanding the potential impacts from future events.

Detailed profiles are provided in each of the individual hazard sections included in this plan:

- Section 6 Earthquake
- Section 7 Wildfire
- Section 8 Climate Change
- Section 9 Energy Disruption
- Section 10 Landslide
- Section 11 Severe Wind
- Section 12 Flood
- Section 13 Terrorism

SECTION 4: EARTHQUAKE

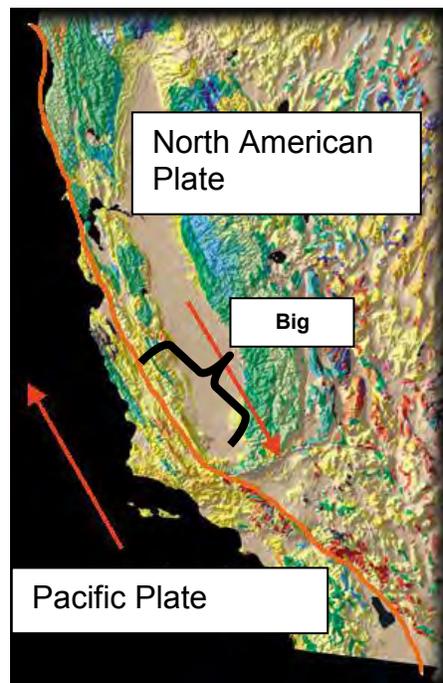
THE NATURE OF THE EARTHQUAKE THREAT

Earthquakes occur at the boundaries of the Earth's tectonic plates as they move relative to one another. The tectonic boundary between the Pacific Plate and the North American Plate in California is along the San Andreas Fault. The fault is a transform boundary where the plates are sliding horizontally past one another.

The risk of earthquakes in southern California is exacerbated by the fact that the two plates are inhibited in their motion by what is known as the "Big Bend". In this section of the San Andreas the fault curves to the west then curves back to the north. This creates a barrier to simple lateral motion. This bend is a convergent (restraining) bend, creating a localized collision of tectonic plates, generating a tremendous amount of compression stress.

To release this stress, additional faults have formed over time. The "Big Bend" of the San Andreas Fault is thought to be responsible for much of the complexity of faulting in Southern California

The following map depicts several parallel faults to the San Andreas Fault. These four faults are considered to be responsible for approximately half of the significant earthquakes in the region (SOURCE: Southern California Earthquake Center - SCEC).



Map 4: San Andreas Fault "Big Bend"



Map 5: Parallel Faults to the San Andreas Fault

HISTORICAL RECORD OF EARTHQUAKES IN SOUTHERN CALIFORNIA

Earthquakes occur every day in Southern California. Most are small with a magnitude less than M1. The table below provides examples of significant earthquakes in Southern California since 1857.

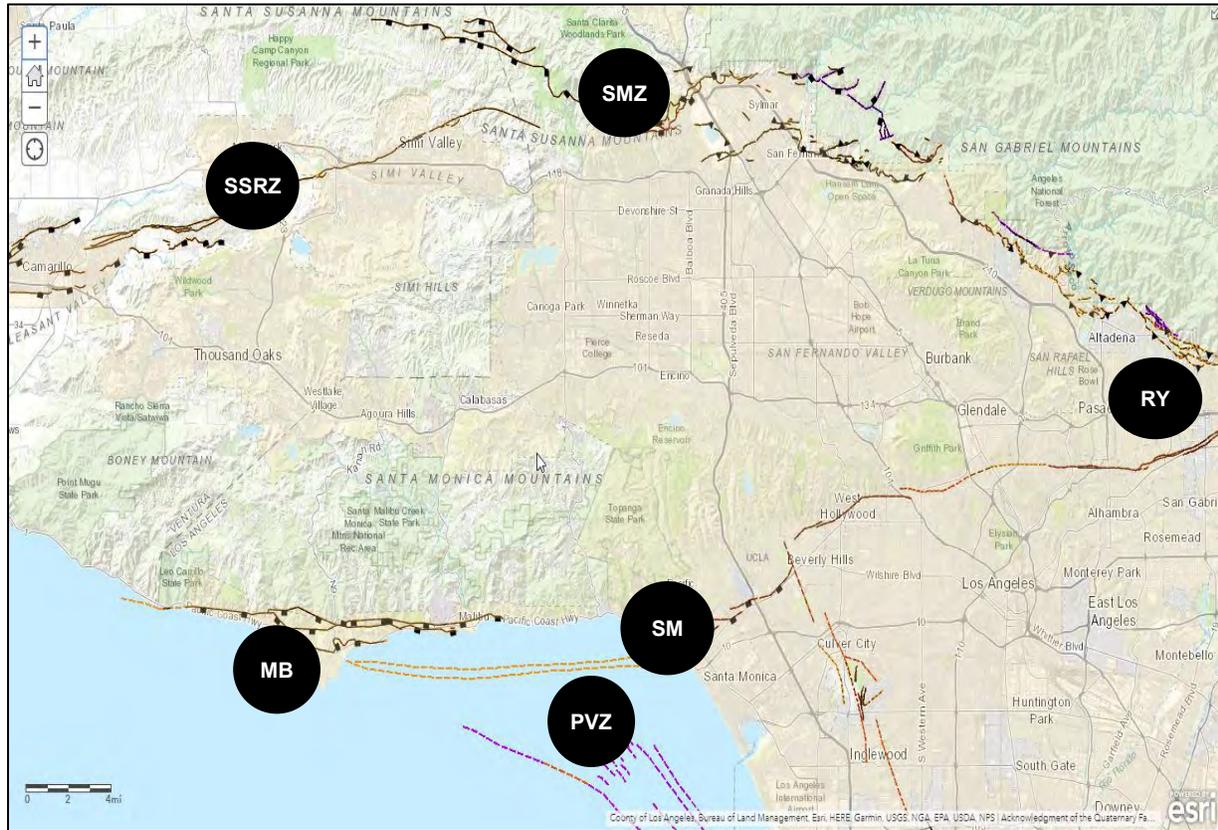
Date	Time	Location	Magnitude
01.09.1857	8:24 am	Fort Tejon	7.9
02.24.1892	11:20 pm	Laguna Salada	7.3
12.25.1899	4:25 am	San Jacinto/Hemet	6.7
04.21.1918	2:31 pm	San Jacinto	6.8
06.29.1925	7:42 am	Santa Barbara	6.8
11.04.1927	5:51 pm	Offshore Lompoc	7.1
03.10.1933	5:54 pm	Long Beach	6.4
05.18.1940	8:37 pm	Imperial Valley	6.9
04.10.1947	7:58 am	Manix	6.5
07.21.1952	3:52 am	Kern County	7.5
04.09.1968	6:29 pm	Borrego Mountain	6.6
02.09.1971	6:01 am	San Fernando	6.6
10.15.1979	4:16 pm	Imperial Valley	6.4
07.08.1986	2:21 am	North Palm Springs	5.7
10.01.1987	7:42 am	Whittier Narrows	5.9
11.24.1987	5:15 am	Superstition Hills	6.6
06.28.1991	7:43 am	Sierra Madre	5.8
04.22.1992	9:50 pm	Joshua Tree	6.1
06.28.1992	4:57 am	Landers	7.3
06.28.1992	8:05 am	Big Bear	6.3
01.17.1994	4:30 am	Northridge	6.7
10.16.1999	2:46 am	Hector Mine	7.1
12.22.2003	11:15 am	San Simeon	6.5
07.29.2008	11:42 am	Chino Hills	5.4
03.21.2009	1:12 pm	Salton Sea Bombay Beach	4.8
05.17.2009	8:39 pm	Inglewood	4.7
12.30.2009	10:48 am	Northern Baja	5.8
10.03.2010	4:04 am	Pico Rivera	4.4

SOURCE: Southern California Earthquake Center (SCEC) and Southern California Seismic Network

CAUSES AND CHARACTERISTICS OF EARTHQUAKES

Earthquake Faults In or Near the LVMWD Service Area Region

There are multiple fault zones in proximity to the LVMWD Service Area.



Map 6: Earthquake Faults in the LVMWD Region

Fault Map Code	Fault Name	Probable Magnitude	Length
MB	Malibu Coast Fault	6.0 – 7.0 M_w	21.1 miles
SM	Santa Monica Fault	6.0 – 7.0 M_w	15.0 miles
PVZ	Palos Verdes Fault Zone	6.0 – 7.0 M_w	49.7 miles
SSRZ	Simi-Santa Rosa Fault Zone	6.5 – 7.0 M_w	24.9 miles
SMFZ	Sierra Madre Fault Zone	6.0 – 7.0 M_w	46.6 miles
RY	Raymond Fault	6.0 – 7.0 M_w	16.2 miles

SOURCE: U.S. Geological Survey and California Geological Survey, 2006, Quaternary fault and fold database for the United States, accessed 1/7/2010, from USGS web site: <http://earthquakes.usgs.gov/regional/qfaults/>

Although the San Andreas Fault is capable of producing an earthquake with a magnitude greater than 8, there are multiple “lesser” faults that are in closer proximity and have the potential to inflict greater damage to the LVMWD Service Area Region. For example, 6.5 M_w earthquake along the Malibu Coast Fault could result in more death and destruction than a “Great” quake on the San Andreas which is 40 miles away.

Earthquake Probability

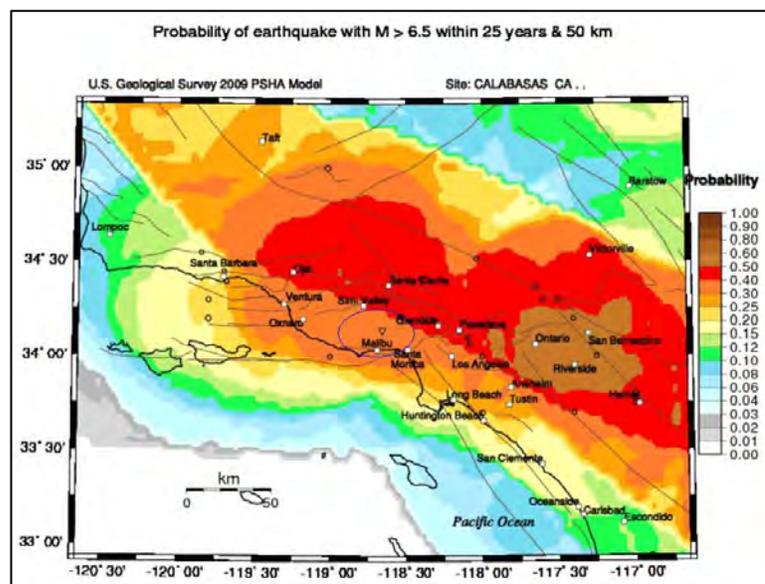
According to the U.S. Geological Survey the probability within the next 30 years for the Los Angeles Region is:

- 60% that an earthquake measuring magnitude 6.7
- 46% that an earthquake measuring magnitude 7
- 31% that an earthquake measuring magnitude 7.5

In addition, according to the Earthquake Probabilistic Seismic Hazard Assessment (PSHA) model, there is a 30 to 40% chance that the region will experience an earthquake of magnitude 6.5 or greater within the next 25 years.

An earthquake of M6.5 or larger could cause a considerable number of casualties, as well as extensive damage to buildings, infrastructure, and critical facilities. The effects would be aggravated by aftershocks and secondary effects such as fire and landslides.

In the event of a catastrophic earthquake, the capacity of the region to respond on its own would quickly become overwhelmed and assistance from surrounding municipalities, as well as the state and federal governments would be needed.



Map 7: Southern California PSHA Model (USGS)

Following a major earthquake:

- Extensive search and rescue operations would be required
- The demand for emergency medical care would increase
- Food and temporary shelter would have to be provided for displaced people
- Infrastructure damage to dams, pipelines, storage facilities (potable and waste), and safe water supplies will be significantly impacted

Furthermore, it is likely emergency operations would be hampered by the loss of critical infrastructure and roads, damage to critical facilities, disruption of utilities, and communications disruptions. During the recovery period, extensive efforts would be required to remove debris, clear roadways, demolish unsafe structures, restore public utilities (including water supplies), and provide continuing care for the affected population including temporary shelters for displaced people. Finally, secondary issues such as hazardous materials releases and civil unrest could further strain resources.

EARTHQUAKE LVMWD HAZARD IDENTIFICATION

A major earthquake impacting the LVMWD Service Area will likely result in damage to structures and disruptions to critical infrastructure (roads, bridges, lifelines, etc.). The examples listed below provide brief descriptions of the types of damage that can be anticipated.

Lifelines

Lifelines include water, waste water, natural gas, electric power generation and distribution systems, fuel pipelines, and telecommunications systems. Ground shaking and amplification can cause pipes to break, power and telephone lines to fall, and damage cell phone and radio towers. A disruption to lifelines will hamper rescue, recovery, and rebuilding efforts as well as interrupt the distribution of important information to the public. Examples include:

- Ground shaking and ground deformation can damage pipelines and may rip many apart. Further, if soils liquefy pipelines may float or move laterally with the blocks of soil displaced by lateral spreading.
- Water pumping stations and wells are dependent on electrical power that may be unavailable in the days following an event.
- Damage to sewage pipelines can result in waste spills and failures.
- Power used by the LVMWD is transported via a system of high-voltage transmission lines. Electrical transmission lines (overhead lines, power poles, and underground utility conduits) and distribution facilities (substations) can be disrupted or damaged. Ground failures such as landslides could damage lines and may take months to repair depending on accessibility. In addition, large porcelain insulators, bushings, and transformers are vulnerable to moderate ground motions and damaged transformers may take months to replace. Redundancies built into the electrical grid should mitigate some of the impact; however, a major earthquake will almost certainly disrupt the local electrical grid.
- Communications systems are vulnerable to overload in the minutes and hours following a major event. The communications infrastructure is comprised in part of hard-wired telephone and cable TV systems, microwave transmission stations, cellular telephone systems, and radio systems. Cellular systems are dependent on the hardwired connections between cell towers and land-based telephone systems. Hardwired systems and the cell phone infrastructure are owned and operated by private companies such as AT&T, Verizon, and Charter.
- Damage to natural gas lines can result in fires or explosions as well as service disruptions.

Fire

Downed power lines or broken gas pipelines can trigger fires which can impact LVMWD facilities. Furthermore, multiple fire emergencies may occur simultaneously. Major incidents will demand a larger share of resources and smaller fires may receive little or insufficient resources. Also, it may be more difficult for fire departments to respond to fire emergencies if fire stations suffer building damage. Finally, loss of electricity may cause pump failures resulting in a loss of water pressure in some communities, further hampering firefighting efforts.

Economic Impact

The economic impact to the LVMWD includes direct property damage, lost business output and productivity, and loss of revenue (including long term loss of the local economic base).

Estimated Impact of an Event

If major wildfire were to occur, the consequences to local populations, employment, and housing could be significant. For the LVMWD, the impact may involve:

- Disruption of Water and Sewage Services to Customers
- Damage to LVMWD Infrastructure (pump stations)
- Loss of Power Leading to Disruptions to Pump Stations

Customer and economic disruptions to 50% of the LVMWD Service Area will result in the following projected losses.

Category	Agoura Hills	Calabasas	Hidden Hills	Westlake Village	Impact if a 50% Loss Occurs
Population	20,692	24,202	1,921	8,440	27,628
Total City Employment	11,200	11,900	-	13,886*	11,550
Economy**	\$811,395,000	\$1,614,403,000	\$500,000	\$1,894,297,000	\$2,160,297,500
Total Housing Units	5,562	6,097	510	2,934	7,552

*Per California Employment Development Department, InfoGroup, and SCAG Estimates for 2015

**U.S. Census Quick Facts for 2012 (Hidden Hills Retail Sales only based on SCAG City Profile Report for 2012)

EARTHQUAKE VULNERABILITIES

Liquefaction

Buildings above liquefiable soils may settle or tip due to a loss of bearing capacity of the soil. Liquefaction occurs when soil grains in loose, saturated silty, sandy, or gravel soils attempt to rearrange themselves in a denser configuration when subjected to strong earthquake ground motions. The resulting increase in pressure of the water in the voids of the soil temporarily transforms the soil into a fluid, causing the soil to lose much of its strength. As the pore-water pressure builds, ground water and liquefied soil may find their way to the surface, creating sand boils on the ground surface. Several types of damaging ground failures can occur due to liquefaction including lateral spreading, ground settlement and sink holes.

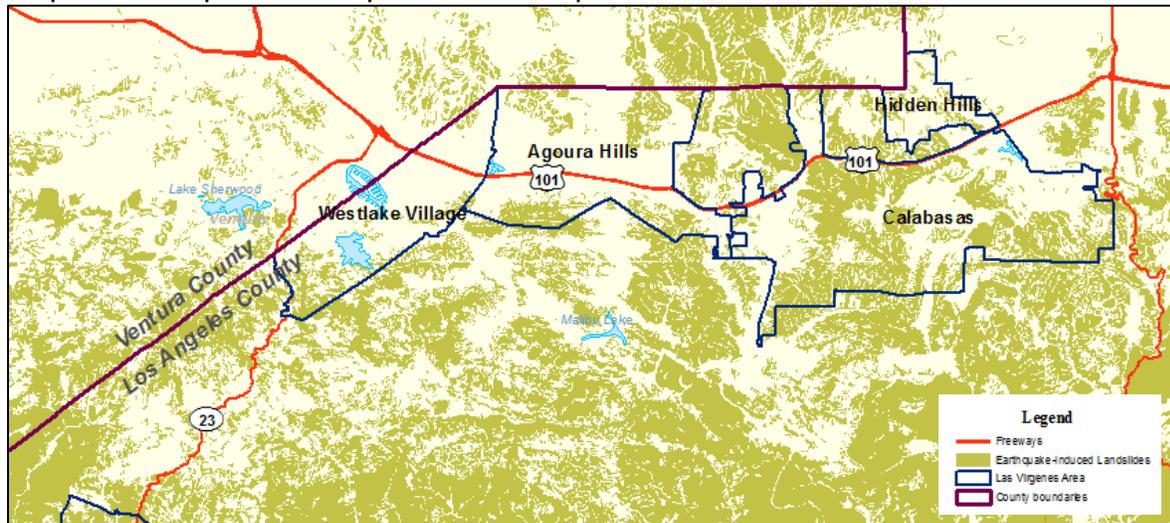
Lateral spreading occurs when the subsurface soil liquefies. Gravity and inertial forces from the earthquake cause the mass to move downslope. Lateral spreading can occur on very shallow slopes (nearly flat ground) and they can cause ground displacements ranging from inches to tens of feet. This type of movement can damage utilities, pipelines, and structures supported by shallow or deep foundations. In the LVMWD Service Area, portions of Calabasas and Agoura Hills are in liquefaction zones.



Map 8: Liquefaction Zones

Landslide

The severity of seismically induced landslides and related damage is dependent on the level of ground shaking and groundwater conditions at the time of the earthquake. The map below depicts areas prone to earthquake induced landslides.



Map 9: Potential Earthquake Induced Landslide Areas

EARTHQUAKE MITIGATION STRATEGIES

LVMWD Mitigation Activities

The LVMWD complies with the Los Angeles Region Uniform Code Program (LARUCP) Seismic Zone 4 requirements. These are more restrictive standards than required by the State of California Building Code. In addition, the LVMWD continues to evaluate and monitor its infrastructure for seismic safety and potential areas for improvement.

Areas of focus include:

- Dams and Drainage
- Pipelines
- Pump Stations
- Waste and Reclamation Facilities
- Other Critical Infrastructure and Facilities

SECTION 5: WILDFIRE

THE NATURE OF THE WILDFIRE THREAT

Fire is a natural part of the ecosystem in Southern California. However, wildfires present a substantial hazard to life and property in communities such as those that the LVMWD supports are built within or adjacent to hillsides and mountainous areas. Consequently, there is a significant potential for losses due to fire in the region (including wildland and urban fires). Furthermore, some of the LVMWD key infrastructure are located within wildfire zones.

HISTORICAL RECORD OF SIGNIFICANT FIRES

The table below provides a summary of the Top 20 Most Destructive Wildfires in California according to the California Division of Forestry and Fire Protection (CAL FIRE) as of September 2018 (not including the Woolsey Fire)

Top 20 Largest California Wildfires

	FIRE NAME (CAUSE)	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1	MENDOCINO COMPLEX* (Under Investigation)	July 2018	Colusa County, Lake County, Mendocino County & Glenn County	459,123	280	1
2	THOMAS (Under Investigation)	December 2017	Ventura & Santa Barbara	281,893	1,063	2
3	CEDAR (Human Related)	October 2003	San Diego	273,246	2,820	15
4	RUSH (Lightning)	August 2012	Lassen	271,911 CA / 43,666 NV	0	0
5	RIM (Human Related)	August 2013	Tuolumne	257,314	112	0
6	ZACA (Human Related)	July 2007	Santa Barbara	240,207	1	0
7	CARR (Human Related)	July 2018	Shasta County, Trinity County	229,651	1,604	7
8	MATHILJA (Undetermined)	September 1932	Ventura	220,000	0	0
9	WITCH (Powerlines)	October 2007	San Diego	197,990	1,650	2
10	KLAMATH THEATER COMPLEX (Lightning)	June 2008	Siskiyou	192,038	0	2
11	MARBLE CONE (Lightning)	July 1977	Monterey	177,866	0	0
12	LAGUNA (POWERLINES)	September 1970	San Diego	175,425	382	5
13	BASIN COMPLEX (Lightning)	June 2008	Monterey	162,818	58	0
14	DAY FIRE (Human Related)	September 2006	Ventura	162,702	11	0
15	STATION (Human Related)	August 2009	Los Angeles	160,557	209	2
16	ROUGH (Lightning)	July 2015	Fresno	151,623	4	0
17	McNALLY (Human Related)	July 2002	Tulare	150,696	17	0
18	STANISLAUS COMPLEX (Lightning)	August 1987	Tuolumne	145,980	28	1
19	BIG BAR COMPLEX (Lightning)	August 1999	Trinity	140,948	0	0
20	HAPPY CAMP COMPLEX (Lightning)	August 2014	Siskiyou	134,056	6	0

* Fires uncontained and totals are likely to change.

**There is no doubt that there were fires with significant acreage burned in years prior to 1932, but those records are less reliable, and this list is meant to give an overview of the large fires in more recent times.

***This list does not include fire jurisdiction. These are the Top 20 regardless of whether they were state, federal, or local responsibility.



9/5/2018

History of Fire Events in the LVMWD Service Area Region

The LVMWD Service Area has a long history of wildland fires. In fact, over the past 110 years nearly the entire region has been impacted by fire. Major fires since 2003 include the following events:

Name	Year	Estimated Acres	Structure Loss
Woolsey Fire	2018	96,949	1,643
Lost Fire	2008	167	0
Corral Fire	2007	4,901	53
Malibu Canyon Fire	2007	4,565	22
Sherwood Fire	2006	168	0
Topanga Fire	2005	24,175	323
Pacific Fire	2003	806	0

CAUSES AND CHARACTERISTICS OF WILDFIRES

Southern California has two distinct areas of risk for wildland fire. First, the foothills and lower mountainous areas which are often covered with scrub brush or chaparral. Second, the higher elevation mountains which contain large forest areas. In fact, the magnitude of the 2003 fires that struck Southern California were the result of three primary factors: (1) severe drought, accompanied by a series of storms that produced thousands of lightning strikes and windy conditions; (2) an infestation of bark beetles that has killed thousands of mature trees; and (3) the effects of wildfire suppression over the past century that led to a build-up of brush and small diameter trees in the forests.

WILDFIRE HAZARD IDENTIFICATION

Urban/Wildland Interface Fires

The LVMWD Service Area is challenged by the increasing number of houses being built on the urban/wildland interface. The National Wildland Coordinating Group defines urban/wildland interface as “the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel.

In terms of urban/wildland interface fires, there are three categories of concern:

- The classic urban/wildland interface exists where well-defined urban and suburban development presses up against open expanses of wildland areas;
- The mixed urban/wildland interface is characterized by isolated homes, subdivisions and small communities situated predominantly in wildland settings;
- Occluded urban/wildland interfaces exist where islands of wildland vegetation occur inside a largely urbanized area.

Very High Fire Hazard Severity Zones

For the purposes of describing the severity of fire hazard areas, the Los Angeles County Fire Department classifies areas according to criteria established in the State legislation commonly referred to as the “Bates Bill”. The Bates Bill Process determines **Very High Fire Hazard Severity Zones (VHFHSZs)** including Local Responsibility Areas (LRAs).

Very High Local Responsibility Areas (LRA)	<p>Government Code 51175-89 directs the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of very high fire hazard severity zones within Local Responsibility Areas (LRA). Mapping of the areas, referred to as Very High Fire Hazard Severity Zones (VHFHSZ), is based on data and models of, potential fuels over a 30-50 year time horizon and their associated expected fire behavior, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure (including firebrands) to buildings. Local Responsibility Area VHFHSZ maps were initially developed in the mid-1990s and are now being updated based on improved science, mapping techniques, and data. In late 2005 to be effective in 2008, the California Building Commission adopted California Building Code Chapter 7A requiring new buildings in VHFHSZs to use ignition resistant construction methods and materials. These new codes include provisions to improve the ignition resistance of buildings, especially from firebrands. The updated very high fire hazard severity zones will be used by building officials for new building permits in LRA. The updated zones will also be used to identify property whose owners must comply with natural hazards disclosure requirements at time of property sale and 100 foot defensible space clearance. It is likely that the fire hazard severity zones will be used for updates to the safety element of general plans.</p>
Very High State Responsibility Areas (SRA)	<p>The State Board of Forestry and Fire Protection classify areas in which the primary financial responsibility for preventing and suppressing fires is that of the state. These include: lands covered wholly or in part by timber, brush, undergrowth or grass, whether of commercial value or not; lands which protect the soil from erosion, retard run-off of water or accelerated percolation; lands used principally for range or forage purposes; lands not owned by the Federal government; and lands not incorporated. By Board regulations, unless specific circumstances dictate otherwise, lands are removed from SRA when housing densities average more than 3 units per acre over an area of 250 acres.</p>
Very High Federal Responsibility Areas (FRA)	<p>The State and Federal Agencies jointly develop and review the Annual Operating Plan for the protection of Federal Responsibility Areas (FRA) located within State DPAs. As identified in the Annual Operating Plan, the State provides wildland fire protection at a level, which is most nearly equivalent to the wildland fire protection that would be provided directly by the Federal Agencies on FRA of equal hazard, risk, and value. Federal Agencies retain all land management responsibilities except for wildland fire protection on FRA within the area where the State has direct protection responsibility. This does not preclude the Federal Agencies from conducting fire prevention activities on these lands.</p>

An assessment of the overall probabilities of wildfire in the LVMWD Service Area is provided in the [Wildfire Probabilities](#) section.

Per the Bates Bill, the following factors are used to determine the Very High Wildland Fire Hazard Severity Zones in the area.

- Fuel
- Topography
- Dwelling density
- Weather
- Infrastructure
- Fire codes and ordinances as they relate to brush issues

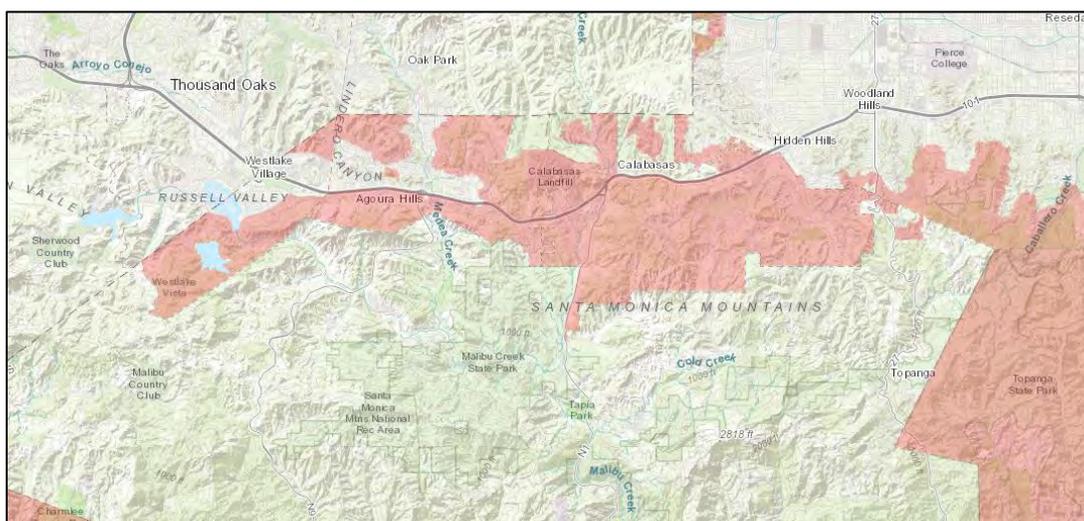
Each factor was given a value of 1-4 with a 4 being the highest danger rating. Any total score over 10 qualified the area as being one of VHFHSZ. Each of the three areas evaluated rated 10 or above with the highest area receiving a 12.

All five cities within the LVMWD Service Area have been designated as VHFHSZs. Fire zone areas are rated on a scale of I – IV, with IV representing the most severe fire hazard zone. The Region contains both Zone III and Zone IV areas.

Identifying the hazard area as set forth above is the first step in assessing each city’s vulnerability to wildland fires. Other key factors in assessing wildfire risk include:

- | | |
|---------------------------------|--|
| • Ignition sources | • Vegetative fuel |
| • Building materials and design | • Fire occurrence |
| • Community design | • Weather, as well as occurrences of drought |
| • Structural density | |
| • Slope | |

The map below depicts the Very High Fire Hazard Severity Zones Local Responsibility Areas (LRA).



Map 10: VHFHSZ LRA

Estimated Impact of an Event

If major wildfire were to occur, the consequences to local populations, employment, and housing could be significant. For the LVMWD, the impact may involve:

- Disruption of Water and Sewage Services to Customers
- Damage to LVMWD Infrastructure (pump stations)
- Loss of Power Leading to Disruptions to Pump Stations

Customer and economic disruptions to 20% of the LVMWD Service Area will result in the following projected losses.

Category	Agoura Hills	Calabasas	Hidden Hills	Westlake Village	Impact if a 20% Loss Occurs
Population	20,692	24,202	1,921	8,440	11,051
Total City Employment	11,200	11,900	-	13,886*	4,620
Economy**	\$811,395,000	\$1,614,403,000	\$500,000	\$1,894,297,000	\$864,119,000
Total Housing Units	5,562	6,097	510	2,934	3,021

*Per California Employment Development Department, InfoGroup, and SCAG Estimates for 2015

**U.S. Census Quick Facts for 2012 (Hidden Hills Retail Sales only based on SCAG City Profile Report for 2012)

WILDFIRE VULNERABILITIES

Base Hazard Factors

In order to determine the "base hazard factor" of specific wildfire hazard sites and interface areas, several factors must be considered. Categories used to assess the base hazard factor include:

- Topography (location, characteristics and geography)
- Fuels
- Development (site/building construction and design, landscaping, defensible space, accessibility, etc.)
- Weather

Topography

Topography influences the movement of air, thereby directing a fire's course. In general, if the percentage of uphill slope doubles the rate of fire spread doubles. Gulches and canyons can funnel air and act as chimneys, which intensify fire behavior and cause the fire to spread faster. Unfortunately, hillsides with hazardous topographic characteristics are also desirable, residential areas in many communities. This underscores the need for wildfire hazard mitigation and increased education and outreach to homeowners living in interface areas.

Numerous canyons, saddles, and ridges in the VHFHSZ will also contribute to erratic fire behavior due to the funnel and subsequent acceleration effect it will have on wind traveling through the area.

Fuels

An important element in understanding the danger of wildfire is the availability of diverse fuels in the landscape, such as natural vegetation, manmade structures and combustible materials. A house surrounded by brushy growth rather than cleared space allows for greater continuity of fuel and increases the fire's ability to spread. After decades of fire suppression "dog-hair" thickets have accumulated, which enable high intensity fires to flare and spread rapidly.

In addition, fuel is a key factor in wildfire behavior. Fuel is classified by volume and by type. Volume is described in terms of "fuel loading," or the amount of available vegetative fuel. In the region, there are several types of fuel including a large amount of chaparral and woodland vegetation that is a catalyst for fire activity.

Like much of Southern California, chaparral is a primary fuel prevalent in the region along with grasses, non-native vegetation and large trees such as junipers, palm, eucalyptus, pines, and locally prevalent oaks.

Added to this is the fact that a large percentage of the fuel beds in the Santa Monica Mountains contain dead and downed vegetation. This "die back" condition is due largely to drought conditions. These fuel beds are extremely receptive to ignition and spread of wildfires more quickly than live vegetation. This type of fuel mode is of particular concern when fires are wind driven, which can lead to short and long-range spotting - which can affect the entire region.

Development

Growth and development in scrubland and forested areas is increasing the number of structures in region. Wildfire has an effect on development, yet development can also influence wildfire. Owners often prefer homes that are private, have scenic views, are nestled in vegetation and use natural materials. There are many types of these homes within the Region that use vegetation as privacy barriers. A private setting may be far from public roads, or hidden behind a narrow, curving driveway. These conditions make evacuation and firefighting difficult. Similarly, narrow and winding roads in these developed areas tend to make evacuation of civilians slow and difficult especially when fire resources are trying to gain access to the area utilizing the same roads.

Wildfire hazard areas are commonly identified in Regions of the urban/wildland interface. Ranges of the wildfire hazard are further determined by the ease of fire ignition due to natural or human conditions and the difficulty of fire suppression. The wildfire hazard is also magnified by several factors related to fire suppression/control such as the surrounding fuel load, weather, topography, and property characteristics. Generally, hazard identification rating systems are based on weighted factors of fuels, weather and topography.

Within the cities in the LVMWD Service Area, increased development in and adjacent to naturally vegetated areas exposes additional structures to potential wildland fires. With sound construction practices, sufficient water flows, brush clearance and provision of adequate access the risk can be reduced.

Weather

Drought

Weather patterns combined with certain geographic locations can create a favorable climate for wildfire activity. Areas where annual precipitation is less than 30 inches per year are extremely fire susceptible. Recent concerns about the effects of climate change (particularly drought) have contributed to concerns about wildfire vulnerability (see **Climate Change** section for additional details).

Drought also leads to less frequent irrigation which can contribute to wildfires. From 2007 to 2009 and again from 2012 to 2016 Southern California experienced severe drought conditions. This corresponds to the most recent years when significant wildfires have occurred.

Wind

High-risk areas in Southern California share a hot, dry season in late summer and early fall when high temperatures and low humidity favor fire activity. The “Santa Ana” winds, which are heated by compression as they flow down to Southern California from Utah, create a particularly high risk, as they can rapidly spread what might otherwise be a small fire.

The Southern California Region experiences Santa Ana Wind conditions typically in the fall months. This poses a threat in two ways. A fire starting in the LVMWD Service Area will spread rapidly and has the potential of overwhelming initial attack forces and destroying structures within minutes of ignition. A fire starting adjacent to the LVMWD Service Area could quickly burn into the area either by direct flame contact or by fire brands being carried by the winds and spotting onto structures or combustible vegetation.

Wind bends the flames to pre-heat the fuel ahead and can carry fire brands up to a quarter mile or more ahead of the flame front. The majority of catastrophic fires that Southern California has experienced have occurred in the months of September, October, and November when Santa Ana Winds typically occur. Wind is considered to be the primary factor that influences fire spread. Furthermore, severe wind gusts can

occur through local canyons and valleys, propelling and increasing the intensity of wildfires.

SCE Public Safety Power Shutoffs

High winds combined with severe wildfire risk increase the threat of power line related fires. Trees can fall onto power lines sparking a fire and wind-blown debris can cause sparks and ignite. In response, Southern California Edison (SCE) has issued public notices that it may de-energize selected power lines during these high risk periods. The SCE website states, “In alignment with its operational safety practices, we may proactively shut off power in high fire risk areas when extreme weather conditions present a clear and imminent danger to public safety. We take pride in service reliability; de-energizing customers is not something we take lightly and is only sparingly used in the most extreme conditions. This will only occur after exhausting a number of other operational practices.”



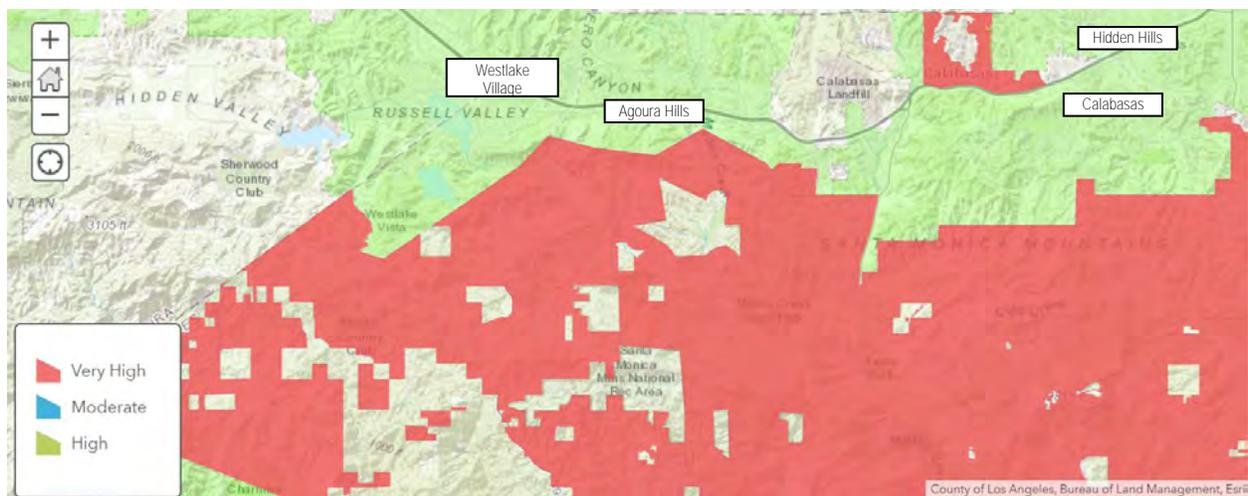
Figure 5: SCE Public Safety Power Shutoff Process

The Threat of Urban Conflagration

An urban conflagration could start either as a result of a lightning strike, arson, human error, earthquake or other phenomenon. Possible scenarios include a fire in planned community that quickly spreads to nearby homes due to a combination of high winds and high temperatures.

Wildfire Probabilities

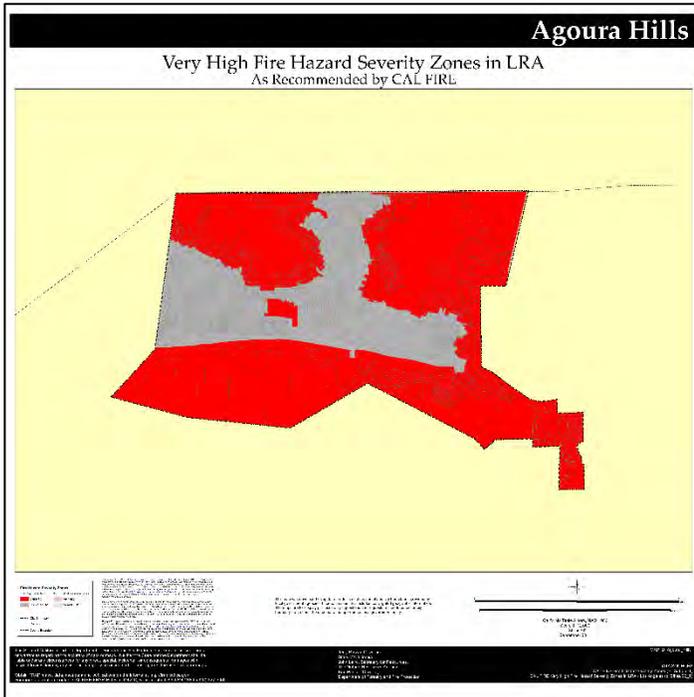
Southern California and the cities within the Las Virgenes Municipal Water District Service Area are perennially under threat of wildfire. This situation will worsen as the impacts of climate change continue (see Climate Change section for additional details). Further, the National Interagency Coordination Center lists the potential outlook of fire for the Southern California region as “Above Normal” as of October 2018. The map below provides an overall view of the probabilities for wildfire in the water district in terms of **Very High**, **High**, and **Moderate** risk. The probability of wildfire for all cities within the LVMWD Service Area are classified as either High or Very High.



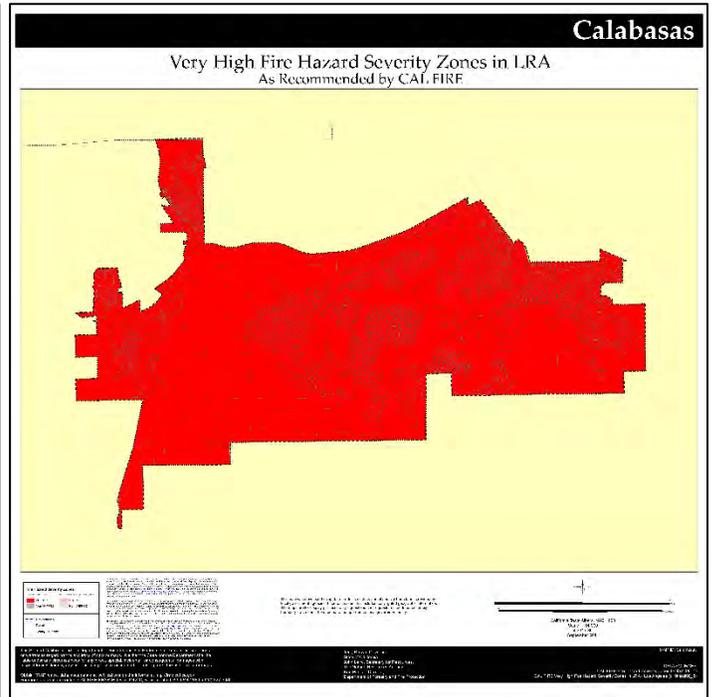
Source: Los Angeles County Fire Department (2018)

The [Very High Fire Hazard Severity Zone](#) section and maps on the following page (city [VHFHSZ maps](#)) provide a detailed assessment of the probable locations for wildfire within the LVMWD Service Area.

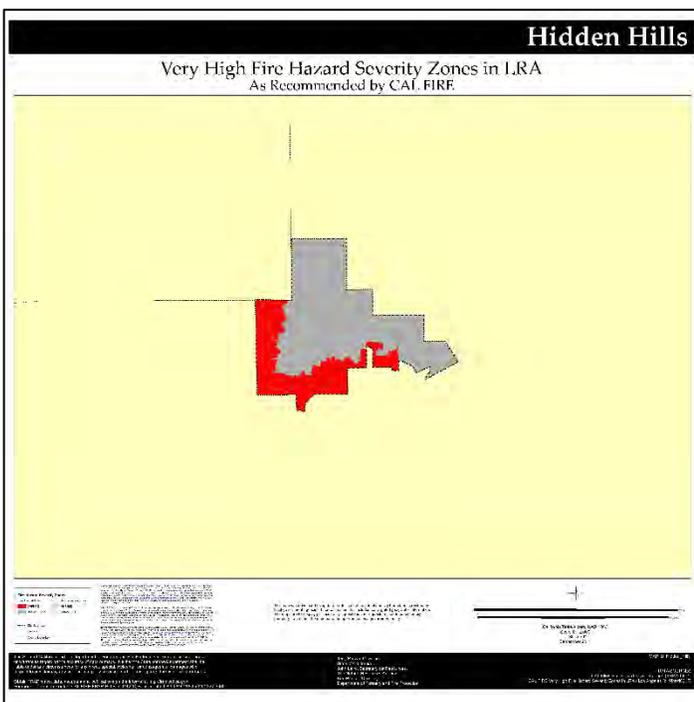
City VHFHZ Maps



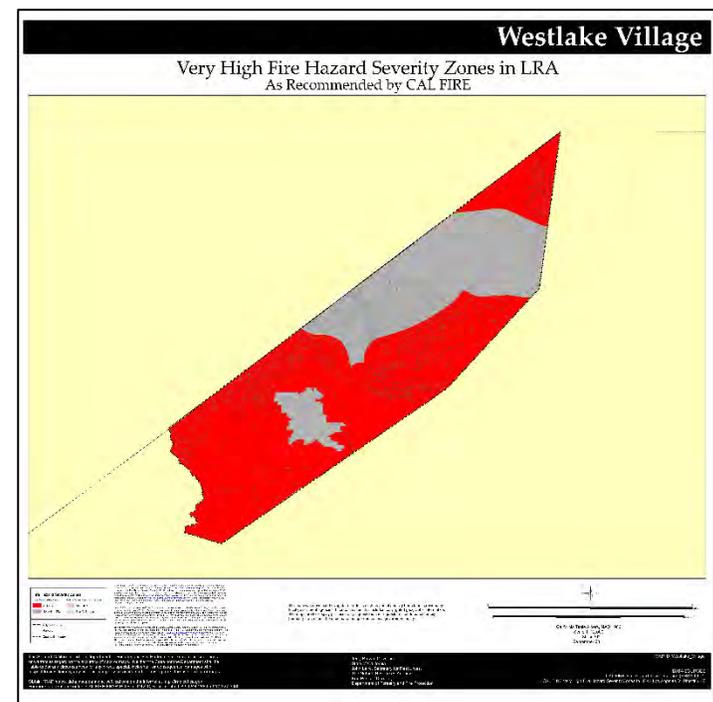
Map 12: City of Agoura Hills VHFHSZ LRA



Map 13: City of Calabasas VHFHSZ LRA



Map 14: City of Hidden Hills VHFHSZ LRA



Map 15: City of Westlake Village VHFHSZ LRA

WILDFIRE MITIGATION STRATEGIES

Federal Programs

The role of the federal land managing agencies in the wildland /urban interface is to reduce fuel hazards on the lands they administer; cooperate in prevention and education programs; provide technical and financial assistance; and develop agreements, partnerships and relationships with property owners, local protection agencies, states and other stakeholders. These relationships focus on activities before a fire occurs, which render structures and communities safer and better able to survive a fire occurrence.

Federal Emergency Management Agency (FEMA) Programs

FEMA is directly responsible for providing fire suppression assistance grants and, in certain cases, major disaster assistance and hazard mitigation grants in response to fires. The role of FEMA in the wildland /urban interface is to encourage comprehensive disaster preparedness plans and programs, increase the capability of state and local governments and provide for a greater understanding of FEMA programs at the federal, state and local levels.

Fire Suppression Assistance Grants

Fire Suppression Assistance Grants may be provided to a state with an approved hazard mitigation plan for the suppression of a forest or grassland fire that threatens to become a major disaster on public or private lands. These grants are provided to protect life and improved property as well as encourage the development and implementation of viable multi-hazard mitigation measures. The grant may include funds for equipment, supplies and personnel. A Fire Suppression Assistance Grant is the form of assistance most often provided by FEMA to a state for fires. The grants are cost-shared with states. FEMA's Fire Administration (USFA) provides public education materials addressing wildland/urban interface issues and the USFA's National Fire Academy provides training programs.

Hazard Mitigation Grant Program

Following a major disaster declaration, the FEMA Hazard Mitigation Grant Program provides funding for long-term hazard mitigation projects and activities to reduce the possibility of damages from all future fire hazards and to reduce the costs to the nation for responding to and recovering from the disaster.

National Wildland/Urban Interface Fire Protection Program

Federal agencies can use the National Wildland/Urban Interface Fire Protection Program to focus on wildland/urban interface fire protection issues and actions. The Western Governors' Association (WGA) can act as a catalyst to involve state agencies, as well as local and private stakeholders, with the objective of developing an implementation plan to achieve a uniform, integrated national approach to hazard and risk assessment and fire prevention and protection in the wildland/urban interface. The

program helps states develop viable and comprehensive wildland fire mitigation plans and performance-based partnerships.

U.S. Forest Service

The U.S. Forest Service (USFS) is involved in a fuel-loading program implemented to assess fuels and reduce hazardous buildup on forest lands. The USFS is a cooperating agency and, while it has little to no jurisdiction in the lower valleys, it has an interest in preventing fires in the interface, as fires often burn up the hills and into the higher elevation US forest lands.

Los Angeles County Fire Department

First Responders

The LVMWD is located in the Central Region, Division of the Los Angeles County Department (LACoFD). Battalion 5 of the LACoFD serves the Las Virgenes Region.

Operating 9 divisions and 22 battalions, LACoFD answers approximately 300,000 emergency calls annually. The Department currently has 169 fire stations, 68 paramedic squads, 9 wildland fire suppression camps, 10 bulldozers, 9 helicopters, 23 Prevention Offices, 12 Forestry Units and numerous other response vehicles and facilities. It serves 58 incorporated cities, as well as the unincorporated areas of the County. Additionally, the Department has Planning, Information Management, Lifeguard, and Health Hazardous Materials Divisions which provide valuable services to the more than 4.1 million people who reside in the 1.2 million housing units located throughout the Department's 2,305 square mile area. The LACoFD is one of six Contract Counties that maintain a contractual relationship with California Department of Forestry and utilizes the California Fire Plan within Los Angeles County as the primary wildland fire protection plan.

Fire Prevention Division

Fire prevention and code enforcement in this area historically requires concentrated efforts related to water supplies for fire protection and vehicular access for fire apparatus. Geographic and terrain limitations as well as the lack of water supply in mountainous terrain present challenges that LACoFD Inspectors review and inspect, often times providing alternative solutions for the owners/occupants to consider.

Special Operations Bureau

The Special Operations Bureau provides highly technical operational functions to County residents including Emergency Medical Services, Urban Search and Rescue, Hazardous Materials, Air Operations, Fire Camps for wildland firefighting, Heavy Equipment and central Dispatch.

Fire Prevention Programs

The Los Angeles County Fire Department manages an active effort in order to prevent the possibility of a wildfire occurring within region. The following list provides a sample of the programs, activities and practices.

Prescribed Burning

The health and condition of brush will determine the magnitude of wildfire. The LACoFD does practice prescribed burning. If fuels (slash, dry or dead vegetation, fallen limbs and branches) are allowed to accumulate over long periods of time without being methodically cleared, fire can move more quickly and destroy everything in its path. The results are more catastrophic than if the fuels are periodically eliminated. Prescribed burning is the most efficient method to remove these fuels.

Pre-Fire Management Plan

As a preventative measure, the LACoFD also implements a Pre-Fire Management Plan whose overall goal is to reduce the total cost and losses from wildland fires in California by protecting assets at risk through focused pre-fire management prescriptions and increased initial attacks.

Fuel Modification Plan

The Fuel Modification Plan is part of the Forestry Division of the LACoFD. This publication was prepared to establish a set of guidelines and landscape criteria for all new construction relating to fuel modification planning that will reduce the threat of fire in high hazard areas.

Vegetation Management Program

The Vegetation Management Program (VMP) is a cost-sharing program that focuses on the use of prescribed fire, mechanical, biological and chemical means for addressing wildland fire fuel hazards and other resource management issues on State Responsibility Area (SRA) and Local Responsibility Area (LRA) lands. The use of prescribed fire mimics natural processes, restores fire to its historic role in wildland ecosystems, and provides significant fire hazard reduction benefits that enhance public and firefighter safety.

The Los Angeles County Fire Department created the Vegetation Management Program in 1979 to develop strategies for responding to the growing fire hazard problem. These include:

- An ongoing effort to analyze the history of wildland fires in Los Angeles County
- Experimentation with different methods of reducing and removing fuels in fire prone areas
- Evaluation of the environmental impacts and effects of these practices

Brush Clearance Inspection Program

Mandated by the LA County Fire Code, all property owners in the region are presently required to maintain a firebreak around and adjacent to all buildings and structures by removing all flammable vegetation or other combustible growth for a minimum distance of 200 feet from the structure or to the property line, whichever is closer.

The Brush Clearance Program is a joint effort between the Los Angeles County Fire Department and the County of Los Angeles Department of Agricultural Commissioner/Weights and Measures, Weed Hazard and Pest Abatement Bureau (Weed Abatement Division). This unified enforcement legally declares both improved and unimproved properties a public nuisance, and where necessary, requires the clearance of hazardous vegetation. These measures create “Defensible Space” for effective fire protection of property, life and the environment. The Department’s Brush Clearance Unit enforces the Fire Codes as it relates to brush clearance on improved parcels, coordinates inspections and compliance efforts with fire station personnel, and provides annual brush clearance training to fire station personnel.

Fire Retardant Foam

All the Los Angeles County Fire Department fire engines are equipped with fire retardant foam capability. This type of program demonstrates the value of pre-suppression and prevention efforts when combined with property owner support to mitigate hazards within the wildland/urban interface.

Fire Codes

Fire codes have been amended throughout the years to assist fire department personnel with wildland firefighting in the rural/urban interface zones. Building construction in these areas may have additional requirements for non-combustible construction components and water supplies. Inspectors assigned to these regional offices provide developers and homeowners with information for fire safe construction and fire protection systems.

Building Codes

All cities in the LVMWD Service Area are located within the Very High Fire Hazard Severity zone (VHFHSZ). Class A roofing material and one-hour rated exterior construction of structures is required by Fire and Building Codes.

Public Education and Involvement

The Fire Prevention Division within the Los Angeles County Fire Department (LACoFD) focuses on educating the community about the benefits of proper safety practices and identifying and eliminating all types of hazardous conditions, which pose a threat to life, the environment and property.

Ready Set Go!

The Los Angeles County Fire Department promotes wildfire prevention, loss mitigation, and preparedness via its website, through public information campaigns, and neighborhood inspections. As part of this effort, the LACoFD has published a personal wildfire action plan for residents living in the interface region called Ready Set Go! The plan describes the actions and tools necessary to successfully prepare for a wildfire. It gives guidance on retrofitting houses with fire-resistant features and describes how to create the necessary defensible space around the home. This publication also helps families prepare well ahead of time so that they are ready to quickly evacuate from an area endangered by a fast-approaching wildfire.



Figure 6: LACoFD Ready Set Go Web Page

BAER (Burned Area Emergency Rehabilitation)

The Los Angeles County Fire Department working in cooperation with the U.S. Forest Service, surveys burned areas after wildfires in order to determine what mitigation efforts are necessary to avoid mudslides in the event of a large rainfall (ex. strategically placing K-rails to deter mudslides) and to begin re-vegetation.

LVMWD Mitigation Activities

The LVMWD continues to focus on wildfire mitigation planning to support its operations and the local communities it serves. Key activities include:

- Brush Clearance and Tree Trimming Around LVMWD Facilities and Critical Infrastructure
- Emergency Power Generation to Support Key Pump Stations
- Ongoing Inspections and Assessments of All LVMWD Facilities and Infrastructure

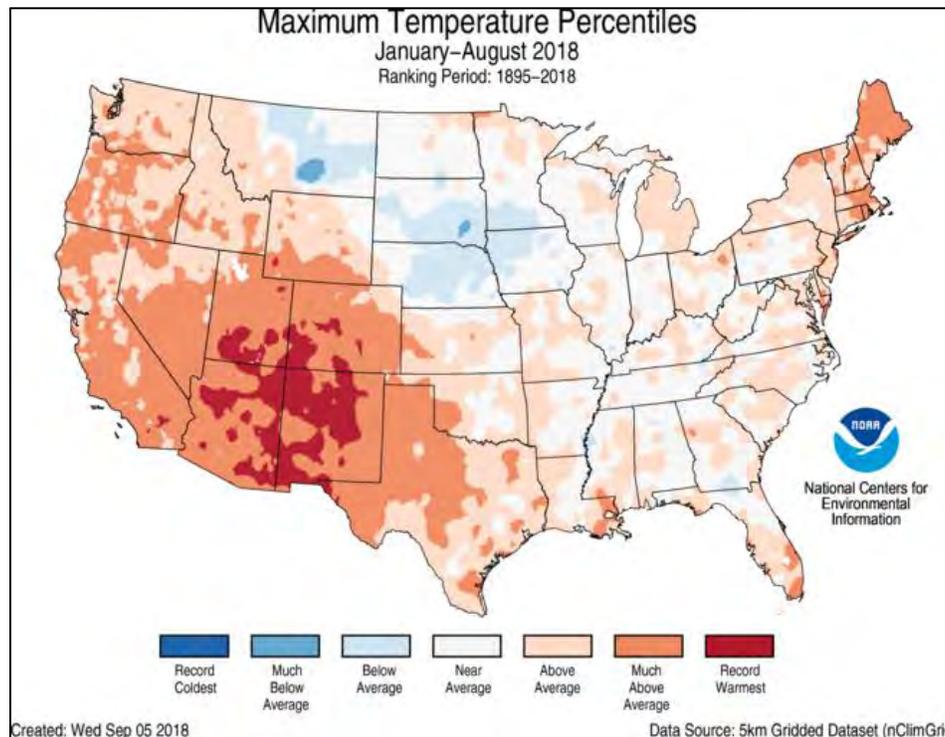
SECTION 6: CLIMATE CHANGE

THE NATURE OF THE CLIMATE CHANGE THREAT

According to “California’s Fourth Climate Change Assessment” developed by the State of California, continued climate change will have a severe impact on California. Increased temperatures, drought, wildfires, and sea level rise are several of the main concerns related to climate change in the Southwest.

Temperature Rise

By the year 2100, the average annual maximum daily temperature is expected to increase 5.6° to 8.8° Fahrenheit. The resulting rise in temperature can result in power outages (from increased demands combined with limited supplies) as well as agriculture and livestock losses.



Map 16: Maximum Temperature Percentiles (1895-2018)

Water and Drought

By 2050, the water supply from the California snowpack is projected to decline by two-thirds. This will lead to water shortages of up to 16 percent in certain regions causing losses in agriculture as well as community water consumption restrictions.

Wildfire

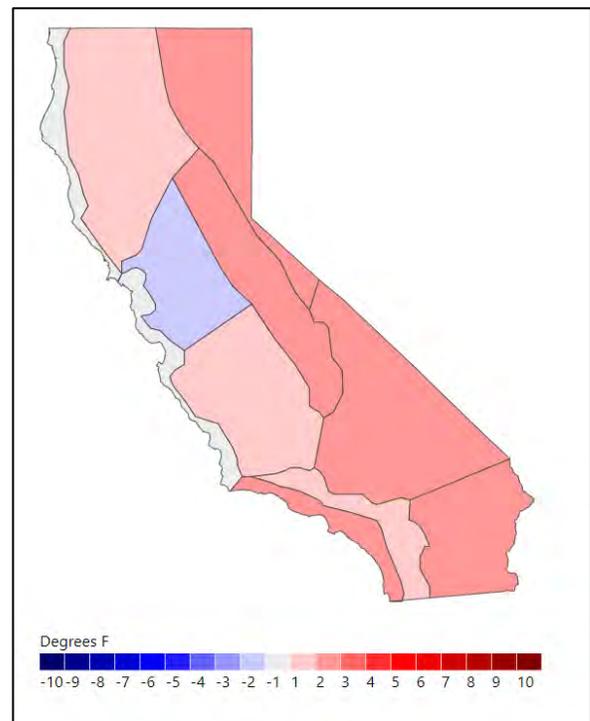
By 2100, the frequency of severe wildfires is expected to increase, with a projected 77 percent rise in the average area burned statewide. In the areas that have the highest fire risk, wildfire insurance is estimated to see costs rise by 18 percent by 2055 (see **Wildfire** section for additional area specific information).

CLIMATE CHANGE AND DROUGHT HISTORY

Temperature

Overall, temperatures in the South Coast Region of California have fluctuated year-to-year but have shown a consistent increase since 2012. Furthermore, as of August 2018, the average temperature in the South Coast Region rose 2 degrees from the 1981-2010 average (CNAP California Climate Tracker). The table below provides a summary of the annual deviation from the average temperature from 1990 to 2017.

Year	Annual Mean Temperature (Fahrenheit)	Average (1895-2017)	Change
1990	63.77	63.44	0.33
1991	63.09	63.44	-0.35
1992	64.69	63.44	1.25
1993	63.71	63.44	0.27
1994	63.19	63.44	-0.25
1995	64.05	63.44	0.61
1996	64.67	63.44	1.23
1997	64.83	63.44	1.39
1998	62.14	63.44	-1.30
1999	62.48	63.44	-0.96
2000	63.40	63.44	-0.04
2001	62.37	63.44	-1.07
2002	62.54	63.44	-0.90
2003	63.89	63.44	0.45
2004	63.33	63.44	-0.11
2005	63.39	63.44	-0.05
2006	63.80	63.44	0.36
2007	63.37	63.44	-0.07
2008	64.19	63.44	0.75
2009	63.75	63.44	0.31
2010	62.15	63.44	-1.29
2011	62.13	63.44	-1.31
2012	64.14	63.44	0.70
2013	63.99	63.44	0.55
2014	66.42	63.44	2.98
2015	65.83	63.44	2.39
2016	64.91	63.44	1.47
2017	65.20	63.44	1.76



Map 17: CNAP Mean Temperature Departures from 1981-2010 Average

Source: The National Drought Mitigation Center, University of Nebraska-Lincoln

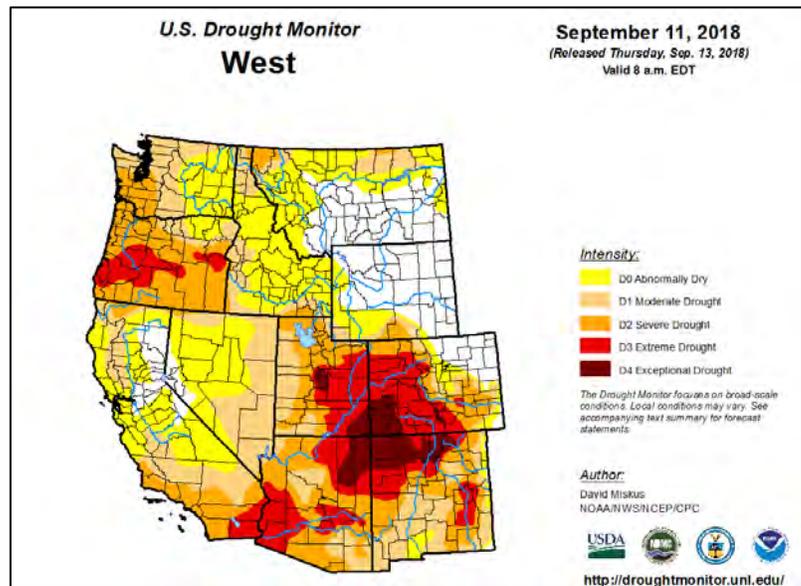
Source: Western Regional Climate Center

Drought

California is currently recovering from the last prolonged period of drought that lasted from 2012 to 2017 and again in the 2018-2019 season. Despite these periods of heavy rains, California and the Western U.S. remain in risk of severe drought.

In addition, historically since rainfall in the South Coast of California and the State in general has varied widely from year to year.

The table below provides a summary of the rainfall variations from 1980 to 2017. Since 2011, average rainfalls have fallen short of the historical average (the annual average from 1895 to 2017 was 17.61).



Map 18: Current Drought Western U.S. Status (2018)

Year	Precipitation (inches)	Percent of Average	Year	Precipitation (inches)	Percent of Average
1980	27.58	156.61	1999	8.14	46.21
1981	13.46	76.43	2000	14.80	84.04
1982	21.72	123.32	2001	21.16	120.15
1983	36.66	208.18	2002	9.00	51.08
1984	9.62	54.62	2003	15.39	87.37
1985	10.35	58.77	2004	19.77	112.25
1986	18.02	102.31	2005	27.77	157.68
1987	13.29	75.48	2006	14.97	85.03
1988	13.40	76.11	2007	7.40	42.03
1989	5.44	30.89	2008	16.77	95.23
1990	8.56	48.59	2009	11.03	62.62
1991	19.26	109.35	2010	28.06	159.31
1992	23.78	135.01	2011	14.21	80.71
1993	28.93	164.25	2012	11.44	64.93
1994	12.75	72.42	2013	5.39	30.60
1995	31.70	180.01	2014	10.86	61.68
1996	20.19	114.64	2015	7.77	44.11
1997	14.40	81.77	2016	13.46	76.44
1998	32.56	184.86	2017	14.91	84.66

Source: Western Regional Climate Center

CLIMATE CHANGE HAZARD IDENTIFICATION

LVMWD Service Area climate change hazards involve multiple threats including:

- Loss and/or Disruption to Water Supplies
- Increased Wildfires
- Extreme Heat (resulting in higher water demands)
- Power Outages (impacting facilities and pump stations)
- Increased Flood, Landslide, and Debris Flow Threats

Estimated Impact of an Event

Climate change has multiple consequences to local populations. For the LVMWD, the impact may involve:

- Disruption of Water and Sewage Services to Customers
- Damage to LVMWD Infrastructure from Wildfires, Subsidence/Sink Holes, Landslides, and Flood Inundation
- Loss of Power Leading to Disruptions to Pump Stations

Customer and economic disruptions to 10% of the LVMWD Service Area will result in the following projected losses.

Category	Agoura Hills	Calabasas	Hidden Hills	Westlake Village	Impact if a 10% Loss Occurs
Population	20,692	24,202	1,921	8,440	5,526
Total City Employment	11,200	11,900	-	13,886*	2,310
Economy**	\$811,395,000	\$1,614,403,000	\$500,000	\$1,894,297,000	\$432,059,500
Total Housing Units	5,562	6,097	510	2,934	1,510

*Per California Employment Development Department, InfoGroup, and SCAG Estimates for 2015

**U.S. Census Quick Facts for 2012 (Hidden Hills Retail Sales only based on SCAG City Profile Report for 2012)

CLIMATE CHANGE VULNERABILITIES

In terms of vulnerabilities, the main concerns involve the impact of:

- Excessive Heat leading to:
 - Power outages
 - Heat-related health issues
- Drought and Limited water supplies causing:
 - Reduced water availability to the local community and residents
 - Livestock (including horses) and domesticated animal losses
 - Damage to local natural habitats
- Wildfire (see **Wildfire** section)

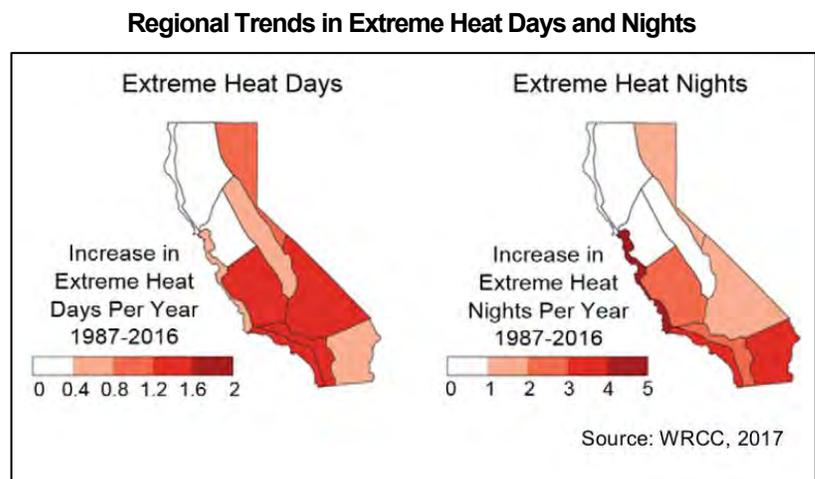
Climate Change Probabilities

According to the Environmental Protection Agency (EPA), continued emissions of greenhouse gases will lead to further climate changes. Future changes are expected to include a warmer atmosphere, a warmer and more acidic ocean, higher sea levels, and larger changes in precipitation patterns. The extent of future climate change depends on what we do now to reduce greenhouse gas emissions. The more emitted, the larger future changes will be (Environmental Protection Center, 2015).

Temperature Rise

California can expect an increase in temperature in the future. A recent presentation by the California Public Utilities Commission, Policy & Planning Division ¹ stated that extreme heat days in some cities in California are likely triple by 2030.

The Indicators of Climate Change in California report summarized trends in extreme heat conditions for the state.² The report indicated that the number of daytime heat waves varied year-to-year without a clear trend. However, nighttime heat waves increased in frequency over the past 40 years.



Map 19: Regional Trends in Extreme Heat Days and Nights

¹ Douglas, Kristin, California in 2050: Some Sizzling Predictions, California Public Utilities Commission, Policy & Planning Division, 2017

² Milanés, et al., Indicators of Climate Change in California, 2018.

Further, regional trends showed that the rate of increase in the number of extreme heat nights was twice that of the rate of increase in extreme heat days for most of Southern California. The graph on the following page depicts the number of Extreme Heat days by year from 1950 through 2005 with predictions to 2099.

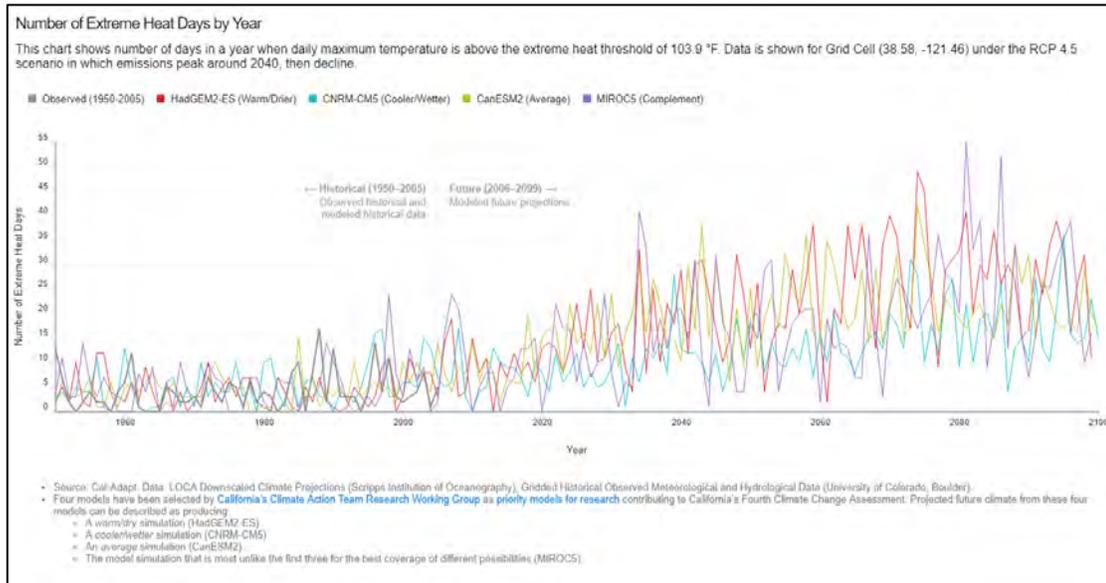


Figure 7: Number of Extreme Heat Days by Year

Source: Cal-adapt.org

Drought

Over the long-term, drought conditions in the Western U.S. are likely to continue for the foreseeable future as exemplified by the 2012 – 2016 drought (see previous Drought History section for additional details). Short-term, the region remains in Severe Drought status. Long-term, the region can expect lower than historical precipitation in the future. The chart below provides a predictive model of accumulated rainfall for the area from 2046 to 2047.

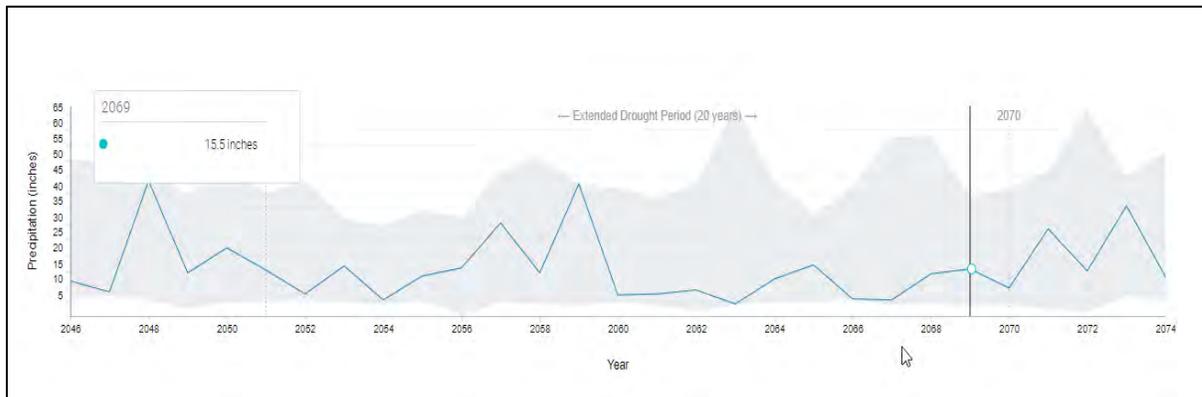


Figure 8: Extended Drought Scenario (2051 - 2070)

CLIMATE CHANGE MITIGATION STRATEGIES

State and Federal Water Management Operations

On January 17, 2014, Governor Jerry Brown Jr. declared a state-wide drought State of Emergency. Under the requirements issued by the Governor, specific water use restrictions were put into place and goals were established for communities to decrease water use (State of California, California Department of Water Resources, 2015). Key measures in the proclamation include:

- Asking all Californians to reduce water consumption by 20 percent and referring residents and water agencies to the Save Our Water campaign - www.saveourh2o.org - for practical advice on how to do so
- Directing local water suppliers to immediately implement local water shortage contingency plans
- Ordering the State Water Resources Control Board (state water board) to consider petitions for consolidation of places of use for the State Water Project and Central Valley Project, which could streamline water transfers and exchanges between water users
- Directing the California Department of Water Resources and the state board to accelerate funding for projects that could break ground this year and enhance water supplies
- Ordering the state water board to put water rights holders across the state on notice that they may be directed to cease or reduce water diversions based on water shortages
- Asking the state water board to consider modifying requirements for releases of water from reservoirs or diversion limitations so that water may be conserved in reservoirs to protect cold water supplies for salmon, maintain water supplies and improve water quality

As part of the State's drought response, a public website has been established to provide guidance and information on ways to save water <http://saveourwater.com/>. According to the State of California Drought Management Website (May 1, 2014) (<http://ca.gov/drought/managementactions.html>):

“the Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (Reclamation) joined with the State Water Resources Control Board (State Water Board) to form a Real-Time Drought Operations Management Team. This multi-agency team has exercised flexibility to conserve and store water since late January and continues exercising flexibility in a manner consistent with State Water Project and federal Central Valley Project operations protocols and provisions for water contract shortages. The California Department of Fish and Wildlife (CDFW), the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have coordinated closely with the Team and they have collectively worked to ensure that water management decisions do not unreasonably affect threatened and endangered species” (State of California, 2014).

LVMWD Mitigation Activities

The LVMWD continues to promote climate change related mitigation planning to support its operations and the local communities it serves. Key activities include:

- Brush Clearance and Tree Trimming Around LVMWD Facilities and Critical Infrastructure to Reduce the Threat of Wildfires
- Leak Detection and Prevention to Reduce Water Loss to Maximize Water Resources (during drought conditions)
- Emergency Power Generation to Support Key Pump Stations

SECTION 7: ENERGY DISRUPTION

THE NATURE OF THE ENERGY THREAT

Energy is a critical dependency throughout the LVMWD Service Area Region. Sources of energy include electric power, natural gas, oil and fuel supplies. The focus of this section is on electric power disruptions.

The electric power system of North America is comprised of four major sections: the Quebec Interconnection, Eastern Interconnection, Western Interconnection and the ERCOT Interconnection. California is part of the Western Interconnection. Within each Interconnection there are interdependent power generators and transmission lines. As such, a failure in any part of an Interconnection can cause a widespread disruption to all or a major section of the electrical grid.

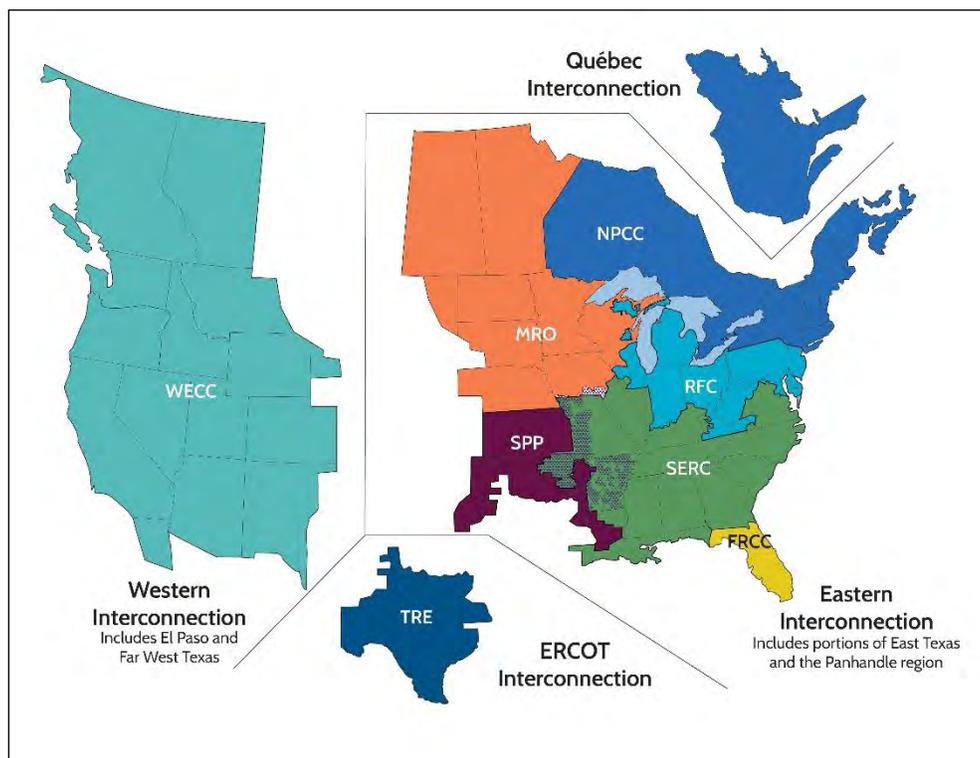


Figure 9: NERC Interconnections

Energy disruptions have a major impact on the public, businesses, and critical infrastructure. Such disruptions result from natural or human-generated disasters or be a result of other issues such as spikes in demand during peak energy use, unanticipated power plant shutdowns, transmission system congestion, and equipment or system failures.

HISTORICAL RECORD OF POWER OUTAGES

Energy disruptions have a major impact on the public, businesses, and critical infrastructure. Within Southern California and Los Angeles County, there have been incidents of major power outages in the past. The table below lists examples of major and minor power failures in the area since 1996 to depict the variety of causes and impacts from natural events, technology failures, and man-made incidents.

Event Year	Event	Affected Areas	Cause
1996	Western North American Blackouts	Arizona, California, Colorado, Idaho, Montana, Nebraska, Nevada, New Mexico, Oregon, South Dakota, Texas, Utah, Washington and Wyoming, Alberta, British Columbia, and Baja California Norte in Mexico.	Man-made: trees too close to power lines caused systemic failures.
2000 – 2001	California Electricity Crisis	The State of California	Man-made: energy shortages caused by market manipulation, regulation and deregulation, price caps, supply and demand.
2004	Rolling Blackouts	Forced blackouts in local communities from Calabasas to Simi Valley.	Technology: Power company equipment failure.
2005	Los Angeles Blackout	The City of Los Angeles, West Los Angeles, San Fernando Valley, Hollywood	Man-made: human error
2011	Southwest Blackout	California – San Diego, Orange, Riverside, and Imperial Counties. Also affected states in Northern Mexico, as well as counties in Arizona.	Man-made: human error.
2011	Southern California Windstorm	More than 340,000 homes were without power in Los Angeles County including the San Gabriel Valley, Westchester, Highland Park, South Los Angeles, and the San Fernando Valley.	Natural: Downed trees caused by high winds brought down power lines resulting in major power outages in the region.
2013	Malibu Power Outage	More than 3,000 customers along Pacific Coast Highway lost power in a local outage.	Natural: Bird striking power lines.
2013	Los Angeles County Power Outage	Power outage impacting more than 69,000 homes in Los Angeles County including parts of Calabasas and Westlake Village.	Undetermined: Downed power lines.
2014	Pasadena Power Outage	Several thousand home and businesses in Pasadena experienced a prolonged blackout.	Man-made: Mylar balloon tangled in power lines.
2014	Los Angeles County Blackouts	More than 50,000 homes were without power in Los Angeles County.	Natural: Winter storms.

POWER OUTAGE HAZARD IDENTIFICATION

Electrical power is supplied to the LVMWD by Southern California Edison (SCE). Power outages can occur whenever there is a severe disruption to power generation facilities or the electric distribution network (for instance during a severe storm, earthquake, or wildfire).

In addition, human error is a potential risk. For example, on September 8, 2011 an Arizona Public Service (APS) employee is believed to have caused a major power outage that included Arizona and portions of Southern California including San Diego, Orange, and Imperial Counties. The outage impacted more than 5 million people. While the LVMWD was not impacted, this event demonstrates the potential for widespread power disruptions.

Furthermore, there is an ongoing risk of cyber-attack to the nation's critical infrastructure. On August 14, 2003, the MSBLAST worm (Blaster) and SoBig worms were suspected of causing a massive blackout in the Northeastern Interconnect impacting 50 million customers from the mid-west to the east coast.

CAUSES AND CHARACTERISTICS OF ENERGY EVENTS

Energy threats can be categorized into four types of events:³

- Natural disasters caused by nature (e.g., floods, wind, earthquakes)
- Accidental events caused by technological failure (e.g., pipeline rupture, chemical spills, nuclear system failure)
- Systemic threats caused by the physical inability of the energy delivery system (generation and distribution) to meet demand
- Deliberate attacks caused by people – (e.g. terrorists, criminals, hackers, delinquents, employees)

³ The National Association of State Energy Officials (NASEO) *State Energy Assurance Guidelines*

Natural Disasters

Natural hazard events have the potential to cause disruptions in the energy supply. In the LVMWD Service Area, the following types of events can cause outages or other energy events:

- Drought
- Earthquakes
- Flooding
- Severe storms
- Subsidence
- Wildfires
- Windstorms

Accidental Events

Accidental events that cause energy disruptions can be due to technological failure, hazardous materials releases, pipeline rupture, nuclear system failure, accidental actions or inaction. Accidents can be a localized event such as a car crashing into a power pole or a local transformer incident or can be more widespread such as the Southwest Blackout of 2011 that was caused by an employee making repairs at an electrical substation. As the energy infrastructure ages, there is the possibility of equipment failure that can cause intermittent power or pipeline failures.

Systemic Threats

Systemic threats affect the entire energy distribution and production network, including production plants and distribution infrastructure. Systemic events occur when energy delivery systems are physically unable to meet demand. Examples of systemic threats include insufficient power generation capabilities during peak demand such as during a prolonged heat wave.

Deliberate Attacks

Deliberate attacks are intentional, malicious acts caused by people that are aimed at personnel, equipment, infrastructure, or computer systems (cyber-attacks). Many power plants and other infrastructure are remotely controlled by supervisory control and data acquisition (SCADA) systems. SCADA systems are vulnerable to attack by hackers who can access the system and perform acts of sabotage against a target, and an attack against SCADA can shut down an energy provider's operations. A deliberate attack such as a Denial of Service attack can slow or shut down a provider's Web site and make it difficult for customers to access personal or billing information.

In addition, physical attacks can target distribution points, transmission lines, and pipelines.

POWER OUTAGE HAZARD IDENTIFICATION

A large power outage in the region that happens during the hottest part of summer or the coldest part of winter will likely result in injury and in extreme cases – fatalities as well as disrupt key lifelines such as water supplies. An outage at any time will disrupt roads, highways, lifelines, public services, and the general health of local populations.

Lifelines

Many lifelines are dependent on power, including water pumping stations and sewage systems. A power outage will prevent these systems from running normally as they are reliant on electricity for operations. Examples include:

- Water pumping stations, wells, and sewage treatment plants are dependent on electrical power. While the pumping stations have backup generators in case of power outages, an extended outage may affect the ability of these stations to provide or preserve the safety of water.
- The telecommunications infrastructure is comprised in part of hard-wired telephone and cable systems, microwave transmission stations, cellular telephone systems, and radio systems. Industries dependent on the telecommunications sector include oil and gas, electric power, transportation, emergency services, government services, water, and banking and finance. Most telecommunications providers have backup power plans and agreements to procure the fuel needed to run during a power outage, although an extended outage may impede the ability of telecommunications providers to continue to deliver service to the dependent industries.
- Some gas and fuel pipelines may be dependent on electricity at pumping and filtering stations. Utility offices and command centers may be reliant on natural gas or other fuels to maintain continuity of operations.

Estimated Impact of an Event

If major power disruption were to occur, the consequences to local populations, employment, and housing could be significant. For the LVMWD, the impact may involve:

- Disruption of Water and Sewage Services to Customers
- Damage to LVMWD Equipment (from power fluctuations)
- Loss of Power Leading to Disruptions to Pump Stations

Customer and economic disruptions to 20% of the LVMWD Service Area will result in the following projected losses.

Category	Agoura Hills	Calabasas	Hidden Hills	Westlake Village	Impact if a 20% Loss Occurs
Population	20,692	24,202	1,921	8,440	11,051
Total City Employment	11,200	11,900	-	13,886*	4,620
Economy**	\$811,395,000	\$1,614,403,000	\$500,000	\$1,894,297,000	\$864,119,000
Total Housing Units	5,562	6,097	510	2,934	3,021

*Per California Employment Development Department, InfoGroup, and SCAG Estimates for 2015

**U.S. Census Quick Facts for 2012 (Hidden Hills Retail Sales only based on SCAG City Profile Report for 2012)

POWER OUTAGE VULNERABILITIES

The major concern regarding the impact on communities from power outage events is the failure of critical infrastructure and the danger to public health. Critical infrastructure failures may require days or weeks to repair. In addition, the impact to business and industry can result in immediate and long term economic loss.

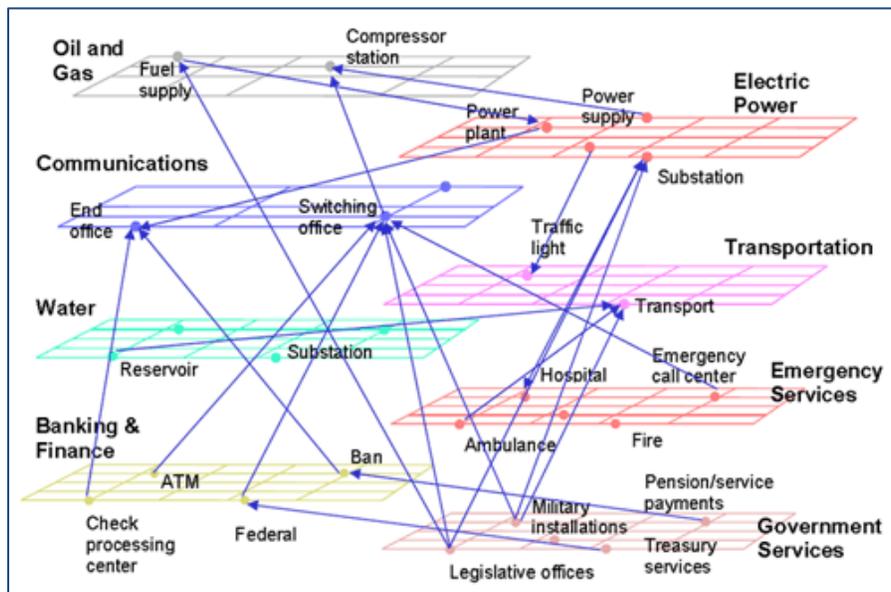


Figure 10: Infrastructure Interdependencies

Source: FCC Public Safety and Homeland Security Bureau

Critical Infrastructure

Critical infrastructure can fail during a power outage, especially if the event lasts longer than a few days. Outages will affect water and sewer systems, pipelines, transportation networks, emergency facilities, telecommunications systems, hospitals, and other essential sites. Power outages that last a few hours may only be an inconvenience as most critical infrastructure component have generators or backup power capabilities, but prolonged outages will affect the usability of generators and depend heavily on access to fuel sources. Finally, the failure of services such as the sewage system may pose a hazard to the health of the local community.

Many infrastructure components are dependent on each other. For example, pipelines depend on electricity, and while fuel can be used to run generators, once existing fuel supplies are depleted, it is difficult to procure new supplies without electricity. If gasoline is unavailable, transportation systems become unreliable. As a result, these “infrastructure interdependencies” can create larger issues the longer a power outage lasts.

ENERGY DISRUPTION MITIGATION STRATEGIES

SCE provides power to all cities within the LVMWD Service Area and is responsible for managing the power supply. To mitigate the threat of power outages, SCE has an emergency preparedness program in place to address pre- and post-disaster planning needs.

Additionally, SCE has included in their plans the need to communicate with the public during an outage. SCE also continually assesses the vulnerability of their system to hazards and takes steps to mitigate the risk. This includes contingency plans for shutting down parts of the electric distribution network in high risk wildfire conditions such as during periods of extreme wind.

LVMWD Mitigation Activities

The LVMWD continues to pursue mitigation actions to respond to the potential for energy disruptions. Such action is required to support its operations and the local communities that the LVMWD serves. Key activities include:

- Emergency Power Generation to Support Key Pump Stations
- Solar Power Implementation

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SECTION 8: LANDSLIDE AND DEBRIS FLOWS

THE NATURE OF THE LANDSLIDE THREAT

A landslide is defined as, the movement of a mass of rock, debris, or earth flow down a slope. Landslides are a type of “mass wasting” which denotes any down slope movement of soil and rock under the direct influence of gravity (FEMA). The term “landslide” encompasses events such as rock falls, topples, slides, spreads, and flows. Landslides can be initiated by rainfall, earthquakes, changes in groundwater, disturbance and change of a slope by man-made construction activities, or any combination of these factors. Underwater landslides can also occur causing tidal waves and damage to coastal areas.

The size of a landslide normally depends on the geology and the initial cause of the landslide. Landslides vary greatly in their volume of rock and soil, the length, width, and depth of the area affected, frequency of occurrence, and speed of movement. Some characteristics that determine the type of landslide are slope of the hillside, moisture content, and the nature of the underlying materials. Landslides are given different names, depending on the type of failure and their composition and characteristics.

Landslides can be described as either: (1) rapidly moving (generally known as debris flows), and (2) slow moving. Rapidly moving landslides or debris flows present the greatest risk to human life. People living in or traveling through areas prone to rapidly moving landslides are at increased risk of serious injury. Slow moving landslides can cause significant property damage but are less likely to result in serious human injuries (USGS).

Nationally, landslides (including mudslide and debris flows) cause 25 to 50 deaths each year. The best estimate of direct and indirect costs of landslide damage in the United States range between \$1 billion and \$2 billion annually (FEMA)⁴. As a seismically active region, California has had a significant number of locations impacted by landslides.

In addition to the potential loss of life, landslides can result in pipeline and critical infrastructure damage as well as private property losses, impact transportation corridors, break fuel and energy conduits, and disrupt communication facilities. Within the LVMWD Service Area there are areas that are susceptible to landslides and debris flows due to slope instability, fire activity, rainfall and the geologic make-up of the area.

⁴ FEMA, Landslide Loss Reduction, A Guide for State and Local Government Planning, 1989

Debris Flow

A debris or mud flow is a river of rock, earth and other materials, including vegetation that is saturated with water. This high percentage of water gives the debris flow a very rapid rate of movement down a slope. Debris flows can have speeds on the order of 20 mile per hour and can often move much faster (California Department of Conservation). This high rate of speed makes debris flows extremely dangerous to people and property in its path. In the event of a major landslide, debris flow can destroy roadway pavement and fill the storm drain catch basins. Any significant surface movement along streets will isolate residents and disrupt utilities in those areas. Although no significant debris flow resulting from landslide activity has been recorded in the LVMWD Service Area, it remains a possibility.

HISTORICAL RECORD OF LANDSLIDE EVENTS

History of Landslides, Debris Flows, and Mudflows in Southern California

The National Weather Service has documented the following significant flood triggered landslide, debris flows, and mud slide events in Southern California since 2010 (additional flood events are documented in the **Flood and Severe Winter Storm** section).

Date(s)	Weather	Adverse Impacts
12/17/2010 - 12/22/2010	A very wet period developed as strong westerly flow across the Pacific tapped a pool of deep subtropical moisture near Hawaii, resulting in days of moderate to heavy rainfall. Four to 12 inches of rain fell in the coastal and valley areas over six days, 12 to 28 inches in the mountains, up to 9 inches in the high desert and less than 4 inches in the lower desert.	Major landslides and flash flooding impacted the communities of Laguna Beach, Apple Valley, along the Whitewater Channel in the Coachella Valley near Palm Springs, Highland, Corona, Loma Linda, La Jolla, and the city of San Diego from 12.21 to this day. Qualcomm Stadium was flooded but was miraculously drained and prepared for the Poinsettia Bowl held there on 12.23.
8/17/2012	A massive thunderstorm dropped 5.36" of rain on Yucaipa Ridge.	Runoff caused several mudslides down the hill in Forest Falls, one was 5 feet deep.
8/30/2012	Thunderstorms erupted in the mountains above Cathedral City. A thunderstorm produced 1.53" in one hour at March AFB in Riverside.	Major flash flooding in Cathedral City included 1 to 2 feet of rapidly moving water, closing several roads. Water forced mud and debris into several businesses in town, causing significant damage. Flash flooding in Moreno Valley went into a few homes. A rescue was needed to save a stranded motorist. Several roads and freeways were closed because of water and/or mud.
12/13/2012	Heavy rain from a winter storm spread rainfall across the San Diego metro area of 1.25 to 2 inches.	The rain triggered an eight-ton, six-foot diameter boulder to roll into a Poway home. There were also numerous flood related issues on the roadways, including a few that required swift water rescues. High tide and flooding runoff combined to flood PCH in Seal Beach and Sunset Beach. Some garages were inundated.

Date(s)	Weather	Adverse Impacts
7/21/2013	Thunderstorms erupted across the mountains and deserts. Radar estimated two to four inches of rainfall in one hour for some of the storms.	The newly vulnerable burn scar of the Mountain fire got brief heavy rain on the 21 st that produced a flash flood and a debris flow called an "ash flow." One of these flowed into a pond, displaced the water, and killed the resident fish. Several other desert roads near Sky Valley, Mecca, and Borrego Springs were rendered impassable from the water and debris. In Big Bear City, some of these floodwaters entered a few homes. In remote Anza Borrego Desert State Park, three vehicles were washed downstream.
8/23/2013	Heavy thunderstorms on the San Jacinto Mountains.	Debris and water came down from the Mountain Fire burn into Palm Springs.
9/6/2013 - 9/7/2013	Thunderstorms developed in the mountains and deserts and Inland Empire each day. Pea to dime sized hail and damaging winds also accompanied these storms.	On 9.6, mud and water covered the highway near Warner Springs, stranding multiple vehicles stuck in the mud. Minor road flooding near Pine Valley and just east of Lucerne Valley. On 9.7, normally dry Mill Creek near Forest Falls ran deep and wide, stranding campers. There was flooding in Campo, east of Julian, Ocotillo, and in Cathedral City along the Whitewater Wash.
2/28/2014 - 3/1/2014	A very wet storm was the only significant storm of the 2013-14 wet season. Rainfall ranged from 1 inch at the coast to up to 8 inches in the mountains. Up to 1 inch fell in the desert. Yucaipa Ridge measured over 11 inches.	Urban and flash flooding with mud/debris flows, causing numerous road closures and swift water rescues in and around Anaheim, San Diego-Fashion Valley, Escondido, Fallbrook and Lake Elsinore. Mud slides closed Hwy. 74 (Ortega Highway) stemming from the Falls Fire burn scar. Many road closures in the Coachella Valley where rivers saw rises of 2 to 5 feet, in some instances within 12 hours. On 3.1, flooding resulted in Oceanside, Temecula, Sea World San Diego, as well as minor street flooding in Mission Viejo.
8/12/2014	A heavy thunderstorm struck east of Julian.	A debris flow blocked Hwy. 78 east of Julian on the Banner Grade that was one to two feet deep. The Banner Fire burn scar contributed to this flow.
9/7-8/2014	Weakening Hurricane Norbert brought moisture to produce thunderstorms mainly in Riverside and San Diego Counties. Rainfall amounts of 1 to 2 inches fell over the city of Riverside, San Bernardino and Hemet, while the mountains in that county saw up to 0.60" near Sky Valley. Early morning thunderstorms on 9.8 drenched parts of the Coachella Valley which received 0.33" up to just over 3 inches near the lower foothill in Thousand Palms and La Quinta.	Widespread flash flooding, most notably in the Coachella Valley on 9.8. Mud and water closed roads and stranded vehicles in La Quinta, Palm Desert, and Thousand Palms. Homes in La Quinta were surrounded by water. Moving water was 3 feet deep on roads and 4 to 5 feet of standing water submerged vehicles. Mud was several feet deep on Varner Road.
12/3/2014 – 12/4/2014	A Pacific storm brought moderate to heavy rain. Two-day rainfall totals of 1-2" were recorded west of the mountains, while the southern slopes of the San Bernardino County mountains saw up to 5" of rain (isolated amount of 14.5" at Yucaipa Ridge).	Flooding resulted, with mud, debris and water closing several roadways and stranding vehicles. Mud with debris 10 feet high piled up on Soboba Rd. north of San Jacinto. A swift water rescue was needed.
7/6/2015	Monsoon thunderstorms hit the mountains and upper desert. A few spots received up to around one-third of an inch, including a portion of the Lake Fire burn area south of Big Bear Lake.	Several debris flows resulted, including one consisting mostly of ash and mud over portions of Highway 38, up to a foot deep in some areas.

Date(s)	Weather	Adverse Impacts
7/18/2015 – 7/19/2015	Moisture from Hurricane Dolores, along with monsoon moisture resulted in showers and thunderstorms over most Southern California. Rainfall ranged from 0.5-4", including a record 1.71" at San Diego on 7.18 (unprecedented rainfall: single-day and July monthly total). The San Diego River at Fashion Valley had 2 crests above monitor stage, 7.7 feet on the 18th and 8.8 feet on 7.19. On 7.19 over 6" of rain fell over several hours just west of Desert Center.	A debris flow hit the burn scar of Silverado Canyon. Flash floods hit Moreno Valley, Perris, and La Mesa on 7.19. A wet microburst struck Tierrasanta on 7.18, causing wind damage. A haboob caused wind damage in the Anza Borrego Park and in Palm Desert. The rain caused the first rain-out of a Los Angeles Angels baseball game since 1995, and a rare 2-hour rain delay at the San Diego Padres baseball game. Over 2000 lightning strikes were reported on 7.18, some starting small brush fires. Near Desert Center on 7.19 eastbound lanes of Interstate 10 collapsed where they crossed a heavily flowing wash. A vehicle drove into the hole in the collapsed bridge, trapping the driver and requiring rescue. I-10 was closed in both directions causing huge traffic backups.
9/15/2015	A Pacific trough tapped into remnant moisture from tropical cyclone Linda. 1-2" of rain was common across the entire region.	Major traffic jam during the morning commute in LA and Orange County, along with a debris flow in Silverado Canyon, and widespread urban flooding.
1/5/2016 – 1/7/2016	A strong, low latitude jet stream brought a series of storms through Southern California with periods of moderate to heavy rain. Three-day rainfall totals were around 2-7" for the coast, valley and foothill areas, and 1- 3" for the deserts. After several years of drought, this was the only precipitation event of significance during an otherwise disappointing strong El Niño season.	Flooding resulted nearly everywhere, with southwestern San Diego County being hardest hit. Floods buried cars in Ocean Beach and Mission Valley. High water rescues occurred on 1.6 around San Diego. Small mudslides, including boulders on highways were reported near Ramona, Redlands, Crestline, Orange, Rancho San Diego and De Luz. Three debris flows in Silverado Canyon below a burn scar.

2018 Southern California Mudflows

In January 2018, a series of mudflows occurred in the Los Angeles, Orange, Riverside, and Santa Barbara Counties. These mudflows occurred in areas that had previously experienced major wildfires. Subsequent rains resulted in multiple mudflow events. Specifically, the Montecito Mudslide caused 21 reported deaths, multiple injuries, and at least \$177 million in property damage.⁵

1994 Northridge Earthquake Landslide Related Impact

As a result of the magnitude 6.7 Northridge, California, earthquake, more than 11,000 landslides occurred over an area of 10,000 km². Most were in the Santa Susana Mountains and in mountains north of the Santa Clara River Valley. The earth movement destroyed dozens of homes, blocked roads, and damaged oil-field infrastructure. It also caused deaths from Coccidioidomycosis (Valley Fever), the spore of which was released from the soil and blown toward the coastal populated areas. The spore was released from the soil by the landslide activity.

⁵ Robert D. Niehaus, Inc., Preliminary Impact Assessment: Montecito Mudslides, 2018

Agoura Hills Landslides

Examples of landslide events in the City of Agoura Hills since 1990 include the Via Amistosa, Morrison Ranch, Liberty Canyon Slope Failure, Laura La Plante, Laro, and Chateau Park landslides. In 1999, Agoura Hills experienced the Kanan Slope Repair as a result of the El Nino storms of 1998.

CAUSES AND CHARACTERISTICS OF LANDSLIDES

Landslide Events and Impacts

Landslides are a common hazard in California. Weathering and the decomposition of geologic materials produces conditions conducive to landslides and human activity further exacerbates landslide potential. Many landslides are difficult to mitigate, particularly in areas of large historic movement with weak underlying geologic materials.

Rock falls occur when blocks of material come loose on steep slopes. Weathering, erosion, or excavations, such as those along highways, can cause falls where the road has been cut through bedrock. These rock falls are fast moving with materials free falling or bouncing down slopes. The volume of material involved is generally small, but large boulders or blocks of rock can cause significant damage.

As communities continue to modify the terrain and influence natural processes, it is important to be aware of the physical properties of the underlying soils as they (along with climate) create landslide hazards. This is especially important with the demands placed on buildable land (particularly in urban areas) that increases the tendency to build on geologically marginal areas such as hillside lots.

LANDSLIDE HAZARD IDENTIFICATION

Landslides are often triggered by periods of heavy rainfall. Earthquakes, subterranean water flows, pipeline ruptures, and excavations may also trigger landslides. Certain geologic formations are more susceptible to landslides than others. Human activities, including locating development near steep slopes, can increase susceptibility to landslide events.

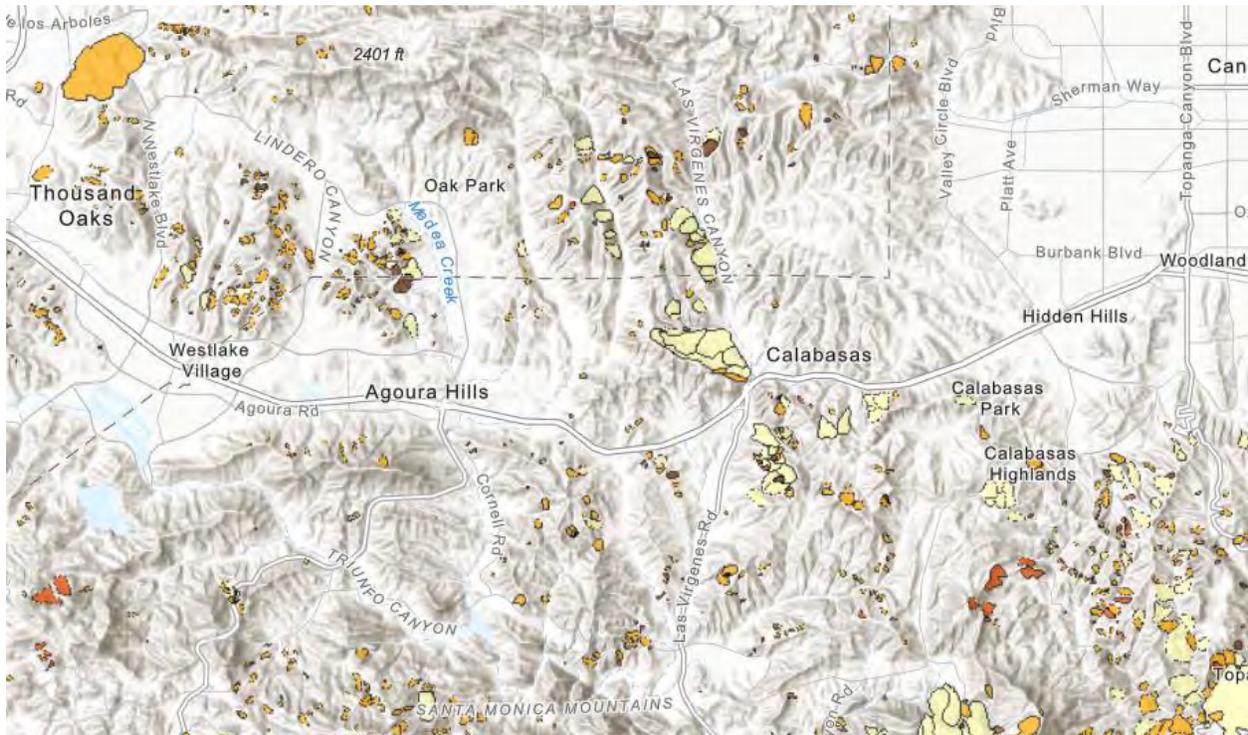
Natural Processes

Natural processes can cause landslides or re-activate historical landslide sites. Seismic tremors can trigger landslides on slopes with a history of landslide movement. Earthquakes can also cause additional failure (lateral spreading) that can occur on moderate slopes above steep streams and riverbanks.

Potential Landslide Areas

Landslide Inventory

The California Geological Survey has cataloged historic and probable future landslide areas in the state. The map below depicts the locations identified for the LVMWD Service Area.



Map 20: Landslide Inventory and Locations within the LVMWD Service Area

Key			
	Historic, Definite		Dormant Mature, Questionable
	Historic, Probable		Dormant Old/Relict, Definite
	Historic, Questionable		Dormant Old/Relict, Probable
	Dormant Young, Definite		Dormant Old/Relict, Questionable
	Dormant Young, Probable		Dormant Age Not Specified, Definite
	Dormant Young, Questionable		Dormant Age Not Specified, Probable
	Dormant Mature, Definite		Dormant Age Not Specified, Questionable
	Dormant Mature, Probable		

Per the California Geological Survey, "Two of these levels, historic/active and dormant-young, are associated with relatively recent activity in a geologic context, possibly within the past 100 years. The main distinction between these levels is that records of historic movement exist for the first, but not for the second. Both of these activity levels represent landslide movement under essentially the same slope and climate conditions as currently exist and landslides so designated pose the highest risk of reactivation. In contrast, the remaining two levels, dormant-mature and dormant-old, are assigned to slides that have been substantially modified by erosion, implying that much longer periods of time, perhaps thousands of years, have elapsed since major movement occurred. Dormant mature and dormant old landslides are much less likely to move, although there are areas where the rock has been weakened by prior movement and thus are likely more susceptible to reactivation than non-slide areas."

Earthquake Induced Landslides

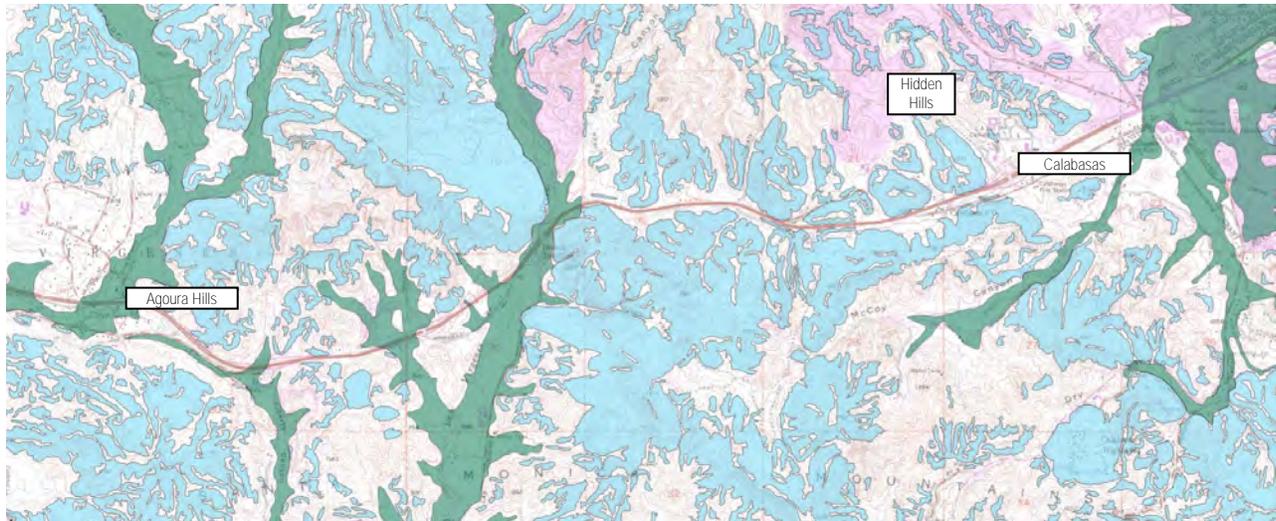
The following maps indicate the locations within the LVMWD Service Area that are at the most risk from earthquake induced landslides (Source: California Geological Survey, 2000). Dark green indicates liquefaction zones. Light blue indicates earthquake-induced landslide zones.

MAP EXPLANATION

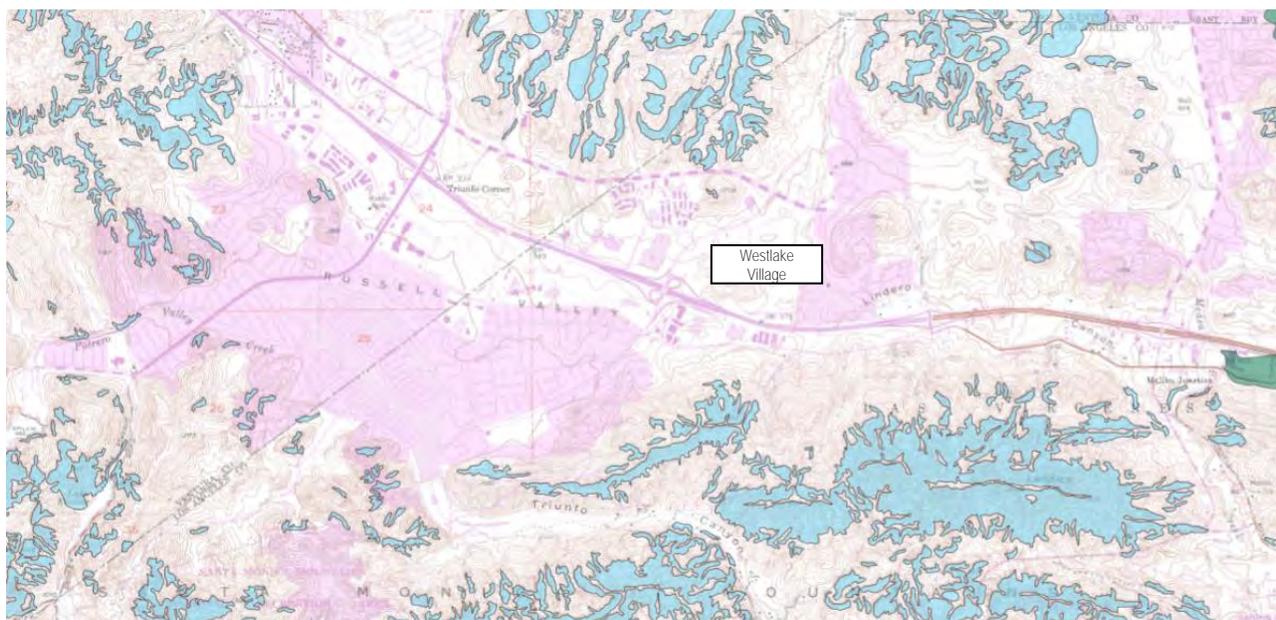
SEISMIC HAZARD ZONES

Liquefaction Zones
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslide Zones
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.



Map 21: Calabasas Seismic Hazard Zone Quadrangle



Map 22: Thousand Oaks Seismic Hazard Zone Quadrangle

Agoura Hills

The City of Agoura Hills has identified areas that may be prone to landslides. Yellow boundaries enclose areas that may be prone to landslide events within the City.



Map 23: Agoura Hills Landslide Areas

Source: City of Agoura Hills Internal Map

Calabasas

In the City of Calabasas, areas that are generally prone to landslide hazards include existing old landslides; the bases of steep slopes; the bases of drainage channels; and developed hillsides where leach-field septic systems are used. See [Landslide Inventory](#) map and [Earthquake Induced Landslide](#) map for additional details.

Hidden Hills

Historically, the City of Hidden Hills has minimal landslide activity (see [Landslide Inventory](#) map). However, there are areas of earthquake-induced landslides within the City that pose a future risk (see [Earthquake Induced Landslide](#) map).

Westlake Village

In the City of Westlake Village, potential landslide hazards are primarily limited to areas of sedimentary rocks in the northeast tip of the City. Areas with sediments have moderate to high slope instability potential. Areas with volcanic rocks have moderate to low slope instability potential.

Estimated Impact of an Event

If major landslide or debris flow were to occur, the consequences to local populations, employment, and housing could be significant. For the LVMWD, the impact may involve:

- Disruption of Water and Sewage Services to Customers
- Damage to LVMWD Infrastructure from Debris Flows and Landslides
- Loss of Power Leading to Disruptions to Pump Stations

Customer and economic disruptions to 10% of the LVMWD Service Area will result in the following projected losses.

Category	Agoura Hills	Calabasas	Hidden Hills	Westlake Village	Impact if a 10% Loss Occurs
Population	20,692	24,202	1,921	8,440	5,526
Total City Employment	11,200	11,900	-	13,886*	2,310
Economy**	\$811,395,000	\$1,614,403,000	\$500,000	\$1,894,297,000	\$432,059,500
Total Housing Units	5,562	6,097	510	2,934	1,510

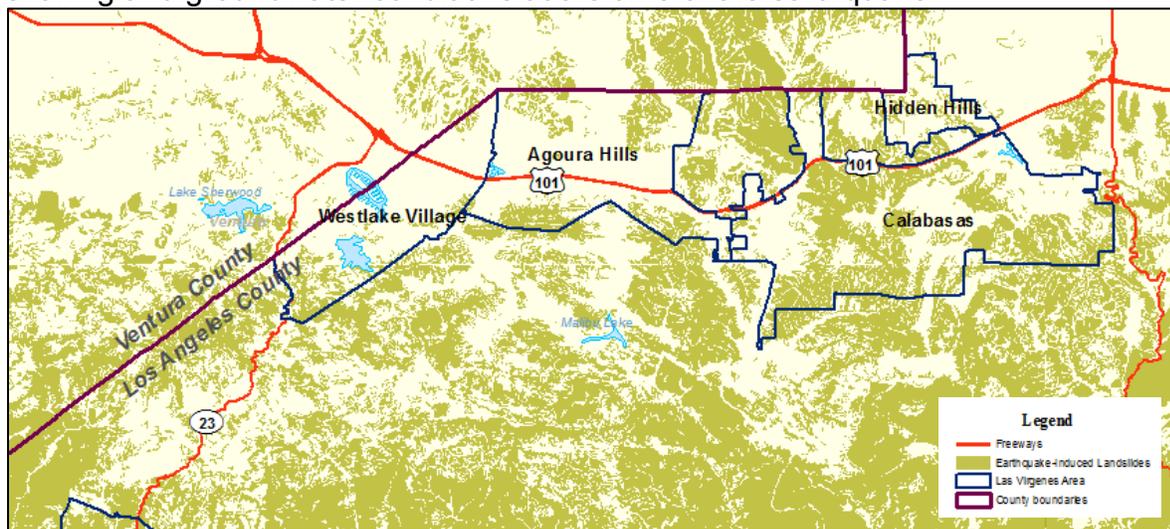
*Per California Employment Development Department, InfoGroup, and SCAG Estimates for 2015

**U.S. Census Quick Facts for 2012 (Hidden Hills Retail Sales only based on SCAG City Profile Report for 2012)

LANDSLIDE VULNERABILITIES

Earthquake Induced Landslides

The map below depicts areas prone to earthquake induced landslides. The severity of seismically induced landslides and related damage is dependent on the level of ground shaking and groundwater conditions at the time of the earthquake.



Map 24: Landslide Vulnerable Areas Due to Earthquakes

Potential Impact Due to Land Development, Grading, and Excavation

Although landslides are a natural geologic process, the incidence of landslides and their impacts on people can be exacerbated by human activities. Grading for road construction and development can increase slope steepness. Grading and excavation can decrease the stability of a hill slope by adding weight to the top of the slope, removing support at the base of the slope, and increasing water content.

Drivers for hillside development include intensification of existing development on residential lots and expansion into undeveloped areas. Intensification consists of additional construction and modification of existing construction or the complete demolition and redevelopment of a residential lot.

Intensification expands developed pad areas into previously “natural” hill slope areas and often involves a corresponding increase in the size and volume of the onsite sewage disposal systems. Other human activities effecting landslides include: excavation, drainage modifications, groundwater alterations, and changes in vegetation and soil conditions.

Drainage and Groundwater Alterations

Water flowing through or above ground is often the trigger for landslides. Any activity that increases the amount of water flowing into landslide-prone slopes can increase landslide hazards. Broken or leaking water or sewer lines can be especially problematic, as can water retention facilities that direct water onto slopes. Ineffective storm water management and excess runoff can also cause erosion and increase the risk of landslide hazards. Drainage can be affected naturally by the geology and topography of an area; development that results in an increase in impervious surfaces impairs the ability of the land to absorb water and may redirect water to other areas. Channels, streams, ponding, and erosion on slopes all indicate potential slope problems.

Road and driveway drains, gutters, downspouts, and other constructed drainage facilities can concentrate and accelerate flow. Ground saturation and concentrated velocity flow are major causes of slope problems and may trigger landslides. Building Codes require drainage devices to dispose storm runoff away from hillside developments. Storm runoff is designed to be discharged into the storm drain system. Storm drain catch basins are normally maintained by Public Works Departments and are regularly cleaned to prevent any flooding or ponding.

Changes in Vegetation and Soil Conditions

Wildland fires in hills covered with chaparral are often a precursor to debris flows in burned out canyons. The extreme heat of a wildfire can create a soil condition in which the earth becomes impervious to water by creating a waxy-like layer just below the ground surface. Since water cannot be absorbed into the soil, it rapidly accumulates on slopes, often gathering loose particles of soil in to a sheet of mud and debris.

If vegetation on very steep slopes has been removed either by wildfire or man-made development, there is an increased risk of a landslide. Additionally, changing away from native ground cover plants may increase the risk of landslide. For example, if certain vegetation requires heavy watering, soil conditions can change and trigger landslides.

Landslide Risk Factors

Locations at risk from landslides or debris flows include areas with one or more of the following conditions:

- On or close to steep hills;
- Steep road-cuts or excavations;
- Existing landslides or places of known historic landslides (such sites often have tilted power lines, trees tilted in various directions, cracks in the ground, and irregular-surfaced ground);
- Steep areas where surface runoff is channeled, such as below culverts, V - shaped valleys, canyon bottoms, and steep stream channels; and
- Fan-shaped areas of sediment and boulder accumulation at the outlets of canyons.
- Canyon areas below hillside and mountains that have recently (within 1-6 years) been subjected to a wildland fire.

LANDSLIDE MITIGATION STRATEGIES

LVMWD Mitigation Activities

The LVMWD continues to pursue mitigation actions to respond to the potential for landslides and debris flows. Key activities include:

- Drainage and Debris Clearance
- Ongoing Inspections and Assessments of All LVMWD Facilities and Infrastructure
- Site Inspections of Landslide and Debris Flow Risk for New Facilities and Infrastructure

SECTION 9: WINDSTORM

THE NATURE OF THE WINDSTORM THREAT

Severe windstorms pose a significant risk to life and property by creating conditions that disrupt essential systems such as public utilities, telecommunications, and transportation routes. High winds have the potential to cause damage to local homes and businesses from falling trees and debris. In addition, windstorms increase the risk of wildfire as the moisture content decreases in brush and vegetation on hillsides, especially in urban interface areas.

HISTORY OF SEVERE WINDSTORM EVENTS IN THE AREA

Severe windstorms can occur at any time of the year though strong [Santa Ana Winds](#) generally occur annually from October to March. For example, the nearby San Gabriel Valley was struck by severe windstorms from November 30 to December 1, 2011. Wind speeds of 70 mph caused extensive tree damage and power outages, resulting in several cities declaring emergencies. The table below provides a summary of severe weather events in the region that provide examples of the risks to the LVMWD Service Area (Source: National Weather Service, “A History of Significant Weather Events in Southern California”, May 2017).

Date(s)	Weather	Adverse Impacts
1.31.2016	A powerful storm with a surface low that rapidly deepened in the Southern California Bight brought an exceptionally strong cold front with widespread damaging wind gusts of 40-70 mph from the coast to the mountains. A broken line of thunderstorms formed along the front and combined with post frontal winds.	Over 500 downed trees caused extensive damage. One woman was killed and two were injured when a pine tree eight feet in diameter crushed four cars in Pacific Beach.
5.12-5.15.2014	A strong late-season Santa Ana wind event raked the region. Winds gusted to 40 to 45 mph in parts of the coast and valleys, and 60 to 80 mph in the foothills.	The winds knocked down many trees and power lines, and blew off some roof tiles. Numerous fires erupted especially in San Diego County, burning over 27,000 acres and causing more than \$50 million in property damage. The Poinsettia fire in Carlsbad and the Cocos Fire in San Marcos damaged homes, but no serious injuries or deaths resulted.
2.28-3.1.2014	A strong storm hit Southern California with westerly winds. A report of a 102 mph wind gust came from the Bear Mountain ski resort weather equipment on 2.28. Thunderstorm wind gusts.	Numerous large trees and power poles toppled, as well as damage at John Wayne Airport. Thunderstorms on the 2.28 downed several trees and damaged power lines and other structures.
12.12.2011	As many as five waterspouts were observed off La Jolla. Three off Windandsea Beach, and possibly two others off La Jolla Shores. Farther inland, a funnel cloud was spotted over La Mesa.	

Date(s)	Weather	Adverse Impacts
3.20.2011	Strong storm winds hit the mountains and desert. Gusts reached 110 mph at Burns Canyon.	Significant roof damage was incurred in Apple Valley.
2.3.2008	Wind gusts associated with a powerful winter storm exceeded 70 mph.	The winds caused considerable damage in the mountains and deserts.
1.2.2006	Post frontal winds more than 50 mph widespread across the region.	The "M" above Moreno Valley was demolished. Trees were downed, power lines, power poles, on to houses and cars. In Crestline there were 20 homes left uninhabitable. In San Diego Bay boats broke loose from their moorings.
2.3.2005	Strong storm winds of 70 mph hit the region.	Homes in Idyllwild were damaged by felled trees. Downed power lines in the Inland Empire. Big rig overturned on I-8.
1.24.2002	Santa Ana winds.	
4.18.2000	A severe thunderstorm brought downburst winds estimated at 80 to 100 mph from Bellflower to Diamond Bar. 0.75" hail was reported in Downey.	Severe damage to factories and mobile home parks in Paramount (one mobile home was blown over). Wind damage was done to trees, power lines and numerous buildings along the entire path. In Norwalk, a large Eucalyptus fell onto I-5, closing the freeway for 3 hours, backing up traffic 17 miles.
2.23-24.1998	Strong widespread storm winds 40-60 mph.	Trees and power lines knocked down. Damage.
8.20.1997	The remnants of Tropical Storm Ignacio tracked northward moving inland in central California with gale force winds over portions of the Southern California coastal waters. This occurred during the strong El Niño of 1997-98.	
12.21-22.1996	Storm winds 40-50 mph.	
12.21-22.1996	Storm winds 40-50 mph.	
2.7.1994	Tornado from Newport Beach to Tustin. A weak tornado also touched down in Sun Valley in the San Fernando Valley.	Roof and window damage and trees blown down in Orange County.
2.1.1994	A strong area of high pressure over the Great Basin brought gusty Santa Ana winds to the region. In Rialto wind gusts reached 65 mph.	Tree and power line damage.
2.1.1994	A strong area of high pressure over the Great Basin brought gusty Santa Ana winds to the region. In Rialto wind gusts reached 65 mph.	Tree and power line damage.
12.24.1993	Santa Ana winds: gust 75 mph at Ontario.	
11.2-4.1993	Santa Ana winds gusted to over 60 mph.	The Old Topanga fire burned from Calabasas to the ocean consuming hundreds of homes.
11.2-4.1993	Santa Ana winds gusted to over 60 mph.	The Old Topanga fire burned from Calabasas to the ocean consuming hundreds of homes.

Date(s)	Weather	Adverse Impacts
10.26-27.1993	Santa Ana winds: gust 62 mph at Ontario.	Twenty fires ravaged Southern California including in Laguna Hills. 4 dead, 162 injured, \$1 billion economic losses in property alone and 194,000 acres were destroyed.
2.19-21.1991	Strong northerly winds resulted from a deep low pressure system over Arizona. Top gusts reached 63 mph in the Santa Monica Mountains, 52 mph in Van Nuys, and 36 mph at LAX airport.	
12.11.1989	Strong Santa Ana winds. Gusts to 100 mph near the Grapevine.	Winds reduced visibilities to near zero in the desert areas, and closed major interstate highways east of Ontario.
5.29.1988	Gale force winds hit the coast. Gusts to 60 mph in the mountains, 45 mph at LAX. Gusts to 40 mph at San Diego.	Hang glider crashed and died. Power went out. Brush fires started.
2.16-19.1988	Very strong Santa Ana winds: Gusts of 90 mph at Newport Beach, 70+ mph in the San Gabriel Mountain foothills on 2.17. Gusts to 76 mph at Monument Peak - Mt. Laguna on 2.18. Gust 63 at Ontario on 2.17, gust 50 at Rancho Cucamonga on 2.16.	Planes flipped in Burbank and at John Wayne airports. Boats were torn from moorings in Newport Harbor. Numerous trees and power lines downed and power outages all near the foothills of the San Gabriel and San Bernardino Mountains. On 2.19 in Pauma Valley a mobile home was overturned and shingles were torn off roofs. Fontana schools were closed due to wind damage at schools. Three were killed when a big rig truck overturned and burned, one was killed having stepped on a downed power line). Power outages hit 200,000 customers in LA and Orange counties. Minor structural damage occurred to signs, etc. Grass fires resulted. Roof damage was widespread in communities around Glendale and Pasadena. Severe damage to factories and mobile home parks in Paramount (one mobile home was blown over). Wind damage was done to trees, power lines and numerous buildings along the entire path. In Norwalk, a large Eucalyptus fell onto I-5, closing the freeway for 3 hours, backing up traffic 17 miles.
1.21-22.1988	Strong offshore winds following a major Pacific storm. Gusts to 80 mph at the Grapevine and gusts to 60 mph at Ontario on the night of 1.21. Gusts were reported up to 80 mph in San Diego County on 1.22.	Power poles, road signs big rigs knocked down in the Inland Empire. In San Diego County, 6 were injured, roofs were blown off houses, trees were toppled and crops destroyed. A barn was demolished and a garage crushed by a giant tree in Pine Valley. 20 buildings were destroyed or damaged at Viejas. Avocado and flower crops were destroyed in Fallbrook and

Date(s)	Weather	Adverse Impacts
		Encinitas, respectively. Five greenhouses were destroyed in Encinitas.
6.6.1987	Rare June thunderstorms hit the LA region and Mojave Desert. A severe thunderstorm hit Palmdale and Lancaster. 1" diameter hail at Mt. Pinos in northern LA County, 3/4" hail at Palmdale, 1/2" hail hit Pine Mountain near the LA-Kern county line. Lightning struck the Santa Monica Bay.	Power was knocked out. Lightning sparked small fires. In Lancaster, mobile homes were damaged by strong winds (possible tornado?) and lightning. Two-by-fours were driven into the roofs of mobile homes. Utility poles were uprooted and broken in half.
11.23.1986	Strong Santa Ana winds hit LA and mountain foothills. Gusts to 54 mph were recorded, but estimated gusts were 70 mph. Only 30-40 mph gusts were estimated at Mt. Laguna.	An unfinished house in Glendale was blown to bits. Numerous beach rescues were needed for sailors and windsurfers. Two sailboat masts were snapped in a boat race at Channel Islands.
10.2.1986	Rain and thunderstorms hit LA area. 1.50" in Pasadena (in a little more than 1 hour), 1.02" in LA (in less than 1 hour), nearly 1" in Lake Arrowhead in 40 minutes, and 0.77" in Monrovia. 3" of hail piled up in Pasadena. Wind gusts to 35 mph. Hail nearly 1/2" in diameter in Westwood. In Blythe, winds gusted over 50 mph and 0.79" fell in 30 minutes. San Diego County was largely missed, with only 0.22" reported at Palomar Mountain.	Classes were cancelled at CSU-Northridge from power outages and several serious traffic accidents resulted in Pasadena because of hail. Minor flooding.
11.30-12.1.1982	Widespread strong wind with a big storm.	Power out to 1.6 million homes.
10.9.1982	Santa Ana winds gusted to 60 mph.	A major wildfire moved across the Santa Monica Mountains.
2.10.1978	A powerful Pacific storm brought coastal winds measured as high as 92 mph.	Severe wind damage to area harbors. The Port of Los Angeles was closed for 10 hours until debris clogging the port could be cleared. In Oceanside 70 mph winds ripped a bait shop from the municipal pier.
2.18.1970	Strong Santa Ana winds hit the region with gusts as high as 85 mph.	The winds toppled signs, damaged boats, overturned parked planes, broke windows, and led to a temporary closure of Interstate 10.
2.20-25.1969	Strong storm winds.	Telephone, power, and gas outages.
1.18-28.1969	Strong storm winds.	4 dead from falling trees. Power outages.
3.8.1968	Strong storm winds.	Winds downed trees, damaged utility lines, unroofed buildings and disrupted traffic.
12.2-3.1966	Strong storm winds.	Power outages.
1.16.1966	Strong Santa Ana winds surfaced over the coast and valleys.	The winds destroyed several pleasure boats, damaged construction sites and the local avocado/citrus crop, and led to the closure of several highways. One man was killed when struck by a falling tree.

Date(s)	Weather	Adverse Impacts
3.16.1964	Strong Santa Ana winds hit the region.	Winds downed trees and power lines, damaged homes, overturned parked planes, and fanned wildfires. Damages from the fires alone reached into the millions of dollars. The same areas were hit by mudslides and debris flows a week later when heavy rains fell over recently burned ground.
11.19-20.1963	Strong storm winds, particularly along the coast.	Hundreds of trees downed. Power lines downed.
4.20.1962	Strong winds whipped through the region.	Winds toppled trees, snapped power lines, dislodged roofs, broke plate glass windows, and downed store signs. In the deserts, traffic was restricted by blowing dust and sand, with some vehicles suffering paint damage due to the blowing sand.
11.5-6.1961	Strong Santa Ana winds fanned fires in Bel Air and Brentwood. 74° at 10 pm at LA, 5° dew point. 3% relative humidity in Burbank on 11.6.	Fire in Topanga Canyon. 103 injured firemen, \$100 million economic losses including 484 buildings (mostly residential) and 6,090 acres destroyed.
1.4-5.1959	A strong Pacific Storm brought very strong and damaging winds to the region.	Boats were damaged in harbors across Southern California, 400 chickens were killed in their cages at a poultry farm in Vista and a dust storm in Barstow led to a 15-car pileup that injured 18 people.
11.21-22.1957	Extremely destructive Santa Ana winds.	Winds produced a 28,000 acre brush fire on a 40-mile front west of Crystal Lake. People were ordered off streets in some areas due to flying debris. 12 of 33 passengers on an airplane over Ontario were hurt by a downdraft in extreme turbulence. Paint was completely stripped off of windward sides of 4 cars stalled in a Fontana sandstorm.
11.19-29.1956	A strong and prolonged Santa Ana wind event started on 11.19 and ended on 11.29. On 11.20 a 100 mph gust was recorded at a forest lookout near Saugus.	A fire north of Descanso started on 11.19, killed 11 and burned 44,000 acres. Two wooden bridges and a power plant were destroyed.
11.25.1918	Strong windstorm produced a wind gust of 96 mph at Mt. Wilson.	
2.24.1891	Strong and continuous storm winds blew at 40 mph.	Boats were smashed on shore. A roof was taken off a warehouse.
11.13.1880	Severe Santa Ana winds and sandstorms in Southern California.	Extensive damage.

CAUSES AND CHARACTERISTICS OF WINDSTORMS IN THE LVMWD SERVICE AREA

Windstorm events in the LVMWD Service Area can be caused by short term, topographically influenced, high wind gusts as well as extended duration Santa Ana wind conditions. “Santa Ana Winds” typically occur between October and March. Santa Ana winds are characterized by strong dry offshore winds originating from the Great Basin and Upper Mojave Desert. Wind temperatures can range from extremely hot to cold. Damage can occur directly from the high wind speeds generated or from the secondary effects of very low humidity, which increases the threat of wildfires, particularly in the fire-prone chaparral country.

WINDSTORM HAZARD IDENTIFICATION

Given the location and topography of the area, severe windstorms are a possibility. While the historic occurrence of these events on the LVMWD Service Area has been minimal (when they occur) these events do pose a threat to life, property, utility delivery systems, infrastructure, and transportation. Furthermore, if a severe windstorm results in a prolonged utility disruption, it may be necessary to utilize private and public resources to aid in the care and sheltering of displaced residents. High winds also increase the threat posed by wildfires and can lead to major losses to the region. In addition, the economic impact of providing shelter, conducting repairs, and the disruption to local businesses can result in economic losses to the entire area. Finally, a severe windstorm can cause the loss of historic trees in the area and require the services of certified arborists.

The risk of trees falling is one of the more significant hazards resulting from high wind events. The leafy canopy and structural elements of a tree crown present a drag type barrier to winds. Trees naturally minimize wind drag through the re-orientation of leaves and through the independent motion of limbs and branches, thus reducing the transfer of uniform sway motion forces to the trunk. The Beaufort Wind Scale (BWS) specifically notes problems with trees as wind speeds increase. The BWS references the likelihood of whole tree motion as wind speeds exceed 32 miles per hour (MPH), twig breakage at 39 MPH and whole tree wind-throw as wind speeds exceed 55 MPH. The susceptibility of trees to wind-throw can be influenced by the general structural condition of the trees, the location of the trees in reference to wind patterns and the level and frequency of pruning maintenance.

The following chart depicts the Beaufort scale which is used to estimate wind strengths.

Beaufort Force	Speed (MPH)	Wind Description - State of Sea - Effects on Land
0	Less 1	Calm - Mirror-like - Smoke rises vertically
1	1-3	Light - Air Ripples look like scales; No crests of foam - Smoke drift shows direction of wind, but wind vanes do not
2	4-7	Light Breeze - Small but pronounced wavelets; Crests do not break - Wind vanes move; Leaves rustle; You can feel wind on the face
3	8-12	Gentle Breeze - Large Wavelets; Crests break; Glassy foam; A few whitecaps - Leaves and small twigs move constantly; Small, light flags are extended
4	13-18	Moderate Breeze - Longer waves; Whitecaps - Wind lifts dust and loose paper; Small branches move
5	19-24	Fresh Breeze - Moderate, long waves; Many whitecaps; Some spray - Small trees with leaves begin to move
6	25-31	Strong Breeze - Some large waves; Crests of white foam; Spray - Large branches move; Telegraph wires whistle; Hard to hold umbrellas
7	32-38	Near Gale - White foam from breaking waves blows in streaks with the wind - Whole trees move; Resistance felt walking into wind
8	39-46	Gale - Waves high and moderately long; Crests break into spin drift, blowing foam in well-marked streaks - Twigs and small branches break off trees; Difficult to walk
9	47-54	Strong Gale - High waves with wave crests that tumble; Dense streaks of foam in wind; Poor visibility from spray - Slight structural damage
10	55-63	Storm - Very high waves with long, curling crests; Sea surface appears white from blowing foam; Heavy tumbling of sea; Poor visibility - Trees broken or uprooted; Considerable structural damage
11	64-73	Violent Storm - Waves high enough to hide small and medium sized ships; Sea covered with patches of white foam; Edges of wave crests blown into froth; Poor visibility - Seldom experienced inland; Considerable structural damage
12	>74	Hurricane - Sea white with spray. Foam and spray render visibility almost non-existent – Widespread damage. Very rarely experienced on land.

Estimated Impact of an Event

If major windstorm were to occur, the consequences to local populations, employment, and housing could be significant. For the LVMWD, the impact may involve:

- Disruption of Water and Sewage Services to Customers (due to power outages)
- Damage to LVMWD Infrastructure from Tree Falls and Flying Debris
- Loss of Power Leading to Disruptions to Pump Stations

Customer and economic disruptions to 10% of the LVMWD Service Area will result in the following projected losses.

Category	Agoura Hills	Calabasas	Hidden Hills	Westlake Village	Impact if a 10% Loss Occurs
Population	20,692	24,202	1,921	8,440	5,526
Total City Employment	11,200	11,900	-	13,886*	2,310
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Total Housing Units	5,562	6,097	510	2,934	1,510

*Per California Employment Development Department, InfoGroup, and SCAG Estimates for 2015

**U.S. Census Quick Facts for 2012 (Hidden Hills Retail Sales only based on SCAG City Profile Report for 2012)

WINDSTORM VULNERABILITIES

Windstorms can result in damage to structures, disrupt utilities, and require emergency tree services (i.e. limb failures, clearance of private property trees fallen into roadways, etc.). With regards to wind related damage to structures; LVMWD facilities have not experienced significant damage due to windstorms during the last decade.

Nevertheless, the impact of a severe windstorm can be significant and mitigation planning can reduce losses if an event were to occur. Specific windstorm related issues are outlined below.

Life and Property

Detached tree limbs and building elements present a hazard to life and property as well as infrastructure. Furthermore, utility providers and emergency services can be overwhelmed during a major event. At risk populations include assisted care facilities and home-bound residents that are dependent on electrical power (see Utilities and Infrastructure section below). For example, in December 2011, the City of Pasadena, California experienced a severe windstorm with reported gusts near 100 MPH. The resulting power outages and debris impacted residents for weeks.

Utilities and Infrastructure

Windstorms can cause structural damage to buildings and other critical infrastructure. Overhead electrical and telephone lines are particularly vulnerable to damage from wind and debris as are microwave and satellite facilities. High winds commonly occur during winter storms and can cause trees to bend, sag, or fail (tree limbs or entire trees) which then come into contact with nearby power lines. Fallen trees can cause short-circuiting and conductor overloading. Wind-induced damage to the power system causes power outages to customers, incurs cost to make repairs, and in some cases can lead to ignitions that start wild land fires. In order to prepare for such events, Southern California Edison (SCE) has developed its own Hazard Mitigation Plan.

Transportation

Windblown debris, tree limbs and wind thrown trees can damage traffic control apparatus, block roadways, damage vehicles, and cause extreme traffic congestion - impeding emergency and vehicles and hampering repair efforts.

Increased Fire Threat

The entire Los Angeles County region is subject to Santa Ana Winds with regards to their impact on fire conditions. Winds can serve as a catalyst in the canyons to spread fire at a rapid rate. Prolonged winds during the warmer months of the year can decrease vegetation moisture levels and increase the ignition potential in dry underbrush. When urban/wildland interface fires occur, Santa Ana Wind conditions can drive flames and increase the spread speed and severity of the fire. This is a significant concern near homes, especially where brush clearance has been lax.

During high wind periods, there is also a threat of downed power lines causing wildfires. In response, SCE began a public notice campaign to reiterate its policy that utility power may be shut-off during high fire risk periods when extreme weather threatens the power lines.

Santa Ana Winds

“Santa Ana Winds” are generally defined as warm, dry winds that blow from the east or northeast (offshore). Commonly, Santa Ana winds develop when a region of high pressure builds over the Great Basin (the high plateau east of the Sierra Mountains and west of the Rocky Mountains including most of Nevada and Utah). These regional winds typically occur from October to March and, according to most accounts, are named either for the Santa Ana River Valley where they originate or for the Santa Ana Canyon, southeast of Los Angeles, where they pick up speed. These winds occur below the passes and canyons of the coastal ranges of Southern California and in the Los Angeles basin.

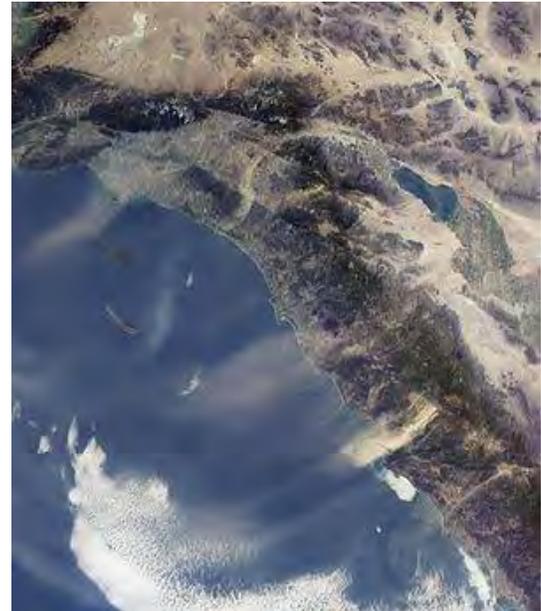


Map 25: Santa Ana Wind Circulation Pattern

The complex topography of Southern California combined with various atmospheric conditions creates numerous scenarios that may cause widespread or isolated Santa Ana events. Santa Ana winds often blow with exceptional speed in the Santa Ana Canyon. Forecasters at the National Weather Service offices in Oxnard and San Diego usually place speed minimums on these winds and reserve the use of "Santa Ana" for winds greater than 25 knots (28.8 mph). These winds accelerate to speeds of 35 knots (40.3 mph) as they move through the canyons and passes, with gusts up to 50 to 60 knots (57.5 mph to 69.0 mph).

The Santa Ana Wind Circulation Map shows the direction of the Santa Ana winds as they travel from the stable, high-pressure weather system called the Great Basin High through the canyons and towards the low-pressure system off the Pacific. The Southern California region in the path of the ocean-bound Santa Ana winds Clockwise circulation around the center of this high-pressure area forces air down slope from the high plateau.

The air warms as it descends toward the California coast at the rate of 5 degrees Fahrenheit per 1000 feet due to compressional heating. Thus, compressional heating provides the primary source of warming. The air is dry since it originated in the desert and it dries out even more as it is heated. Resulting in low humidity and increase risk of wildfires.



Source: NASA / JPL-Caltech, 2002

Figure 11: Santa Ana Wind Satellite Image

Windstorm Probabilities

Although windstorms can occur at any time of the year, Southern California's Santa Ana winds routinely occur from October to March occur every year (see [Causes and Characteristics of Windstorms in the LVMWD Service Area](#) and [Santa Ana Winds](#) sections for additional details). Consequently there is a significant probability of high wind events during these months. Historically, severe winds in the Los Angeles Region typically occur during these months (see [History of Severe Windstorm Events in the Area](#) section). As a result, the LVMWD Planning Group has evaluated the risk and determined that the risk of occurrence is considered to be high during these fall and winter months. However, strong winds can occur at any time of the year. Consequently the probability of occurrence from April to September is considered to be moderate to low.

WINDSTORM MITIGATION STRATEGIES

Interagency Efforts

In the case of buildings and structures, the likelihood of structural element detachment is influenced by local building code requirements, the location of buildings in reference to wind patterns and in the level of maintenance and upkeep. In addition, one of the strongest and most widespread existing mitigation strategies pertains to tree clearance.

Currently, California State Law and LA County Fire Code requires utility companies to maintain specific clearances (depending on the type of voltage running through the line) between electric power lines and all vegetation (Fire Code section 325.1 Electrical Transmission Lines). Furthermore, homeowners are required to allow a utility company to comply with the law.

Failure to provide access to utility power lines can result in liability to the homeowner for damages or injuries resulting from a vegetation hazard. Many insurance companies do not cover these types of damages if the policy owner has refused to allow the hazard to be eliminated.

Continuous upgrades to engineering design criteria based on the latest industrial progress, geotechnical findings, and Code revisions are being conducted. For instance, Dynamic Shake Table Tests were recently made mandatory for certain equipment in addition to analytical design.

LVMWD Mitigation Activities

The LVMWD severe wind mitigation actions include:

- Tree Trimming Around LVMWD Facilities and Critical Infrastructure (Tree Damage)
- Emergency Power Generation to Support Key Pump Stations (Power Outage)
- Ongoing Inspections and Assessments of All LVMWD Facilities and Infrastructure

SECTION 10: FLOOD / SEVERE WINTER STORM

THE NATURE OF THE FLOOD AND SEVERE WINTER STORM THREAT

The LVMWD Service Area is situated near the western portion of the Santa Monica Mountains and has experienced flooding in the past from major winter storm events. Flooding poses a threat to life and safety and can cause severe damage to public and private property. Due to the natural mountainous terrain as well as changes in the landscape (due to development) and natural disasters such as wildfire, flooding can be a factor in the area.

HISTORICAL RECORD OF FLOODING

History of Flooding in Southern California

Historically, the region has experienced extended periods (on the order of years) of either wet or dry weather. Additionally, in any given year the amount of precipitation can vary widely. The National Weather Service has documented the following significant flood and flash flood events in Southern California since 2010.

Date(s)	Weather	Adverse Impacts
1.18-22.2010	A very wet and dynamic series of storms dropped two to four inches of rainfall in the deserts, to four to eight inches west of the mountains, to six to 12 inches on the coastal slopes.	Widespread flooding resulted across the region. Some of the worst flash flooding occurred in the high desert on the 1.21 due to the prolonged heavy rainfall. Scores of homes and several schools sustained damage, and many roads were washed out in Hesperia, Apple Valley, Victorville and Adelanto. Numerous swift water rescues were needed, one of which likely saved four teens trapped in a storm water drain. Two deaths in Tijuana were attributed to the flooding.
8.25.2010	Powerful thunderstorms hit Forest Falls and Hemet with heavy rain.	Flash floods resulted.
8.26.2010	Powerful thunderstorms hit Wrightwood and Warner Springs with heavy rain.	Flash floods resulted.
12.17-22.2010	A very wet period developed as strong westerly flow across the Pacific tapped a pool of deep subtropical moisture near Hawaii, resulting in days of moderate to heavy rainfall. Four to 12 inches of rain fell in the coastal and valley areas over six days, 12 to 28 inches in the mountains, up to 9 inches in the high desert and less than 4 inches in the lower desert.	Major landslides and flash flooding impacted the communities of Laguna Beach, Apple Valley, along the Whitewater Channel in the Coachella Valley near Palm Springs, Highland, Corona, Loma Linda, La Jolla, and the city of San Diego from 12.21 to this day. Qualcomm Stadium was flooded but was miraculously drained and prepared for the Poinsettia Bowl held there on 12.23.
7.31.2012	A strong thunderstorm produced heavy rain in the Split Mountain area of the Anza Borrego Desert.	A 15-foot wall of water rushed through Split Mountain Road in Fish Creek. Two hikers, a man and his son, were caught in the canyon, but were able to get to higher ground and were unharmed. Their pickup truck, however, was washed 1.5 miles down the canyon and destroyed.
8.17.2012	A massive thunderstorm dropped 5.36" of rain on Yucaipa Ridge.	Runoff caused several mudslides down the hill in Forest Falls, one was 5 feet deep.

Date(s)	Weather	Adverse Impacts
8.30.2012	Thunderstorms erupted in the mountains above Cathedral City. A thunderstorm produced 1.53" in one hour at March AFB in Riverside.	Major flash flooding in Cathedral City included 1 to 2 feet of rapidly moving water, closing several roads. Water forced mud and debris into several businesses in town, causing significant damage. Flash flooding in Moreno Valley went into a few homes. A rescue was needed to save a stranded motorist. Several roads and freeways were closed because of water and/or mud.
9.11.2012	A stationary thunderstorm brought persistent, heavy rain to Mecca. 3 to 5" of rain fell in just a couple hours (more than a year's worth).	Floodwaters damaged a school, a mobile home park and several orchards.
12.13.2012	Heavy rain from a winter storm spread rainfall across the San Diego metro area of 1.25 to 2 inches.	The rain triggered an eight-ton, six-foot diameter boulder to roll into a Poway home. There were also numerous flood related issues on the roadways, including a few that required swift water rescues. High tide and flooding runoff combined to flood PCH in Seal Beach and Sunset Beach. Some garages were inundated.
7.21.2013	Thunderstorms erupted across the mountains and deserts. Radar estimated two to four inches of rainfall in one hour for some of the storms.	The newly vulnerable burn scar of the Mountain fire got brief heavy rain on the 21 st that produced a flash flood and a debris flow called an "ash flow." One of these flowed into a pond, displaced the water, and killed the resident fish. Several other desert roads near Sky Valley, Mecca, and Borrego Springs were rendered impassable from the water and debris. In Big Bear City, some of these floodwaters entered a few homes. In remote Anza Borrego Desert State Park, three vehicles were washed downstream.
8.18.2013	Heavy thunderstorms developed in the high desert. Radar estimated rainfall west of Victorville at seven inches.	Floodwaters damaged and closed several highways west of Phelan and in Apple Valley and filled the El Mirage Dry Lake.
8.23.2013	Heavy thunderstorms on the San Jacinto Mountains.	Debris and water came down from the Mountain Fire burn into Palm Springs.
8.25.2013	Monsoon thunderstorms. Agua Caliente recorded over two inches of rainfall incredibly in 35 minutes.	Floodwaters filled the Whitewater channel, which goes through several golf courses and crosses many roads from Palm Springs to La Quinta. Flash floods also in the Anza Borrego Desert.
8.29.2013	Thunderstorms struck Riverside and the San Bernardino Mountains where over one inch of rain fell in 20 minutes.	Riverside was inundated with flooding of streets up to two feet deep. Riverside City College canceled classes. Flash floods occurred around the Perris area and along Highway 18 in the San Bernardino Mountains
9.6-7.2013	Thunderstorms developed in the mountains and deserts and Inland Empire each day. Pea to dime sized hail and damaging winds also accompanied these storms.	On 9.6, mud and water covered the highway near Warner Springs, stranding multiple vehicles stuck in the mud. Minor road flooding near Pine Valley and just east of Lucerne Valley. On 9.7, normally dry Mill Creek near Forest Falls ran deep and wide, stranding campers. There was flooding in Campo, east of Julian, Ocotillo, and in Cathedral City along the Whitewater Wash.

Date(s)	Weather	Adverse Impacts
2.28-3.1.2014	A very wet storm was the only significant storm of the 2013-14 wet season. Rainfall ranged from 1 inch at the coast to up to 8 inches in the mountains. Up to 1 inch fell in the desert. Yucaipa Ridge measured over 11 inches.	Urban and flash flooding with mud/debris flows, causing numerous road closures and swift water rescues in and around Anaheim, San Diego-Fashion Valley, Escondido, Fallbrook and Lake Elsinore. Mud slides closed Hwy. 74 (Ortega Highway) stemming from the Falls Fire burn scar. Many road closures in the Coachella Valley where rivers saw rises of 2 to 5 feet, in some instances within 12 hours. On 3.1, flooding resulted in Oceanside, Temecula, Sea World San Diego, as well as minor street flooding in Mission Viejo.
5.23.2014	Thunderstorms over the San Diego County mountains drifted over the adjacent deserts.	Flash flooding occurred along and north of Highway 78, south of Borrego Springs.
7.5.2014	Thunderstorms erupted in the Inland Empire, San Bernardino Mountains, and the High Desert.	Flash flooding closed roads in the High Desert along I-15 and Hwy. 247 and required a swift water rescue in Yucaipa. On 7/5 flash flooding occurred along Hwy. 247 in Landers.
7.27.2014	Thunderstorms erupted in the mountains of San Diego County and even along the coast.	Flash flooding occurred in La Jolla Shores and near Warner Springs along Hwy 79.
8.3.2014	Heavy thunderstorms hit the Inland Empire, the mountains and the lower desert. Mt. Baldy Village got 4.40 inches, with four inches falling in 60 minutes.	Flash flooding and debris flows were common. Road closures and damage.
8.12.2014	A heavy thunderstorm struck east of Julian.	A debris flow blocked Hwy. 78 east of Julian on the Banner Grade that was one to two feet deep. The Banner Fire burn scar contributed to this flow.
9.7-8.2014	Weakening Hurricane Norbert brought moisture to produce thunderstorms mainly in Riverside and San Diego Counties. Rainfall amounts of 1 to 2 inches fell over the city of Riverside, San Bernardino and Hemet, while the mountains in that county saw up to 0.60" near Sky Valley. Early morning thunderstorms on 9.8 drenched parts of the Coachella Valley which received 0.33" up to just over 3 inches near the lower foothill in Thousand Palms and La Quinta.	Widespread flash flooding, most notably in the Coachella Valley on 9.8. Mud and water closed roads and stranded vehicles in La Quinta, Palm Desert, and Thousand Palms. Homes in La Quinta were surrounded by water. Moving water was 3 feet deep on roads and 4 to 5 feet of standing water submerged vehicles. Mud was several feet deep on Varner Road.
12.3-4.2014	A Pacific storm brought moderate to heavy rain. Two-day rainfall totals of 1-2" were recorded west of the mountains, while the southern slopes of the San Bernardino County mountains saw up to 5" of rain (isolated amount of 14.5" at Yucaipa Ridge).	Flooding resulted, with mud, debris and water closing several roadways and stranding vehicles. Mud with debris 10 feet high piled up on Soboba Rd. north of San Jacinto. A swift water rescue was needed.
12.12-13.2014	A strong Pacific storm brought heavy rain. Widespread rainfall amounts of 1 to 1.5" in the coast and valley areas. Mountain locations got up to 4" .	River rises in the San Diego River resulted in a levee breach which flooded the parking lot of Qualcomm Stadium. Several other roadways in San Diego County were closed due to flooding with mud and debris in the road, especially near the Tijuana River Valley.
5.14.2015	A strong late-season winter storm, along with some thunderstorms, hit the region. San Diego reported 1.30" of rain in one hour. A nine-minute period within that main hour, totaled 0.71", which is near the 1/100 return interval.	Flooding in Mission Hills and Midway District of San Diego was up to 4 feet deep. Several swift water rescues.

Date(s)	Weather	Adverse Impacts
7.6.2015	Monsoon thunderstorms hit the mountains and upper desert. A few spots received up to around one-third of an inch, including a portion of the Lake Fire burn area south of Big Bear Lake.	Several debris flows resulted, including one consisting mostly of ash and mud over portions of Highway 38, up to a foot deep in some areas.
7.18-19.2015	Moisture from Hurricane Dolores, along with monsoon moisture resulted in showers and thunderstorms over most Southern California. Rainfall ranged from 0.5-4", including a record 1.71" at San Diego on 7.18 (unprecedented rainfall: single-day and July monthly total) . The San Diego River at Fashion Valley had 2 crests above monitor stage, 7.7 feet on the 18th and 8.8 feet on 7.19. On 7.19 over 6" of rain fell over several hours just west of Desert Center.	A debris flow hit the burn scar of Silverado Canyon. Flash floods hit Moreno Valley, Perris, and La Mesa on 7.19. A wet microburst struck Tierrasanta on 7.18, causing wind damage. A haboob caused wind damage in the Anza Borrego Park and in Palm Desert. The rain caused the first rain-out of a Los Angeles Angels baseball game since 1995, and a rare 2-hour rain delay at the San Diego Padres baseball game. Over 2000 lightning strikes were reported on 7.18, some starting small brush fires. Near Desert Center on 7.19 eastbound lanes of Interstate 10 collapsed where they crossed a heavily flowing wash. A vehicle drove into the hole in the collapsed bridge, trapping the driver and requiring rescue. I-10 was closed in both directions causing huge traffic backups.
7.29-30.2015	Scattered thunderstorms occurred mainly over the mountains and deserts with wide-ranging rainfall totals from a few tenths of an inch to locally over 2" .	Flash flooding occurred in Idyllwild, Timoteo Canyon, Calimesa and Moreno Valley.
9.7-8.2015	Subtropical moisture from remnants of Hurricane Linda brought thunderstorms to most of the region. Additional thunderstorms on 9.8 developed over the mountains and spread into the Inland Empire and Orange County, as well as near I-15 in San Diego County. Hail was mostly nickel-sized, but a few larger. A small dust storm hit Riverside.	Flash floods hit Victorville (which included a swift water rescue). Another flash flood in Forest Falls also had a swift water rescue, but also one drowning death. On 9.8 several trees and poles were downed in the Riverside area from the dust storm.
9.15.2015	A Pacific trough tapped into remnant moisture from tropical cyclone Linda. 1-2" of rain was common across the entire region.	Major traffic jam during the morning commute in LA and Orange County, along with a debris flow in Silverado Canyon, and widespread urban flooding.
10.16.2015	Strong thunderstorms hit northern Ventura and LA counties.	Flash flooding and mud and debris flows occurred in the San Gabriel Mountains, Cuyama, and the Antelope Valley.
10.18.2015	Thunderstorms dropped very heavy rainfall in Death Valley. Scotty's Castle measured 2.72 inches of rain in roughly five hours.	Major flash flooding hit the Grapevine Canyon area of Death Valley National Park. Mesquite Springs Campground and Grapevine Ranger Station were evacuated: eight vehicles full of visitors and three park rangers were stranded overnight near Ubehebe Crater. Trenches up to six feet deep were cut into Scotty's Castle Road. 24 power poles were downed. Mud and debris damaged or destroyed the water supply infrastructure, stables, visitors center, and the cookhouse.
11.3-4.2015	A wet winter storm brought locally heavy rain to Southern California. San Diego recorded a one-day total of 1.09" on 11.3, setting a daily rainfall record. 0.10" to 1.5" fell elsewhere, heaviest in southern San Diego County. Hail of one quarter inch was reported in Dana Point and southern San Diego County.	Urban flooding in Spring Valley and Lemon Grove with water up to the doors of some vehicles and several roads closed.

Date(s)	Weather	Adverse Impacts
1.5-7.2016	A strong, low latitude jet stream brought a series of storms through Southern California with periods of moderate to heavy rain. Three-day rainfall totals were around 2-7" for the coast, valley and foothill areas, and 1- 3" for the deserts. After several years of drought, this was the only precipitation event of significance during an otherwise disappointing strong El Niño season.	Flooding resulted nearly everywhere, with southwestern San Diego County being hardest hit. Floods buried cars in Ocean Beach and Mission Valley. High water rescues occurred on 1.6 around San Diego. Small mudslides, including boulders on highways were reported near Ramona, Redlands, Crestline, Orange, Rancho San Diego and De Luz. Three debris flows in Silverado Canyon below a burn scar.

Significant Floods in the LVMWD Service Area Region

The National Flood Insurance Program tracks flood losses for the U.S. The following table lists the NFIP loss totals for the cities within the LVMWD Service Area from 1978 through 2018.

Community Name	Total Losses	Closed Losses	Open Losses	CWOP Losses	Total Payments
Agoura Hills	60	34	0	26	\$552,567.03
Calabasas	19	9	0	10	\$99,249.09
Hidden Hills,	37	23	0	14	\$391,043.63
Westlake Village	4	1	0	3	\$566.83

SOURCE: <https://bsa.nfipstat.fema.gov/reports/1040.htm> CWOP – Closed Out Without Payment

CAUSES AND CHARACTERISTICS OF FLOODS

A flood, as defined by the National Flood Insurance Program is: A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from: overflow of inland or tidal waters; unusual or rapid accumulation or runoff of surface waters from any source, or mudflow.

Flooding may occur as a result of sustained heavy rainfall, microbursts (short periods of large volumes of rain), large wave activity on the coast, or reservoir/dam failure. A “100-Year Recurrence Interval” is defined as a flood that according to historical data has a probability of occurrence once in 100 years. This benchmark used by FEMA to establish a regulatory baseline for all flooding events. Similar benchmarks are defined for 25, 50, 500-year events.

Annual Rainfall

In the LVMWD Service Area the recorded history of rainfall varies greatly. Rainfall amounts have ranged from no rain at all in some years to well over normal averages in very wet years. Furthermore, actual rainfall in Southern California tends to fall in large amounts during sporadic and often heavy storms rather than in consistent amounts throughout the year.

Dam and Reservoir Failure

Loss of life and damage to structures, roads, and utilities may result from a reservoir or dam failure. Several factors influence the severity of a full or partial reservoir or dam failure: the amount of water released, topography, and the density of downstream populations and structures.

The Las Virgenes Municipal Water District (LVMWD) serves the cities of Agoura Hills, Calabasas, Hidden Hills and Westlake Village as well as several unincorporated areas of Los Angeles County. The LVMWD maintains two major facilities in Westlake Village:

- The Las Virgenes Reservoir is located at 2860 Three Springs Drive
- The Westlake Filtration Plant located at 32601 Torchwood Place (filters water from the Las Virgenes Reservoir prior to delivery to customers)

The Las Virgenes Reservoir has a surface area of approximately 160 acres and contains nearly 3 billion gallons of water. The reservoir was built from 1970 to 1972 and is comprised of two earthen dams built on a bedrock foundation. The main dam is 160 feet high, 2,000 feet long, 20 feet wide at the top, and 750 feet wide at the bottom. The saddle dam is 50 feet high, 750 feet long, 20 feet wide at the top, and 425 feet wide at the bottom.



Figure 12: Las Virgenes Reservoir

FLOOD HAZARD IDENTIFICATION

Flooding occurs when climate, geology, and hydrology combine to create conditions where water flows outside of its usual course. As described earlier, due to the close proximity to the Santa Monica Mountain range and variations of topography, there is a potential for flood throughout the entire area. Furthermore, due to continued growth, economic development and an increase of impermeable areas, the region's storm water collection and conveyance system may become overwhelmed.

Tropical Storms and El Nino Conditions

Another source of heavy rainfall is from summer tropical storms. These tropical storms usually coincide with El Nino years. El Nino is a disruption of the ocean-atmosphere system in the tropical Pacific Ocean having important consequences for weather in California. Among these consequences is increased rainfall across the southern tier of the U.S. and Peru.

During El Nino periods, trade winds begin to relax in the central and western Pacific Ocean leading to a depression of the thermocline in the eastern Pacific Ocean and an elevation of the thermocline in the west. The result is a rise in sea surface temperature and heavier than normal rainfall in Southern California. In the past, El Nino conditions have caused damage to the entire Los Angeles County area.

Geography and Geology

LVMWD Service Area geologic features mainly consist of un-consolidated and semi-consolidated alluvial materials underlain and bounded on the north and east by consolidated sediments and crystalline rocks. These deposits consist of a shallow layer of Quaternary fill that has been washed down from the Santa Monica Mountains.

The materials are generally poorly sorted sands and gravels, intermingled with silts and clays. This lack of open ground forces water to remain on the surface and rapidly accumulate. If it were not for the existing flood control system in the area with its concrete lined river and stream beds, flooding would be a much more common occurrence.

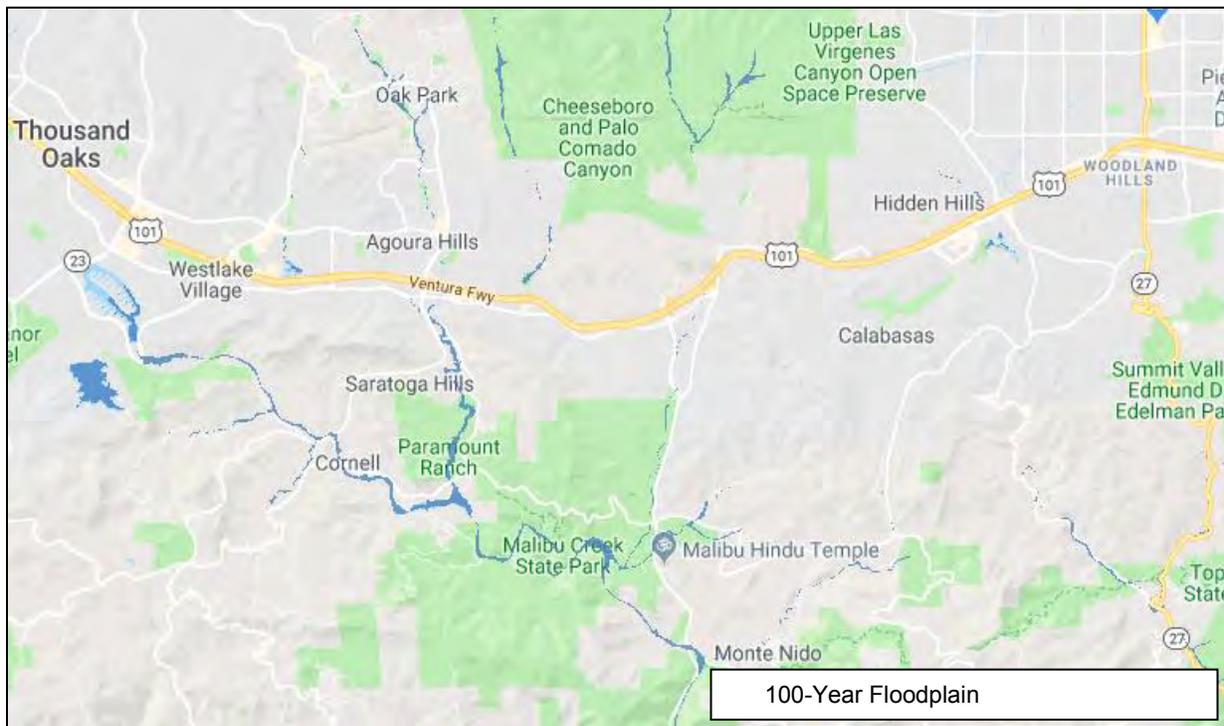
Urban Development

The trend towards development has resulted in less open land and greater flood potential. In-fill building is becoming a much more common practice in many areas. Developers tear down an older home which typically covers up to 40% of the lot size and replace it with a single massive home or multi-unit town homes or apartments which may cover 90-95% of the lot. The consequence is less surface area for water to seep into the ground causing excessive run-off.

Another potential source of flooding is "asphalt creep." The street space between the curbs of a street is a part of the flood control system. Water leaves property and accumulates in the streets, where it is directed towards the underground portion of the flood control system. The carrying capacity of the street is determined by the width of the street and the height of the curbs along the street. Often, when streets are being resurfaced, a one to two-inch layer of asphalt is laid down over the existing asphalt. This added layer of asphalt subtracts from the rated capacity of the street to carry water. Thus, the original engineered capacity of the entire storm drain system is marginally reduced over time. Subsequent re-paving of the street will further reduce the engineered capacity even more.

Flood Maps and Flood Insurance Studies

Flood maps and Flood Insurance Studies (FIS) are often used to identify flood-prone areas. The National Flood Insurance Program (NFIP) was established in 1968 as a means of providing low-cost flood insurance to the nation’s flood-prone communities. The NFIP also reduces flood losses through regulations that focus on building codes and sound floodplain management. NFIP regulations (44 Code of Federal Regulations Chapter 1, Section 60, 3) require that all new construction in floodplains must be elevated at or above base flood level.



Map 26: FEMA 100-Year Floodplain Map

Source: CA.gov

Estimated Impact of an Event

If major flooding were to occur, the consequences to local populations, employment, and housing could be significant. For the LVMWD, the impact may involve:

- Disruption of Water and Sewage Services to Customers
- Damage to LVMWD Infrastructure from Sink Holes, Landslides, and Flood Inundation
- Loss of Power Leading to Disruptions to Pump Stations

Customer and economic disruptions to 10% of the LVMWD Service Area will result in the following projected losses.

Category	Agoura Hills	Calabasas	Hidden Hills	Westlake Village	Impact if a 10% Loss Occurs
Population	20,692	24,202	1,921	8,440	5,526
Total City Employment	11,200	11,900	-	13,886*	2,310
Economy**	\$811,395,000	\$1,614,403,000	\$500,000	\$1,894,297,000	\$432,059,500
Total Housing Units	5,562	6,097	510	2,934	1,510

*Per California Employment Development Department, InfoGroup, and SCAG Estimates for 2015

**U.S. Census Quick Facts for 2012 (Hidden Hills Retail Sales only based on SCAG City Profile Report for 2012)

FLOOD VULNERABILITIES

The major concern regarding the impact on communities from flood events is the loss of life and property. Critical infrastructure failures are also a threat and may require days or weeks to repair. Similarly, the impact to business and industry can result in immediate and long term economic loss.

Property Loss

Extensive damage can be caused by flooding and landslide damage related to soil saturation from flood events. The type of property damage caused by flood events depends on the location, depth, and velocity of flood waters. Flood waters can wash buildings off foundations and sweep personal property downstream.

Critical Infrastructure

Critical infrastructure can be damaged during floods especially when high water levels combine with flood debris. Damage can occur to water and sewer systems, electrical supplies, pipelines, transportation networks, emergency facilities, communications networks, and other essential sites. Furthermore, contamination of underground wells and reservoirs can impact local water supplies. Finally, flood waters and debris can overflow local storm water systems causing traffic disruptions and pose a hazard to the health of the local community.

Business and Industry

Flood events impact businesses by damaging property and interrupting access by employees, suppliers, and customers. Furthermore, a loss of utilities caused by flooding can prevent businesses and industry from functioning. In addition, local or regional flooding can result in lower worker productivity, disrupt traffic, and increase commute times.

FLOOD MITIGATION STRATEGIES

LVMWD Mitigation Activities

The LVMWD flood and severe winter storm mitigation actions include:

- Emergency Power Generation to Support Key Pump Stations (Power Outage)
- Drainage and Debris Clearance
- Ongoing Inspections and Assessments of All LVMWD Facilities and Infrastructure
- Site Inspections for Flood Prone Risk for New Facilities and Infrastructure

SECTION 11: TERRORISM

THE NATURE OF THE TERRORISM

Terrorism is a continuing threat throughout the world and within the United States. There is no history of terrorist acts or terrorist groups operating in the LVMWD Service Area. Consequently, the probability of a terrorist attack is considered low. Nevertheless, it is still important to consider the potential for terrorist activities especially since there are a variety of political, social, religious, cultural, and economic factors that underlie the broad term “terrorist”. In addition, since terrorists often focus on high visibility targets and civilian populations, the potential consequences of an attack underscore the need to consider terrorism as part of this mitigation plan.

Furthermore, while Mass Violence events such as “Active Shooter” incidents are generally considered workplace or school focused and are criminal acts, they can also be considered forms of terrorism. There are specific characteristics that can link some Active Shooter cases to terrorism. Namely the targeting of vulnerable populations resulting in loss of life and an intent to intimidate. While the risk of Mass Violence events such as Active Shooter incidents is still considered low, including all forms of terrorism is an important component of a comprehensive mitigation plan.

HISTORY OF TERRORIST AND MASS VIOLENCE EVENTS IN THE LVMWD SERVICE AREA REGION

The LVMWD Service Area has not experienced a terrorist act or incidence of mass violence; however, it does include a variety of important businesses, public sites, pipelines, electrical infrastructure, and high-profile individuals which could attract the attention of terrorists. In addition, there are multiple schools, shopping areas, public venues, and private businesses that could experience mass violence attacks. The consequences of a terrorist act or mass violence incident in the region could also impact the local area, e.g., disruption of CA 101, Pacific Coast Highway, local streets, etc. Furthermore, there is a possibility that extremist groups or lone attackers could operate from the area and use it as a base of operations for attacks elsewhere.

Specific Threats

Recent trends toward large scale incidents generating significant casualties make preparedness and the mechanisms for effective response essential. In addition to large scale attacks, a full range of assault styles must be considered. Terrorists or mass violence perpetrators may include a variety of methods including letter bombs, large-scale bombs, active shooter incidents, car or truck attacks, knife assaults, bio-chemical attacks, car bombs, suicide attacks, or hostage taking.

Venues likely to suffer the impact of terrorism or mass violence include critical infrastructure (e.g., pump stations, dams, etc.) government facilities, military facilities and recruiting offices, military suppliers, hospitals, entertainment and cultural facilities, religious centers, shopping malls, business complexes, movie theaters, public arenas, colleges, schools, and research centers.

Motivation

Conventional political motivation for terrorism continue, however issues involving organized crime, narcotics trafficking, ecological/animal rights, abortion/right-to-life groups, and perceived economic injustice can also involve terrorist groups or lone individual “Lone Wolf” planning, and operations. In addition, increased motivation may be attributed to the growing use of the Internet for terrorist recruitment, training, and communications as well as social media as outlets for mass violence perpetrators to publicize their activities and motivation.

CAUSES AND CHARACTERISTICS OF TERRORISM

Terrorism

Defining Terrorism

There are multiple definitions of terrorism in common use. The United States Code defines terrorism as premeditated, politically motivated violence perpetrated against noncombatant targets by sub-national groups or clandestine agents usually intended to influence an audience. The United States Department of Justice defines terrorism as a violent act dangerous to human life, in violation of the criminal laws of the U.S. or any segment to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives. The FBI defines terrorism as the unlawful use of force or violence against persons or property to intimidate or coerce government, the civilian population, or any segment thereof, in furtherance of political or social objectives.

All three of these definitions share important components:

1. Criminal action
2. The action must include violence against civilians
3. The action is carried out in order to further political or social objectives
4. The action is intended to coerce a government or civilian population

Terrorism Hazard Identification

The categories below serve to differentiate terrorist organizations or individuals according to common goals and motivation. It should be noted that these categories of terrorism and terrorist groups are constantly changing. In addition, the “Lone Wolf” terrorism (individuals not connected to a terror cell or larger group, but who commit acts of public violence, often on behalf of a personal grievance) has added another dimension.

Category	Description
Separatist	Separatist groups are those with the goal of separation from existing entities through independence, political autonomy, or religious freedom or domination. The ideologies separatists subscribe to include social justice or equity, anti-imperialism, as well as the resistance to conquest or occupation by a foreign power.
Ethnocentric	Groups of this persuasion see race as the defining characteristic of a society, and therefore a basis of cohesion. There is usually the attitude that a particular group is superior because of their inherent racial characteristics.
Nationalistic	The loyalty and devotion to a nation, and the national consciousness derived from placing one nation's culture and interests above those of other nations or groups. This can find expression in the creation of a new nation or in splitting away part of an existing state to join with another that shares the perceived "national" identity.
Revolutionary	Dedicated to the overthrow of an established order and replacing it with a new political or social structure. Although often associated with communist political ideologies, this is not always the case, and other political movements can advocate revolutionary methods to achieve their goals
Political	Political ideologies are concerned with the structure and organization of the forms of government and communities. While observers outside terrorist organizations may stress differences in political ideology, the activities of groups that are diametrically opposed on the political spectrum are similar to each other in practice.
Religious	Religiously inspired terrorism is on the rise. While Islamic terrorists and organizations have been the most publicized, all of the major world religions have extremists that have taken up violence to further their perceived religious goals. Religiously motivated terrorists see their objectives as holy writ, and therefore infallible and non-negotiable
Social	Often particular social policies or issues will be so contentious that they will incite extremist behavior and terrorism. Frequently this is referred to as "single issue" or "special interest" terrorism. Some issues that have produced terrorist activities in the United States and other countries include animal rights, abortion, ecology/environment, and minority rights.

Category	Description
Domestic	These terrorists are "home-grown" and operate within and against their home country. They are frequently tied to extreme social or political factions within a particular society and focus their efforts specifically on their nation's socio-political arena.
International or Transnational	<p>Often describing the support and operational reach of a group, these terms are often loosely defined, and can be applied to widely different capabilities. <i>International groups</i> typically operate in multiple countries but retain a geographic focus for their activities. Hezbollah has cells worldwide, and has conducted operations in multiple countries, but is primarily concerned with events in Lebanon and Israel.</p> <p><i>Transnational groups</i> operate internationally, but are not tied to a particular country, or even region. Al Qaeda is transnational; being made up of many nationalities, having been based out of multiple countries simultaneously, and conducting operations throughout the world. Their objectives affect dozens of countries with differing political systems, religions, ethnic compositions, and national interests</p>

Source: <http://www.terrorism-research.com/groups/categories.php>

International Terrorist Groups

International terrorist groups can operate anywhere and act without regard to national borders. U.S. Code Title 18 Part I, Chapter 113b § 2331 defines international terrorism as activities that:

- (A) involve violent acts or acts dangerous to human life that are a violation of the criminal laws of the United States or of any State, or that would be a criminal violation if committed within the jurisdiction of the United States or of any State;
- (B) appear to be intended:
 - (i) to intimidate or coerce a civilian population;
 - (ii) to influence the policy of a government by intimidation or coercion; or
 - (iii) to affect the conduct of a government by mass destruction, assassination, or kidnapping; and
- (C) occur primarily outside the territorial jurisdiction of the United States, or transcend national boundaries in terms of the means by which they are accomplished, the persons they appear intended to intimidate or coerce, or the locale in which their perpetrators operate or seek asylum

The U.S. State Department issues and maintains the Foreign Terrorist Organization (FTO) List which documents current threat groups. The current FTO is listed below:

1. Abu Sayyaf Group (ASG)	35. al-Shabaab
2. Aum Shinrikyo (AUM)	36. Revolutionary Struggle (RS)
3. Basque Fatherland and Liberty (ETA)	37. Kata'ib Hizballah (KH)
4. Gama'a al-Islamiyya (Islamic Group - IG)	38. al-Qa'ida in the Arabian Peninsula (AQAP)
5. HAMAS	39. Harakat ul-Jihad-i-Islami (HUJI)
6. Harakat ul-Mujahidin (HUM)	40. Tehrik-e Taliban Pakistan (TTP)
7. Hizballah	41. Jundallah
8. Kahane Chai (Kach)	42. Army of Islam (AOI)
9. Kurdistan Workers Party (PKK, aka Kongra-Gel)	43. Indian Mujahedeen (IM)
10. Liberation Tigers of Tamil Eelam (LTTE)	44. Jemaah Anshorut Tauhid (JAT)
11. National Liberation Army (ELN)	45. Abdallah Azzam Brigades (AAB)
12. Palestine Liberation Front (PLF)	46. Haqqani Network (HQN)
13. Palestine Islamic Jihad (PIJ)	47. Ansar al-Dine (AAD)
14. Popular Front for the Liberation of Palestine (PFLP)	48. Boko Haram
15. PFLP-General Command (PFLP-GC)	49. Ansaru
16. Revolutionary Armed Forces of Colombia (FARC)	50. al-Mulathamun Battalion (AMB)
17. Revolutionary People's Liberation Party/Front (DHKP/C)	51. Ansar al-Shari'a in Benghazi
18. Shining Path (SL)	52. Ansar al-Shari'a in Darnah
19. al-Qa'ida (AQ)	53. Ansar al-Shari'a in Tunisia
20. Islamic Movement of Uzbekistan (IMU)	54. ISIL Sinai Province (formerly Ansar Bayt al-Maqdis)
21. Real Irish Republican Army (RIRA)	55. al-Nusrah Front
22. Jaish-e-Mohammed (JEM)	56. Mujahidin Shura Council in the Environs of Jerusalem
23. Lashkar-e Tayyiba (LeT)	57. Jaysh Rijal al-Tariq al Naqshabandi (JRTN)
24. Al-Aqsa Martyrs Brigade (AAMB)	58. ISIL-Khorasan (ISIL-K)
25. Asbat al-Ansar (AAA)	59. Islamic State of Iraq and the Levant's Branch in Libya
26. al-Qaida in the Islamic Maghreb (AQIM)	60. Al-Qa'ida in the Indian Subcontinent
27. Communist Party of the Philippines/New People's Army	61. Hizbul Mujahideen (HM)
28. Jemaah Islamiya (JI)	62. ISIS-Bangladesh
29. Lashkar i Jhangvi (LJ)	63. ISIS-Philippines
30. Ansar al-Islam (AAI)	64. ISIS-West Africa
31. Continuity Irish Republican Army (CIRA)	65. ISIS-Greater Sahara
32. Islamic State of Iraq and the Levant (al-Qa'ida in Iraq)	66. al-Ashtar Brigades (AAB)
33. Islamic Jihad Union (IJU)	67. Jama'at Nusrat al-Islam wal-Muslimin (JNIM)
34. Harakat ul-Jihad-i-Islami/Bangladesh (HUJI-B)	

International terrorist groups often have state sponsors who view terrorism as a tool of foreign policy. State sponsors of terrorism engage in anti-Western terrorist activities by funding, organizing, networking, and providing other support to many extremists.

Country	Designation Date
Democratic People's Republic of Korea (North Korea)	November 20, 2017
Iran	January 19, 1984
Sudan	August 12, 1993
Syria	December 29, 1979

Source: U.S. State Department

Domestic Terrorism in the United States

Domestic terrorism involves attacks within the United States perpetrated by homegrown groups or individuals. U.S. Code Title 18 Part I, Chapter 113b § 2331 defines domestic terrorism as activities that:

- (A) involve acts dangerous to human life that are a violation of the criminal laws of the United States or of any State;
- (B) appear to be intended—
 - i. to intimidate or coerce a civilian population;
 - ii. to influence the policy of a government by intimidation or coercion; or
 - iii. to affect the conduct of a government by mass destruction, assassination, or kidnapping; and
- (C) occur primarily within the territorial jurisdiction of the United States.

Domestic Terrorism Examples

Year	Event	Description
April 19, 1995	Oklahoma City Bombing	Truck bomb resulting in 168 people killed
July 27, 1996	Centennial Olympic Park Bombing	1996 Summer Olympic bombing in Atlanta, GA resulting in 2 deaths and 111 injuries
September 18, 2001 (start)	U.S. Anthrax Attacks	A series of letters containing anthrax spores lasting several weeks resulting in 5 deaths and 17 infections
May 31, 2009	Assassination of Dr. George Tiller	Murder of a nationally known physician that performed late-term abortions
June 10, 2009	U.S. Holocaust Memorial Museum Shootings	Shooting attack of a believed neo-Nazi resulting in 1 death
November 5, 2009	Fort Hood Shootings	Shooting attack of a believed Islamic extremist resulting in 13 deaths and 30 wounded
August 5, 2012	Wisconsin Sikh Temple Shootings	Shooting attack at the Oak Creek Sikh Temple in Wisconsin resulting in 6 deaths and 4 wounded
February 18, 2010	Austin, Texas IRS Airplane Attack	Aircraft attack on an IRS office building by a believed anti-government / anti-corporate business extremist resulting in 1 death
April 15, 2013	Boston Marathon Bombing	Bombing at the Boston Marathon resulting in 3 deaths and several hundred injuries.
June 17, 2015	Charleston Church Shooting	Shooting attack at the Emanuel African Methodist Episcopal Church resulting in 9 killed and 3 injured
December 2, 2015	San Bernardino Inland Regional Center Shootings	Shooting attack resulting in 14 people killed and 24 injured at the San Bernardino County Department of Public Health training event and holiday party
June 12, 2016	Orlando Pulse Nightclub Shootings	Shooting attack resulting in 49 people killed and 58 injuries at the Pulse Nightclub in Orlando
October 1, 2017	Las Vegas Route 91 Harvest Music Festival Shootings	Shooting attack at the Harvest Music Festival by a lone sniper from the Mandalay Bay Hotel resulting in 58 killed and 851 injured

Post 9/11

After September 11, 2001, the United States has increased its security policies and procedures at the national and local level. Since then, Federal Grants for counter-terrorism have increased to approximately seventy-five billion dollars per year from federal and state governments according to Kim Murphy of Los Angeles Times in an article dated August 2011. These grants have provided local counties and cities funds to strengthen their security procedures, implement needed mitigation actions, or provide first responders with specialized training and equipment.

Weapons of Mass Destruction (WMD)

Weapons of Mass Destruction are a specific type of threat that must be considered by any community. For the Los Angeles County region, this may involve the activation of a WMD within the area or a large-scale attack in a nearby location. Consequently, ongoing awareness and training of local emergency responders, government, and healthcare providers is important to ensure that such events are quickly identified and managed.

Five Types of WMD That Could be Used by Terrorists

WMD can be segregated into five categories using the acronym B-NICE: Biological, Nuclear, Incendiary, Chemical and Explosive.

1. Four common types of biological agents are bacteria, viruses, rickettsia, and toxins.
2. Nuclear terrorism can occur in two different ways.
 - a. Detonation or threat of detonation of a nuclear bomb
 - b. Dispersion of radiological material using a conventional explosive or other dispersal device
3. An incendiary device is any mechanical, electrical, or chemical device used to intentionally initiate combustion and start a fire.
4. Chemical agents can be classified into five categories: nerve agents, blister agents, blood agents, choking agents, and irritating agents.
5. Explosive devices are the most common WMD (70% of all terrorist attacks).

While explosives are the most common method, any of the WMDs listed can be deployed at any time. Consequently, threat awareness and vigilance are critical to prevent future attacks.

In one well-known case a plot to detonate a car bomb at the Los Angeles International Airport was uncovered by an alert U.S. Customs inspector. On December 14, 1999, Ahmed Ressam (aka the Millennium Bomber) was arrested after a U.S. Customs inspector had his vehicle searched after he had successfully boarded a ferry from Canada to Port Angeles, Washington. The inspector is credited for noticing Ressam's behavior as unusual and ordering a secondary customs search and a check of his passport. As a result, chemicals and explosive timing devices were found in the trunk of his vehicle and his passport was identified as counterfeit. Ressam was subsequently jailed and convicted on multiple counts.

Mass Violence

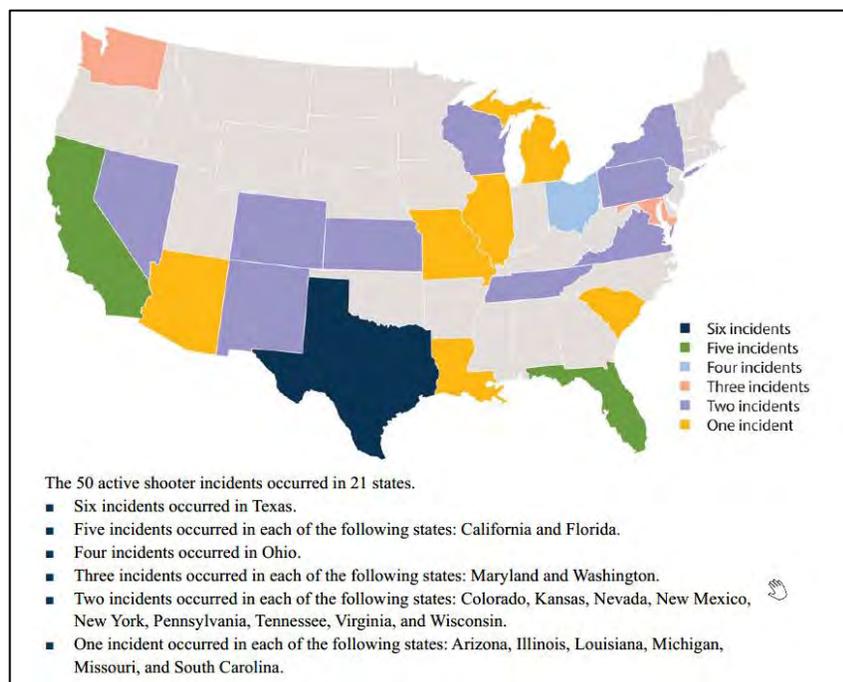
Defining Mass Violence

Mass violence involves shootings, car or truck attacks against pedestrians, and other targeting that results in harm to multiple victims. As defined by the Federal Bureau of Investigation (FBI), an active shooter is an individual actively engaged in killing or attempting to kill people in a populated area. The federal definition of “mass killings,” according to the Investigative Assistance for Violent Crimes Act is, “three or more killings in a single incident.” (not including the shooter).

Mass Violence Incidents in the United States

According to the FBI⁶, from 2016 to 2017 there were 50 active shooter incidents in the U.S. that resulted in 943 casualties (221 people killed, and 722 people wounded, excluding the shooters).

- The highest number of casualties (58 killed and 489 wounded) occurred during the Route 91 Harvest Festival in Las Vegas, Nevada, in 2017.
- The second highest number of casualties (49 killed and 53 wounded) occurred at Pulse, a nightclub in Orlando, Florida, in 2016.
- The third highest number of casualties (26 killed and 20 wounded) occurred at the First Baptist Church in Sutherland Springs, Texas, in 2017.



Map 27: Active Shooter Incidents in the U.S. from 2016 to 2017

⁶ U.S., Department of Justice, Federal Bureau of Investigation, Active Shooter Incidents in the United States in 2016 and 2017, April 2018.

ESTIMATED IMPACT OF A TERRORIST EVENT OR MASS VIOLENCE INCIDENT

If a terrorist event causing a disruption to LVMWD services were to occur, the consequences to local populations and employment may be significant depending on the site or sites targeted.

For the LVMWD, the impact may involve:

- Loss of Life and Injuries
- Disruption of Water and Sewage Services to Customers
- Damage to LVMWD Infrastructure
- Loss of Power Leading to Disruptions to Pump Stations

The table below provides the estimated impact of a disaster using a 1% loss baseline.

Category	Agoura Hills	Calabasas	Hidden Hills	Westlake Village	Impact if a 1% Loss Occurs
Population	20,692	24,202	1,921	8,440	553
Total City Employment	11,200	11,900	-	13,886*	231
Economy**	\$811,395,000	\$1,614,403,000	\$500,000	\$1,894,297,000	\$43,205,950
Total Housing Units	5,562	6,097	510	2,934	151

*Per California Employment Development Department, InfoGroup, and SCAG Estimates for 2015

**U.S. Census Quick Facts for 2012 (Hidden Hills Retail Sales only based on SCAG City Profile Report for 2012)

TERRORISM VULNERABILITIES

The probability that an individual or location will be targeted by a terrorist is a function of several factors including the attractiveness of target, the potential for success of the event and the potential for avoiding identification and capture. Categories of potential targets include:

- Pump Stations
- Dams and Reservoirs
- Pipelines and Infrastructure
- LVMWD Offices and Facilities

REGIONAL RESPONSE, MITIGATION, AND PREVENTION ACTIVITIES

The Los Angeles County Sheriff's Department is the lead law enforcement agency for the region regarding terrorist events and mass casualty incidents. Individual cities will be responsible for consequence management. Currently the Lost Hills Sheriff's station and individual cities implement projects and or programs to help prevent a terrorist or mass casualty situation or be prepared if one were to occur. The following are practices or projects that are currently active in the Region.

Emergency Response Actions

The Los Angeles County Sheriff's Department acts as the lead agency for crisis management, perimeter security, access control, traffic/crowd control, evacuations, notifications, and safeguarding evidence. Crisis management activities may include:

- Investigation, tracking, and maintaining scene integrity.
- Coordinating coroner issues with the Los Angeles County Coroner's Department.
- Use of Special Weapons and Tactics (SWAT) or Rapid Deployment Force (RDF) units
- Assisting with damage assessment and fatalities management.

The Los Angeles County Fire Department is the lead agency for fire response, hazardous materials events, and medical/rescue operations. The County Fire Department provides support as necessary to the Sheriff for Crisis Management activities. Existing procedures, such as the Fire Department's Hazardous Materials Response procedures and NBC Response Protocols are used as necessary. The Fire Department assists with:

- Fire and rescue operations
- Emergency medical services coordination
- Perimeter and access control
- Evacuation operations
- Notifications
- Safeguarding evidence
- Damage assessment
- Fatalities management
- Addressing environmental needs
- Obtaining personnel with radiological training
- Insuring decontamination procedures (radiological and chemical) are in place
- Insuring biological agents are contained

Equipment and JRIC

In September 2011, Los Angeles County received an \$8.9 million grant from the Department of Homeland Security. The funds were a part of a 2010 federal grant of \$69.9 million to the Los Angeles-Long Beach Urban Area. The grant was intended to address the unique equipment, training and planning needs of large urban areas in managing terrorism threats.⁷ The Los Angeles County Sheriff's Department received the bulk of the \$8.9 million grant and will use \$6.2 million for equipment, such as an aerial video downlink technology, mobile surveillance cameras, tactical robots, radiation detection devices and bomb suits.

Nearly 70 percent of the total Los Angeles-Long Beach Urban Area funds were spent on the region's Joint Regional Intelligence Center (JRIC). The JRIC is staffed by federal, state and local intelligence analysts and investigators responsible for the 44,000-square-mile territory surrounding Los Angeles. The JRIC opened in 2006 and is the largest of approximately 40 facilities nationwide and is used to coordinate data from 200 agencies in seven counties.

Terrorism Early Warning Group

In 1996, the Los Angeles County Sheriff Department established the Terrorism Early Warning (TEW) Group.⁸ The purpose of the TEW Group is to act as an interdisciplinary group in which local, state, and federal agencies work together to share information and combine resources, and to enhance the ability to identify and respond to acts and threats of terrorism. This interagency approach allows for early response and enforcement by clearing the communication channels between agencies and creating an environment that facilitates information and intelligence sharing. The result is an effective network that has the ability to identify information which might indicate impending terrorist activity. This group is a significant resource for identifying and assessing potential threats, making appropriate notifications and recommendations, and aiding in mission planning and the efficient allocation of resources.

⁷ <http://ourweekly.com/los-angeles/sheriff%E2%80%99s-department-spend-89-million-anti-terror-equipment-training-and-intelligence>

⁸ http://file.lacounty.gov/lasd/cms1_144939.pdf

TERRORISM MITIGATION STRATEGIES

LVMWD Mitigation Activities

The LVMWD terrorism mitigation actions include:

- Security Barriers and Fencing (Physical Threats)
- Security Monitoring and Camera Surveillance (Physical Threats)
- SCADA Security Upgrades
- Ongoing Security Inspections and Assessments of All LVMWD Facilities and Infrastructure

SECTION 12: PLAN MAINTENANCE AND MONITORING

This Plan Maintenance section details the formal process that will ensure that the Las Virgenes Municipal Water District Hazard Mitigation Plan is an active and relevant document. This section includes a schedule for monitoring and evaluating the plan and producing revisions every five years. Additionally, a description of how the LVMWD will integrate public participation throughout the plan maintenance process is provided.

This section includes an explanation of how the LVMWD intends to incorporate the mitigation strategies outlined in this plan into existing planning mechanisms such as the District's Strategic Planning mechanisms. In addition, a brief discussion on future development trends is provided to highlight potential areas of focus when updating the HMP.

FUTURE DEVELOPMENT TRENDS

Due to development restrictions and space limitations property development trends within the Las Virgenes Municipal Water District Service Area are stable with limited residential and commercial development. Any increases in the urban/wildland interface and the customer base of the LVMWD are controlled through local land use and zoning requirements by each city.

IMPLEMENTATION AND PLAN ADOPTION

The Las Virgenes Municipal Water District Board of Directors has final authority for approving and adopting the Hazard Mitigation Plan for the District. The HMP is then submitted to the State Hazard Mitigation Officer at the California Governor's Office of Emergency Services (Cal OES). Cal OES is responsible for submitting the plan to the Federal Emergency Management Agency (FEMA) for review. The review includes the criteria outlined in FEMA Mitigation Planning Final Rule 44 CFR Part 201 (September 2009). Upon acceptance by FEMA, the LVMWD will maintain its eligibility for Hazard Mitigation Grant Program funds.

Continued Public Involvement

The LVMWD is dedicated to involving the public in the Hazard Mitigation Plan process. Members of the public, businesses, and other interested parties have the opportunity to provide feedback on local area risks and the Hazard Mitigation Plan. Copies of the plan are catalogued and maintained in appropriate departments as well as on LVMWD web site to be easily accessible for public viewing. In addition, an ongoing public outreach effort provides a continual feedback opportunity to the public for their input and comments (see Public Involvement, under [Annex C: Planning and Public Involvement](#) for additional details).

Coordinating Body

The Las Virgenes Municipal Water District Planning Group and Steering Committee were responsible for coordinating and undertaking the formal review process. The Planning Group members were responsible for ensuring that reviews and updates to the plan were performed. Further, the Steering Committee and Planning Group provide coordination between the cities, intra-District departments, and with other public agencies.

The Planning Group and Steering Committee conduct annual reviews of the Hazard Mitigation Plan and when deemed necessary by the Hazard Mitigation Planning Group in coordination with the Steering Committee, determine if a public meeting is to be held. The meetings provide the public a forum where they can express their concerns, opinions, or ideas about the plan. In addition, the LVMWD maintains an ongoing ability to receive and respond to public concerns via the District's web site.

Adoption and Implementation

The LVMWD Board of Directors was responsible for adopting the Hazard Mitigation Plan and in conjunction with the Steering Committee and Planning Group which are responsible for plan implementation.

The LVMWD Project Manager serves as a convener to facilitate the Hazard Mitigation meetings. Plan implementation and evaluation are a shared responsibility among all of the Hazard Mitigation Planning Group Members. The HMP is reviewed on a continual basis and as situations change. In addition a formal review and update process is scheduled every five (5) years.

IMPLEMENTATION THROUGH EXISTING PROGRAMS

Integration of the Hazard Mitigation Plan into Existing Planning Mechanisms

In addition to ongoing disaster preparation and mitigation efforts, the LVMWD continually evaluates its current and future projects for integration into the overall Hazard Mitigation Plan and the District's Strategic Plan. Key members of the HMP Planning Group responsible for integration of the HMP into existing programs include representatives from Facilities & Operations, Finance, and Technical Services.

In addition, the LVMWD coordinates with the cities within its Service Area (Agoura Hills, Calabasas, Hidden Hills, and Westlake Village) which are part of the Las Virgenes-Malibu Council of Governments (LVMCOG). The LVMWD has incorporated key parts of the LVMCOG Multi-Jurisdictional Hazard Mitigation Plan into its HMP planning process.

ECONOMIC ANALYSIS OF MITIGATION PROJECTS

FEMA's approaches to identify the costs and benefits and costs associated with hazard mitigation strategies, measures, or projects include a Benefit/Cost Review and more detailed Benefit-Cost Analyses (BCA). Conducting an economic analysis for a mitigation activity can assist the cities in determining whether a project is worth undertaking now in order to avoid disaster-related damages later.

Benefit-Cost Review

The Benefit-Cost Review process includes monetary as well as non-monetary costs and benefits associated with each action. Some projects can be extremely cost-effective but not as beneficial for the community at large. The Planning Team considered a wide variety of questions, such as:

- How many people will benefit from the action?
- How large an area is impacted?
- How critical are the facilities that benefit from the action (e.g., is it more beneficial to protect the fire station than the administrative building, even though it costs more)?
- Environmentally, does it make sense to do this project for the overall community?

Benefit-Cost Analysis

The Benefit-Cost analysis is used to determine if the cost of investing in a specific mitigation project, i.e., the "cost" will result in reduced damages in the future, i.e., the "benefits" and if the loss prevented justifies the expenditure of funds for the project. If the benefit is greater than the cost, then the project is cost effective; if the benefit is less than the cost, then the project is not cost effective.

The Benefit-Cost Analysis is essentially the same for each type of hazard mitigation project. The only differences are the types of data that are used (e.g., if the project is for earthquake, flood, wind, or fire mitigation). To determine the Benefit-Cost, the project cost is compared to the anticipated dollar loss that will be prevented by the mitigation

project. For example, if the project cost is \$100,000 and the expected loss averted is \$1,000,000, then the benefit exceeds the cost and is therefore cost effective. The ratio of the benefit versus the cost is 10:1 (\$1,000,000 divided by \$100,000). Priority is given to those projects with the highest Benefit-Cost Ratio or those projects with the greatest benefit to the community.

Benefit-Cost Analysis Exemptions

The following categories of mitigation measures are exempt from the FEMA policy on Benefit-Cost analysis:

- 5% Initiative Projects: States, which receive a Presidential declaration, are eligible to use up to 5% of available HMGP funding at their discretion.
- Tornado Initiative: States, which receive a Presidential declaration, are eligible to use up to an additional 5% of available HMGP funding at their discretion.
- Substantial Damage Waivers for acquisition of substantially damaged structures in 100-year floodplain.
- Mitigation planning related grants.

Benefit-Cost Methodology Utilized

DMA 2000 does not require Hazard Mitigation Plans to include BCA's for specific projects.⁹ Consequently a Benefit-Cost Review approach is used for the Hazard Mitigation Plan. Future projects will be evaluated using a similar process.

For the LVMWD HMP, mitigation projects were reviewed and prioritized by the HMP Planning Group which considered:

- The expected benefit to the community according to the following categories:
 - Protection of Life / Loss of Life Reduction
 - Protection of Property / Property Loss Reduction
 - Protection of the Environment / Environmental Loss Reduction
 - Increase Public Awareness
 - Scope of Impact (i.e., the degree to which the project benefits the community or region)
- Costs: total estimated expense including ongoing maintenance requirements
- Constraints: the availability of resources, if funds were already budgeted or if additional budget funding was required, and the timeline for completion (if known)
- Other considerations included whether projects were already in progress or part of another effort (e.g., part of an existing District program, County-wide program or city initiative)

⁹ FEMA Publication 386-5, State and Local Mitigation Planning, Using Benefit-Cost Review in Mitigation Planning, May 2007

The following tables provide examples of the Benefit-Cost Review factors considered:

Benefit Factors	Evaluation Score
Protection of Life/Loss of Life Reduction	High / Medium / Low / None
Protection of Property/Property Loss Reduction	High / Medium / Low / None
Protection of the Environment/Environmental Loss Reduction	High / Medium / Low / None
Increased Public Awareness	High / Medium / Low / None
Scope of Impact	High (benefits the entire city or region) Medium (benefits a large part of the city or region) Low (benefits a targeted or limited area) None

Cost Factor	Evaluation Score
More than \$500K regionally or \$50K locally	High
\$250K to \$499K regionally or \$25K to \$49.9K locally	Moderately High
\$100K to \$249K regionally or \$10K to \$24.9K locally	Medium
\$50K to \$99K regionally or \$5K to \$9.9K locally	Moderately Low
Less than \$50K regionally or \$5K locally	Low
In-house Time	None

Constraint Factor	Evaluation Score
Resources	No Resources Available Limited Resources Available Resources Allocated and Assigned
Funding	No Funds Available (Need to Obtain New Funding) Limited Funds Available Funds Allocated
Time	Rapid or Condensed Timeframe Moderate Timeframe No Time Constraints

PLAN MONITORING, EVALUATION, UPDATES, AND FORMAL REVIEW PROCESS

The Las Virgenes Municipal Water District Hazard Mitigation Plan will be evaluated on an annual basis to determine the effectiveness of programs, and to reflect changes in programs or plans that may affect mitigation priorities. The Planning Group is responsible for monitoring and evaluating the progress of the mitigation strategies in the plan and updating the plan. The Steering Committee approves any major changes.

The Steering Committee and Planning Group will review the goals and action items to determine their relevance to changing conditions within the LVMWD Service Area Region, as well as changes in Local, State, or Federal policy, and to ensure they are addressing current and expected conditions. The Steering Committee and Planning Group will also review the risk assessment portion of the plan to determine if this information should be updated or modified, given any new available data.

The Planning Group comprised of representatives from each key LVMWD department and supports the Steering Committee by attending regularly scheduled meetings to review local planning efforts and evaluate progress on mitigation projects. The Planning Group will report progress to the Steering Committee and work with other departments to implement the mitigation strategies contained in this Hazard Mitigation Plan.

The departments responsible for the various action items identified in [Section 13: Hazard Mitigation Goals and Strategies](#) will report on the status of their projects, the success of various implementation processes, difficulties encountered, success of coordination efforts, and which strategies require revision.

Public Involvement

Public involvement is a key component of hazard mitigation planning (per 44 CFR §201.6(c)(4)(iii)). The LVMWD provides access of the Hazard Mitigation Plan to the public and will continue to involve the public in the Hazard Mitigation Planning, Implementation, and Maintenance process through several mechanisms:

Distribution Method	Description
LVMWD Web Page	<ul style="list-style-type: none"> Downloadable online copies of the Hazard Mitigation Plan are posted on the web site. Members of the public may provide feedback on the HMP and/or mitigation projects via Email.
LVMWD Headquarters Facility	<ul style="list-style-type: none"> Mitigation and conservation brochures and handouts are made available at the LVMWD Headquarters.
Public Meetings and Events	<ul style="list-style-type: none"> Participation in Local Disaster Preparedness Events. LVMWD Board Meetings (as applicable per published Agenda items).
Public Surveys	<ul style="list-style-type: none"> Public Preparedness, Mitigation, and Risk Surveys may be conducted to obtain feedback from the public and input or comments regarding hazard mitigation planning, prioritization of mitigation efforts and risks, and community mitigation and preparedness needs.

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SECTION 13: HAZARD MITIGATION GOALS AND STRATEGIES

This section describes the framework that focuses the plan on developing successful mitigation strategies. The framework is made up of three parts: Mission, Goals, and Strategies.

MISSION

The Mission of the Las Virgenes Municipal Water District Hazard Mitigation Plan is to promote sound public policy and programs designed to protect the public, critical facilities, infrastructure, private and public property, and the environment from natural and human generated hazards. This will be achieved by developing, implementing, and maintaining this plan to guide the LVMWD towards creating and maintaining a safer more sustainable community.

HAZARD MITIGATION PLAN GOALS

The Plan Goals describe the overall direction that the LVMWD can take to minimize the impacts of hazards. The Plan Goals help to guide the direction of future activities aimed at reducing risk and preventing losses. The Plan Goals are the foundation for the broad direction of the Mission Statement and the specific recommendations that are outlined in the strategies. These goals are divided into 4 major categories:

To Protect Life, Property, Environment

- Implement activities that assist in protecting lives by improving infrastructure, critical facilities, and other property to be more resistant to hazards.
- Reduce losses and repetitive damages for chronic hazard events.
- Encourage preventative measures in areas vulnerable to hazards.

Public Awareness

- Develop and implement education and outreach programs to increase public awareness of the risks associated with hazards.
- Provide information on tools and other opportunities to assist in implementing mitigation activities.

Partnerships and Implementation

- Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.

Emergency Management

- Establish policies to ensure mitigation projects for critical facilities, services, and infrastructure.
- Enforce and update current practices to support mitigation.
- Strengthen emergency operations by increasing collaboration and coordination among departments, public agencies, non-profit organizations, business, and industry.
- Coordinate and integrate hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

HAZARD MITIGATION STRATEGIES

The Hazard Mitigation Plan identifies action items developed and submitted through data collection, research, and the public participation process. Mitigation plan activities may be considered for funding through Federal and State grant programs as well as other funds made available to the LVMWD and internal budgets. To help ensure activity implementation, each action item includes estimated timeframes and a list of coordinating organizations. Mitigation strategies were assigned a priority based on a combination of factors including urgency, importance, and benefit/cost. Constraints may apply to some of the action items. These constraints may be a lack of city staff, lack of funds, or vested property rights which might expose the Region to legal action as a result of adverse impacts on private property. See [Section 12 Plan Maintenance and Monitoring: Economic Analysis of Mitigation Projects](#) for further details regarding the method used to evaluate the feasibility of mitigation projects.

Hazard Mitigation Prioritization of Projects and Actions

According to the Disaster Mitigation Act (DMA) 44 CFR 201.6(c)(3)(iii), local mitigation plans must contain a strategy (or action plan) whereby "Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs. A comprehensive cost-benefit calculation is not required as part of the Hazard Mitigation Plan (per FEMA Local Hazard Mitigation Plan Review Guide) however a detailed cost-benefit analysis may be needed later if an application for federal mitigation grant funding is made).

Benefit Prioritization and Categorization

Each of the projects listed on the following pages were reviewed and prioritized by the HMP Planning Group and considered the expected benefit to the community versus the estimated cost. Other considerations included whether projects were already in progress or part of another effort, if funds were already budgeted or if additional budget funding was required, the availability of resources, ongoing maintenance requirements, and the timeline for completion (if known).

Benefits were evaluated based on five major categories:

1. Protection of Life / Loss of Life Reduction
2. Protection of Property / Property Loss Reduction
3. Protection of the Environment / Environmental Loss Reduction
4. Increase Public Awareness
5. Scope of Impact

Prioritization Review

As part of this Hazard Mitigation Plan, the Planning Group and Steering Committee reviewed the project prioritization criteria in accordance with 44 CFR 201.6(d)(3).

The prioritization review incorporated an assessment of lessons learned and changes in current conditions including:

- Financial Constraints and Funding Considerations
- Regulatory and Legal Requirements
- Political and Jurisdictional Changes
- Development Patterns
- Changes in Disaster Planning and Recovery Priorities (including Risk Assessments)
- Post-Disaster Conditions (as applicable)

Based on the review, the Planning Group and Steering Committee determined that the previous prioritization criteria were still valid and consistent with the goals established for the HMP. Consequently, the benefits of each project were evaluated and assigned a value (High, Medium, Low, or None). Any changes in the mitigation project list (including project revisions or new projects) considered the following criteria as defined below:

Priority 1	High Priority: The project provides a high benefit with relatively low to moderate cost and/or requires minimal implementation effort. Funding and/or resources may already be assigned or are readily available.
Priority 2	Moderate Priority: The project provides a medium benefit. Resources, costs and/or funding may need to be allocated or obtained.
Priority 3	Low Priority: The project provides a benefit, but the estimated benefits may be limited in scope. Resources and/or funding must be allocated.

Public Mitigation Planning Input

The public was invited to provide their input into the HMP and mitigation planning process (see [Annex C: Planning and Public Involvement](#)).

Strategy Organization

The Mitigation Strategies presented provide a listing of activities that the LVMWD can implement to reduce risk. They reflect ongoing activities and future actions to be taken in order to reduce the loss of property and life. All of the projects listed were evaluated in terms of the benefit versus cost and were found to be beneficial (see [Section 12: Plan Maintenance and Monitoring](#) for an explanation of the evaluation process utilized). The strategies are organized as follows:

Project Name	Name of the mitigation project strategy.		
Hazard Category	Nature of the threat		
Status	Project status, e.g., Complete, Partially Complete, or Ongoing		
Strategy	Short Strategy description.		
Action Items	Bullet points of key actions that will be completed to implement (or continue) the strategy.		
Implementation Description and Estimated Benefits	A brief description of major activities associated with the project and the estimated benefits. For example, expand on the Action Items above by providing a few sentences to describe the overall project and its benefits. "The project will result in a reduction in risk from..."		
Coordinating Department	The department with regulatory responsibility to address the named hazard, or that is willing and able to organize resources, find appropriate funding, or oversee implementation, monitoring, and evaluation. Participating departments are listed with the main department responsible in BOLD. For example: Operations, Maintenance, Planning, etc.		
Timeline/Completion Date/Priority	The estimated timeframe for implementation along with a general implementation priority.		
	Priority 1	Immediate: The project provides a high benefit with relatively low to moderate cost and/or requires minimal implementation effort. Funding and/or resources may already be assigned or are readily available.	
	Priority 2	Important: The project provides a moderate benefit. Resources, costs and/or funding may need to be allocated or obtained.	
	Priority 3	Significant: The project provides a benefit but resources, costs and/or funding must be allocated.	
Total Cost	Estimated cost of the project.		
Funding Source(s)	Where the funding will be obtained. For example: General fund, Federal Grant, State Grant, etc. Finding can be a goal to obtain in the future and not necessarily already funding. For example, "Obtain State Grant"		
Constraints	Constraints that may apply. These constraints may include a lack of staff, lack of funds, or vested property rights which might expose the District to legal action as a result of adverse impacts on private property.		
Plan Goals Addressed			
	Public Awareness		Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

Mitigation strategies were reviewed and approved by the Steering Committee and Planning Group.

FACILITIES & OPERATIONS MITIGATION PROJECTS

SCADA System Communications

Hazard Category	Terrorism – Cyber Threats		
Status	Design Complete		
Strategy	Review and update SCADA security.		
Action Items	Ensure secure data transmission across all District facilities.		
Implementation Description and Estimated Benefits	Increase reliability across all District enterprises reducing vulnerabilities due to disaster events.		
Coordinating Department	Facilities , Customer Service, Operations, Tech Services, IT/IS		
Timeline/Completion Date/Priority	Priority 1: Activity anticipated in fiscal years 20-21 and 20-22.		
Total Cost	\$143,653		
Funding Source(s)	CIP Project No. 10520		
Constraints	None		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Stationary Emergency Generator Pump Stations

Hazard Category	Power Outage and Wildfires		
Status	In design phase.		
Strategy	Ensure power availability to support pump stations		
Action Items	Complete Design, Bid, Build <ul style="list-style-type: none"> • Installation of generators at critical pump stations: <ul style="list-style-type: none"> ○ Jed Smith ○ Twin Lakes ○ Cold Canyon ○ Seminole • Generator will power duty pumps at each pump station. Construction will be done during off peak water demand season. The stations will be done simultaneously 		
Implementation Description and Estimated Benefits	Implementation will allow for critical facilities to remain in operation in the event of sustained power outage. This will also provide uninterrupted water service during wild fires		
Coordinating Department	Facilities , Customer Service, Operations		
Timeline/Completion Date/Priority	Priority 1		
Total Cost	\$3,326,028		
Funding Source(s)	Grant CAL OES. CIP Project No. 10672.		
Constraints	Funding		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

GenConnections Water Pump Stations

Hazard Category	All Hazards		
Status	In Progress		
Strategy	Standardization of CamLok System		
Action Items	Replace existing connection point with new connections.		
Implementation Description and Estimated Benefits	Eliminate risk of in compatibility of District equipment or rental equipment.		
Coordinating Department	Facilities , Customer Service, and Operations		
Timeline/Completion Date/Priority	Priority 1		
Total Cost	\$44,849		
Funding Source(s)	CIP in progress (Project No. 10677).		
Constraints	Staff availability		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Trunk Sewer Improvements / Inspection / Cleaning

Hazard Category	Hazardous Materials Release		
Status	Budgeting (in progress)		
Strategy	Ensure system reliability		
Action Items	Budgeting, RFP, and Contract Award		
Implementation Description and Estimated Benefits	Increase reliability, ensure system integrity, comply with SSMP requirements.		
Coordinating Department	Operations and Facilities		
Timeline/Completion Date/Priority	FY19-20		
Total Cost	\$106,228		
Funding Source(s)	FY19-20 Maintenance Budget Sanitation segment fund - paid through monthly sewer service fees.		
Constraints	None		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

AB Bus Mods

Hazard Category	Power Outage and Wildfires		
Status	Ongoing		
Strategy	Enable electrical bus tie breaker to be opened.		
Action Items	<ul style="list-style-type: none"> • Review Single Line Drawing • Hire Design Engineer • Budget • Bid • Award Contract 		
Implementation Description and Estimated Benefits	Increase reliability of power system and provide ability for preventative maintenance of equipment.		
Coordinating Department	Facilities and Operations		
Timeline/Completion Date/Priority	Priority 1		
Total Cost	\$100,000		
Funding Source(s)	CIP partial funding (CIP Project No. 10661) Initial budget is for study only. Construction cost estimate will be developed following the study.		
Constraints	Staff Availability / Funding		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Security Gates – Westlake

Hazard Category	Terrorism / Theft		
Status	Bidding – In progress.		
Strategy	Reduce Facilities Risk		
Action Items	Add fencing and swing gates		
Implementation Description and Estimated Benefits	Reduce risk of intrusion or threats to potable system.		
Coordinating Department	Facilities , Customer Service, and Operations		
Timeline/Completion Date/Priority	Priority 1		
Total Cost	TBD		
Funding Source(s)	CIP		
Constraints	Available Contractor for Bidding		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

Mobile Emergency Generators

Hazard Category	Power Outage and Wildfires		
Status	Complete		
Strategy	Provide power to remote pump stations		
Action Items	<ul style="list-style-type: none"> Assessment of facilities that the District can immediately access to during power outages. Sites that are considered limited access, remote, or necessary generator size too large to be pulled by the District's current equipment but considered critical pump stations will be listed for a stationary generator. Size portable generators to operate the average duty pumps for the easily accessed facilities. 		
Implementation Description and Estimated Benefits	Towable for easy transportation. Ability to power less critical pump stations during time of disaster. KW Size covers most of the existing stations.		
Coordinating Department	Operations , Facilities, and Customer Service		
Timeline/Completion Date/Priority	Priority 1		
Total Cost	\$256,787		
Funding Source(s)	CIP complete (CIP No. 10676)		
Constraints	None		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Emergency Generator - Rancho Compost Facility

Hazard Category	Power Outage		
Status	Planning phase.		
Strategy	Provide power during extended power outages.		
Action Items	Design, Bid, Build <ul style="list-style-type: none"> • Installation of generator will be done during winter season which is the low compost demand season. • Stationary Emergency Generator will be sized to power all equipment, communications, and lighting within Rancho Compost Facility. 		
Implementation Description and Estimated Benefits	Completion will allow Tapia to continue to pump sludge and be processed to compost in Rancho Compost Facility during power outages. Currently they can only hold back for 2 days.		
Coordinating Department	Operations and Facilities		
Timeline/Completion Date/Priority	Priority 2		
Total Cost	TBD – No budget allocated		
Funding Source(s)	Grant Funds – Cal OES		
Constraints	Funding		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

Brush Clearance and Tree Trimming

Hazard Category	Wildfires		
Status	Ongoing		
Strategy	Protect District assets by ensuring defensible space for wildfires		
Action Items	Assess facilities for vulnerabilities.		
Implementation Description and Estimated Benefits	Reduce risk of fire and damage to facilities.		
Coordinating Department	Facilities		
Timeline/Completion Date/Priority	Priority 3		
Total Cost	TBD		
Funding Source(s)	CIP		
Constraints	Staff Availability / Funding		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

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TECHNICAL SERVICES MITIGATION PROJECTS

CMWD Interconnect

Hazard Category	Climate Change / Drought		
Status	Ongoing. The project is currently awaiting completion of Calleguas Municipal Water District's Environmental Impact Report for the project.		
Strategy	The project will provide the District with up to 20 cubic feet per second of supply for planned and unplanned Metropolitan Water District of Southern California shutdowns and support wintertime refilling of Las Virgenes Reservoir. In addition, the project involves extending an existing recycled water main to provide new service to Canyon Oaks Park and eliminate a long service line to Yerba Buena School. The interconnection will improve water supply reliability for both agencies.		
Action Items	<ul style="list-style-type: none"> • Approval of CMWD CEQA document needed to begin construction. • The Install new 30-inch pipeline between the northwest portion of the Districts water system and Calleguas Municipal Water District's Lindero Feeder. • A pump station will be needed to provide service to CMWD; and a pressure reducing valve (PRV) facility will be needed to provide service from CMWD to the District. 		
Implementation Description and Estimated Benefits	The project will result in a reduction of risk from potential water shortages due to climate change, or emergencies.		
Coordinating Department	Technical Services		
Timeline/Completion Date/Priority	Priority 1: The project is within LVMWD's IIP (No. 10556) and is currently being funded by rate revenue and Proposition 84 Integrated Regional Management Implementation Grant. Project completion is dependent of the completion of the EIR. The project is anticipated to finish within 1-2 years.		
Total Cost	\$5,206,566		
Funding Source(s)	2015 Proposition 84 Integrated Regional Water Management Implementation Grant: \$1,975,517.45 General Fund		
Constraints	The start of construction of the project is dependent of the completion of Calleguas Municipal Water Districts EIR.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Rancho Solar Generation

Hazard Category	Power Outage		
Status	Ongoing		
Strategy	Purchase solar power from a solar panels through a Power Purchase Agreement (PPA). The PPA provides LVMWD to invest the capital to build, operate and maintain a 4-MW single-axis tracker solar array connected to the SCE distribution system. The JPA will purchase the power generated at the projected rate of 5.295 cents per Kwh with no escalation for a 25-year period with up to 2 five-year renewal terms. The JPA will have the option to purchase the project on listed or fair market value.		
Action Items	<ul style="list-style-type: none"> • Borrego Solar System will build, operate and maintenance 20 acres of the Rancho site. • Purchase of solar power at a rate of 5.295 kwh. SCE will provide bill credits for energy generated and used. 		
Implementation Description and Estimated Benefits	<ul style="list-style-type: none"> • The project will result in solar power for many of the district's facilities during emergencies. • Potential save to the district \$10.3 million over 25 years. 		
Coordinating Department	Technical Services		
Timeline/Completion Date/Priority	Priority 1: The project is currently within LVMWD's 5-year Infrastructure Improvement Plan. The project is set to be completed in FY 19-20. Total project cost is estimated to be \$596,556 with a reimbursement of \$105,000 by solar power provider (net project cost of \$491,556).		
Total Cost	\$596,556		
Funding Source(s)	Rate Revenue		
Constraints	None		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Westlake Filter Plant

Hazard Category	Wildfire		
Status	The project is ongoing, currently in the preliminary design phase.		
Strategy	Repair Westlake Filter Plant damages that were caused by the Woolsey Fire. Improve Facility building to reduce risk of wildfires or external fires. Improve landscaping to reduce risk of spread of fires within and around the facility.		
Action Items	<ul style="list-style-type: none"> Assess damages to the facility during the Woolsey Fire, and possible structural fire risk of the building, that may have caused spread of fire within the structure. Repair and improve Westlake Facility structure to reduce risk of external fires such as wildfires i.e., closing eaves with fire retardant materials. Strategic planning of landscaping and irrigation elements to reduce risk of wildfires and spread of brush fires. Look into alternative land coverage to reduce fire risks. 		
Implementation Description and Estimated Benefits	The project will result in reduction of building damages caused by external fires, such as wildfires.		
Coordinating Department	Technical Services		
Timeline/Completion Date/Priority	Priority 1: The project is current and ongoing.		
Total Cost	\$1,942,500		
Funding Source(s)	Funding of the project will come from rate revenue, LVMWD's insurance, and FEMA/Cal-OES through the Public Assistance Grant Program.		
Constraints	None		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

HQ and Remote Site Repairs

Hazard Category	Wildfire		
Status	The project is ongoing, and currently in the preliminary design phase.		
Strategy	Repair/replace irrigation in HQ and remote sites (tanks, PS, etc.) that are effected by the fire. Irrigation replace will be conscious in water conservation, while creating a landscaping plan that reduces the risk of brush fires.		
Action Items	<ul style="list-style-type: none"> Assess the current site locations, if irrigation and landscaping is the best management practice to reduce fire keeping in mind slope stabilization for the facility. Look at alternative land coverage to reduce risk of wildfires Strategically plan landscaping to minimize fire risk. Irrigation to reduce risk of brush fire 		
Implementation Description and Estimated Benefits	The project will result in a reduction in risk from wildfires.		
Coordinating Department	Technical Services		
Timeline/Completion Date/Priority	Priority 1		
Total Cost	\$832,500		
Funding Source(s)	Funding of the project will come from rate revenue, LVMWD's insurance, and FEMA/Cal-OES through the Public Assistance Grant Program.		
Constraints	None		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Rancho Fire Repair

Hazard Category	Wildfire		
Status	The project is ongoing, and currently in the preliminary design phase.		
Strategy	<ul style="list-style-type: none"> • Rancho Compost Facility had severe damage to its infrastructure during the Woolsey Fire. • The Amendment Building and biofilter and the foul-air line experienced structural damage. • Reactor Building and Control Building experienced shattered windows. • The project involves repairing the facilities damaged structures, while improving upon the facilities resiliencies towards wildfires, due to the facilities designation within a Very High Fire Hazard Severity Zone designated by CalFire. 		
Action Items	<ul style="list-style-type: none"> • Assess damages in Rancho Compost Facility • Repair damages to existing structures. • Improve the structures resiliency to wildfire and other external fires. • Improve landscaping to improve resiliency towards brush/wildfires, and alternative ground cover. 		
Implementation Description and Estimated Benefits	The project will result in the reduction in risk from fires		
Coordinating Department	Technical Services		
Timeline/Completion Date/Priority	Priority 1: The project estimated timeframe of implementation is FY 20-21.		
Total Cost	\$1,942,500		
Funding Source(s)	Funding of the project will come from rate revenue, LVMWD's insurance, and FEMA/Cal-OES through the Public Assistance Grant Program.		
Constraints	None		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

Twin Lakes Drainage

Hazard Category	Flood		
Status	Completed in FY 2016-2017		
Strategy	Modification of the drainage system at the Twin lakes Tank site to prevent damages to downstream properties due to tank overflow		
Action Items	Redirecting the drainage system to the south, connecting to an existing Cal Trans storm drain on the north side of the 118 Freeway		
Implementation Description and Estimated Benefits	The project will result in a reduction of damaged homes due to storm water and accidental Twin Lake Tank overflow by modifying existing drainage to flow south to an existing Cal Trans storm drain.		
Coordinating Department	The project will result in mitigation of natural flooding, and flooding caused by Twin Lakes tanks overflow.		
Timeline/Completion Date/Priority	Priority 1: Project was completed as of October 2016		
Total Cost	\$323,111		
Funding Source(s)	Rate Revenue		
Constraints	None		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Troutdale Pipeline

Hazard Category	Wildfire / Earthquake		
Status	Ongoing		
Strategy	<ul style="list-style-type: none"> Reinstall pipeline on Mulholland Highway near Troutdale Drive and Waring Drive, in unincorporated Los Angeles County. The bridge is owned and operated by Los Angeles County of Public Works. During the Woolsey Fire, a bridge on the intersection of Troutdale and Waring Drive catastrophically failed as a result of the November 2018 Woolsey Fire. The metal support structure of the bridge collapsed due to the intense heat of the fire. A 12-inch main which was supported by the structure was also damaged. The main provides a critical loop of the sub-system to provide adequate fire flow capacity and operational flexibility for water conveyance. The project is to install a temporary main on the side of the temporary bridge, until a new permanent bridge is installed in the next 5-7 years. 		
Action Items	<ul style="list-style-type: none"> Install temporary HDPE pipeline to provide service attached temporary bridge on intersection of Troutdale Drive and Waring Drive. This section has already been completed. Install new pipeline with seismic restraints when permanent bridge is installed in 5-7 years. The new pipeline will be built shortly after the new bridge is installed. 		
Implementation Description and Estimated Benefits	The project will result in earthquake mitigation.		
Coordinating Department	Technical Services		
Timeline/Completion Date/Priority	Priority 3: The project is contingent on LACDPW construction of the new bridge. Estimated time of completion is 2025-2027.		
Total Cost	\$330,000		
Funding Source(s)	Rate Revenue		
Constraints	Due to environmental and other permitting delays, out of the control of LACDPW, the permanent bridge would not be constructed for five to seven years.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
X	Partnerships and Implementation	X	Emergency Management

Pure Water Project

Hazard Category	Climate Change / Drought		
Status	Ongoing. The project is currently construction a small scale pilot of the full scale AWT.		
Strategy	Building a new Advanced Water Treatment Plant (AWT) to treat recycled water from Tapia Reclamation Facility. The treated recycled water will then enter Las Virgenes Reservoir, to augment potable water.		
Action Items	<ul style="list-style-type: none"> • Conduct mixing study at Las Virgenes Reservoir to see if mixing within the reservoir is adequate to meet compliance with SBDDW-16-02 Surface Water Augmentation (SWA) Regulations. • Study available land within the District Service Area that will minimize cost and environmental impacts to convey water from Tapia Reclamation Plant to the location of the AWT. • Build a small scale AWT pilot. The Pure Water Project demonstration project which will include an 80 gpm plant to provide to validate technology, operator training, and public outreach. • Preliminary design report, and design of the full scale AWT. Construction is times for 2029. 		
Implementation Description and Estimated Benefits	The project will result in resiliency of the system during drought and climate change.		
Coordinating Department	Technical Services		
Timeline/Completion Date/Priority	Priority 3: The estimated full completion of the project is 2030.		
Total Cost	\$120,000,000		
Funding Source(s)	Rate revenue		
Constraints	Lack of Funds. Invested property rights, due to building new structure in undeveloped land. Public perception of using recycled water to augment potable water.		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

INFORMATION SYSTEMS MITIGATION PROJECTS

IS Master Plan

Hazard Category	Terrorism / Cyber Threat		
Status	Key computers are currently backed-up in offsite/out of state location. The District pays for continued service.		
Strategy	Disaster Recovery/Business Continuity		
Action Items	Key Computers are connected to offsite/out of state server locations, The Key Computers systems ae backed up on daily bases to offsite/out of state locations.		
Implementation Description and Estimated Benefits	Key computer systems are being replicated to offsite / out of state locations. Business Continuity in the event of a natural disaster		
Coordinating Department	Information Technologies		
Timeline/Completion Date/Priority	Priority 1: Continual replication of key computer systems to offsite location.		
Total Cost	\$50,000		
Funding Source(s)	General fund		
Constraints	None		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

AMR / AMI Meter Reading

Hazard Category	Climate Change / Drought		
Status	RFP / Ongoing		
Strategy	Complete deployment of AMR/AMI meter reading system District Wide		
Action Items	AMR/AMI Network with data collectors, new meters, new meter lids, and meter data management system.		
Implementation Description and Estimated Benefits	AMR/AMI will aid with water loss reporting with leak detection. The system will assist the conservation efforts. In addition, the system will allow for better recording of customer usage and patterns.		
Coordinating Department	Customer Service and Operations		
Timeline/Completion Date/Priority	Timeline for implementation is late 2019 early 2020. <ul style="list-style-type: none"> • Priority 1: RFP published. • Priority 2: Alpha Phase of system testing. • Priority 3: Full deployment of AMR/AMI system. 		
Total Cost	10,500,000		
Funding Source(s)	Grant funding and bank loan		
Constraints	Currently looking for bank loan funding		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation		Emergency Management

Video Surveillance

Hazard Category	Terrorism / Theft / Crime		
Status	Ongoing		
Strategy	Video Surveillance of Facilities		
Action Items	Hire consultant to assess facilities and recommend video solutions for HQ, Tapia, Rancho and Westlake.		
Implementation Description and Estimated Benefits	Installation of Video equipment, to provide security and safety.		
Coordinating Department	Information Technologies		
Timeline/Completion Date/Priority	Priority 2: Starting with Tapia then Rancho and Westlake.		
Total Cost	\$200,000		
Funding Source(s)	General fund		
Constraints	None		
Plan Goals Addressed			
	Public Awareness	X	Protect Life, Property, and the Environment
	Partnerships and Implementation	X	Emergency Management

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SECTION 14: ANNEX A: RESOURCES

The following resources were used in the development and update of the Las Virgenes Municipal Water District Hazard Mitigation Plan. In addition to the resources listed, information sources included District documents such as General Plans, Strategic Plans, studies, and reports.

Name	Category	Web Site Address	Description
2016 California Jurisdictions Addressing Climate Change	State Government	http://opr.ca.gov/planning/icarp/	Climate Change Program and Data
Army Corps of Engineers	Federal Government	www.usace.army.mil	Flood and dam information
Association of State Floodplain Managers	Research, Educational, and Standards Organizations	www.floods.org	Flood mitigation and planning information
Building Seismic Safety Council (BSSC)	Research, Educational, and Standards Organizations	www.bssconline.org	Earthquake and seismic code information
California Climate Change	State Government	http://climatechange.ca.gov/	Climate Change Data
California Department of Conservation: Southern California Regional Office	State Government	www.consrv.ca.gov	Earthquake and flood information
California Department of Transportation (Caltrans)	State Government	www.dot.ca.gov	Transportation and traffic information
California Department of Water Resources (DWR)	State Government	www.water.ca.gov	Flood information
California Division of Forestry & Fire Protection	State Government	www.fire.ca.gov	Fire codes, landslide, wildfire mitigation and programs
California Division of Mines and Geology (DMG)	State Government	www.consrv.ca.gov	Earthquake information
California Geological Survey, Department of Conservation	State Government	www.consrv.ca.gov	Earthquake information
California Governor's Office of Emergency Services (Cal OES)	State Government	www.oes.ca.gov	State hazard mitigation guidance
California in 2050: Some Sizzling Predictions	State Government	www.cpuc.ca.gov	Temperature Rise Prediction for California
California Nevada Climate Applications Program (CNAP)	Research, Educational, and Standards Organizations	https://scripps.ucsd.edu/programs/cnap/	Climate Change and Santa Ana Wind Information and Map
California Number of Extreme Heat Days by Year	Research, Educational, and Standards Organizations	http://cal-adapt.org/tools/extreme-heat/	Temperature Rise Prediction for California
California Resources Agency	State Government	www.resources.ca.gov	Earthquake information
California State Controller's Office	State Government	www.sco.ca.gov/and_state_cafr.html	City Comprehensive Financial Reports

Name	Category	Web Site Address	Description
California-Nevada Climate Applications Program	Research, Educational, and Standards Organizations	https://wrcc.dri.edu/Climate/Tracker/CA/index.html	Climate Change Data
City of Agoura Hills	Local Government	www.ci.agoura-hills.ca.us	Local profile, planning, hazard, and mitigation information
City of Agoura Hills, Commercial and Residential Projects Second Quarter 2018 Quarterly Report	City of Agoura Hills	www.ci.agoura-hills.ca.us/government/departments/planning-community-development/development-summaries	Commercial and Residential Development Projects, 2018
City of Calabasas	Local Government	www.ci.calabasas.ca.us	Local profile, planning, hazard, and mitigation information
City of Hidden Hills	Local Government	www.hiddenhillscity.org	Local profile, planning, hazard, and mitigation information
City of Westlake Village	Local Government	www.wlv.org	Local profile, planning, hazard, and mitigation information
Comprehensive Annual Financial Report 2016-2017 for the City of Agoura Hills	City Data	www.ci.agoura-hills.ca.us/government/departments/finance/comprehensive-annual-finance-report	City data (including employer and revenue data)
Comprehensive Annual Financial Report 2016-2017 for the City of Westlake Village	City Data	www.wlv.org/158/Administrative-Services-Financial-Management	City data (including employer and revenue data)
Comprehensive Annual Financial Report for the Fiscal Year Ended June 2017 for the City of Calabasas	City Data	www.cityofcalabasas.com/pdf/documents/finance/cafrs/cafr-2017.pdf	City data (including employer and revenue data)
Department of Homeland Security	Federal Government	www.dhs.gov	Terrorism response, preparedness, and threats
Federal Bureau of Investigation	Federal Law Enforcement	www.fbi.gov	Terrorism response, active shooter incidents, preparedness, and threats
Federal Emergency Management Agency (FEMA)	Federal Government	www.fema.gov	Federal Disaster Information, Flood Information Rate Maps (FIRM), and Landslide Information
FEMA 100-Year Floodplain Map	Federal Government	http://gis.bam.water.ca.gov/bam/	FEMA Effective 100-Year Floodplain Maps for the LVMWD Region
FEMA National Flood Hazard Layer (Official)	Research, Educational, and Standards Organizations	www.arcgis.com	FIRM Data
Firewise	Research, Educational, and Standards Organizations	www.firewise.org	Fire / wildfire mitigation and programs
Fresno Bee	News Organization	www.fresnobee.com	History of Wildfires in California
Google Maps	Public Resource	www.maps.google.com	Maps and Satellite Images
Intellicast	Public Resource	www.intellicast.com	Weather and Climate Data

Name	Category	Web Site Address	Description
International Code Council, Los Angeles Basin Chapter	Research, Educational, and Standards Organizations	www.icclabc.org	Building Code information
Las Virgenes Municipal Water District	Utility	www.lvmwd.com	Water and dam information
Los Angeles County Fire Department	Local and Regional Government	www.lacofd.org	Fire codes and wildfire mitigation and programs
Los Angeles County Office of Emergency Services	Local and Regional Government	www.lacoa.org	Disaster and mitigation information. Disaster Management Areas.
Los Angeles County Public Works Department	Local and Regional Government	www.ladpw.org	Earthquake and debris removal information
Los Angeles Sheriff's Department	Local Law Enforcement	www.sheriff.lacounty.gov	Terrorism response, preparedness, and threats
NASA / JPL-Caltech	Research, Educational, and Standards Organizations	http://photojournal.jpl.nasa.gov/catalog/PIA03445	Santa Ana Wind Information and Map
National Flood Insurance Program (NFIP)	Federal Government	www.fema.gov/nfip	Flood information
National Integrated Drought Information System	Federal Government	www.drought.gov/drought/states/california www.drought.gov/drought/california-no-stranger-dry-conditions-drought-2011-2017-was-exceptional	California Drought Information
National Interagency Fire Center (NIFC)	Federal Government	www.nifc.gov	Fire codes and wildfire mitigation and programs
National Resources Conservation Service (NRCS), US Department of Agriculture	Federal Government	www.nrcs.gov	Flood mitigation, landslide, and watershed projects
National Weather Service	Federal Government	www.weather.gov www.weather.gov/media/sgx/documents/weatherhistory.pdf	Weather and Climate Data
National Weather Service Climate Prediction Center	Federal Government	www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php	Drought Outlook Data and Map
NOAA	Federal Government	www.noaa.gov	Weather and Climate Data
Office of the State Fire Marshal (OSFM)	State Government	www.osfm.fire.ca.gov	Fire codes and wildfire mitigation and programs
Pipelines and Hazards Materials Safety Division	Federal Government	www.phmsa.dot.gov	Pipeline Data
Robert D. Niehaus, Inc.	The Economic Impacts of the Montecito Mudslides	http://www.rdniehaus.com/rdn/wp-content/uploads/2018/03/RDN_Montecito_Mudslides_Impacts-1.pdf	Montecito Mudslide Report
Southern California Association of Governments (SCAG)	Local Government	www.scag.ca.gov	City profiles, data, and maps
Southern California Earthquake Center (SCEC)	Research, Educational, and	www.scec.org	Earthquake and fault information

Name	Category	Web Site Address	Description
	Standards Organizations		
Southern California Seismic Network	Research, Educational, and Standards Organizations	http://www.scsn.org	Earthquake and fault information
Southern California Edison Public Safety Power Shutoff Process	Utility	www.sce.com/wps/wcm/connect/9ef7f86a-ca79-41c8-b34f-b0dd449baf39/PSPS_Timeline.pdf?MOD=AJPERES	Electric Utility Emergency Power Shutoff Process Timeline
Terrorism Research	Research, Educational, and Standards Organizations	www.terrorism-research.com	Terrorism Information
The National Drought Mitigation Center University of Nebraska-Lincoln	Research, Educational, and Standards Organizations	https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?West	Drought Maps
U.S. Census Bureau	Federal Government	www.census.gov www.census.gov/quickfacts	City and Regional demographic data
U.S. Census, American Fact Finder	Federal Government	https://factfinder.census.gov	City and Regional demographic data
U.S. Department of Health & Human Services	Federal Government	https://aspe.hhs.gov/poverty-guidelines	Average U.S. Poverty Level
U.S. Department of the Interior, Bureau of Reclamation	Federal Government	www.usbr.gov	Flood information
U.S. Fire Administration (USFA) of the Federal Emergency Management Agency	Federal Government	www.usfa.fema.gov	Fire codes and wildfire mitigation and programs
U.S. State Department	Federal Government	www.state.gov/j/ct/list/c14151.htm	Terrorism Information
USC Geospatial Institute	Research, Educational, and Standards Organizations	www.spatial.usc.edu	Area and hazard mapping, loss estimates, and HAZUS
USGS National Landslide Information Center	Federal Government	www.landslides.usgs/nlic	Landslide information
USGS Water Resources	Federal Government	www.water.usgs.gov	Flood information
Western Regional Climate Center	Research, Educational, and Standards Organizations	https://wrcc.dri.edu	Climate Data
Western States Seismic Policy Council (WSSPC)	Research, Educational, and Standards Organizations	www.wsspc.org	Earthquake information

SECTION 15: ANNEX B: MEETING AGENDAS AND ATTENDEES

LVMWD HAZARD MITIGATION PLAN KICK-OFF MEETING



LAS VIRGENES
MUNICIPAL WATER DISTRICT

SIGN-IN SHEET

**LVMWD Hazard Mitigation Plan
Kick-off Meeting**
May 22, 2019
 4232 Las Virgenes Road
 Conference Room D
 Calabasas, CA 91302

Name	Initials	Department
Acevedo, Mercedes	Initials Hidden for Security Purposes	Facilities Operations
Anders, Douglas		FACILITIES & OPERATIONS
Korkosz, James		F&O MANAGER
Patterson, Don		
Saccareccia, Angela		Finance
Schlageter, Eric		TECH SERVICES
Takemura, Bob		MLC
Zhao, John		

2019 LVMWD HMP Kickoff Meeting Signin Sheet.docx
MLC & Associates, Inc.

1



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SECTION 16: ANNEX C: PLANNING AND PUBLIC INVOLVEMENT

PUBLIC INFORMATION AND HANDOUTS

The LVMWD provides ongoing information to the public related to water conservation, waste water reduction and hazardous materials contamination prevention, and emergency preparedness.

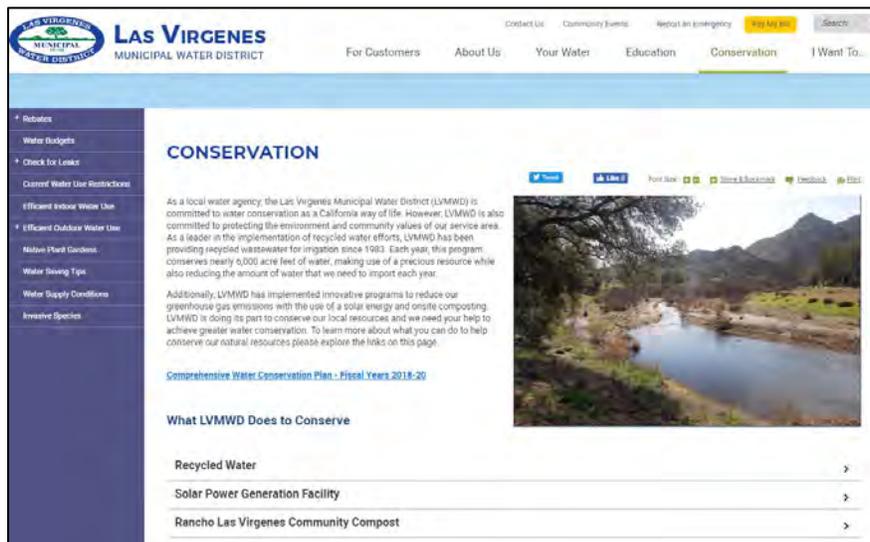


Figure 13: LVMWD Conservation Information

In addition, the District posts ongoing updates related to the recent Woolsey Fire and the impact to the local community related to the services that the LVMWD provides.

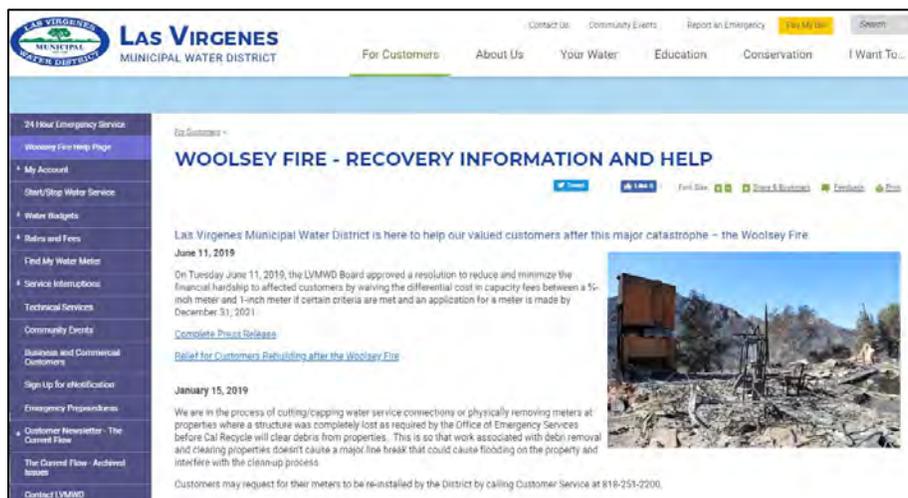


Figure 14: Woolsey Fire Update

WORKSHOPS AND EVENTS

The LVMWD participates in local community outreach events to promote water conservation and drought preparedness to combat the impact of climate change.



Figure 15: LVMWD Community Outreach

LAS VIRGENES MUNICIPAL WATER DISTRICT WEB SITE

The LVMWD web site includes important information related to hazard mitigation including:

- Drought and Water Conservation
- Fire and Public Safety
- Disaster Preparedness

LVMWD HMP Feedback

The LVMWD Hazard Mitigation Plan was posted to the web site and the public was encouraged to provide feedback. In addition, LVMWD Board items related to disaster response, planning, and mitigation are placed on the Agenda for public input and discussion.



Figure 16: LVMWD Newsletter

SECTION 17: ANNEX D: PLAN APPROVAL DOCUMENTATION

To be inserted after Board Approval

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SECTION 18: ANNEX E: LOCAL HAZARD MITIGATION PLAN REVIEW TOOL

The *Local Hazard Mitigation Plan Review Tool* demonstrates how the Local Hazard Mitigation Plan meets the regulation in 44 CFR §201.6 and offers State and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The **Regulation Checklist** provides a summary of FEMA’s evaluation of whether the plan has addressed all requirements.
- The **Plan Assessment** identifies the plan’s strengths as well as documents areas for future improvement. This section also includes a list of resources for implementation of the plan.
- The **Multi-Jurisdiction Summary Sheet** is a mandatory worksheet for multi-jurisdictional plans that is used to document which jurisdictions are eligible to adopt the plan.
- The **Hazard Identification and Risk Assessment Matrix** is a tool for plan reviewers to identify if all components of Element B are met.

Jurisdiction: Las Virgenes Municipal Water District	Title of Plan: LVMWD Hazard Mitigation Plan	Date of Plan: 7/03/2019
Local Point of Contact: Eric Schlageter	Address: Las Virgenes Municipal Water District 4232 Las Virgenes Road Calabasas, CA 91302-1994	
Title: Senior Engineer / HMP Project Manager		
Agency: Las Virgenes Municipal Water District (LVMWD)		
Phone Number: 818.251.2142	E-Mail: eschlageter@LVMWD.com	

State Reviewer:	Title:	Date:
Date Received at State Agency		
Date Sent to FEMA		

FEMA Reviewer: Derek J. Lambeth	Title: Emergency Services Coordinator	Date: 7/8/19
Date Received in FEMA Region IX		
Date Not Approved		
Date Approvable Pending Adoption		
Date Approved		

**SECTION 1:
REGULATION CHECKLIST**

INSTRUCTIONS: The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the plan by element/sub-element and to determine if each requirement has been ‘Met’ or ‘Not Met.’ The ‘Required Revisions’ summary at the bottom of each element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is ‘Not Met.’ Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in the *Local Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
ELEMENT A. PLANNING PROCESS				
<p>A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))</p>	<p>a. Does the plan provide documentation of how the plan was prepared? This documentation must include the schedule or timeframe and activities that made up the plan’s development as well as who was involved.</p>	<p>1. INTRODUCTION Acknowledgements 1-1 Plan Development & Update Process 1-9 Plan Adoption and Coordinating Body 1-11 15. ANNEX B HMP Kick-off Meeting 15-1</p>		
	<p>b. Does the plan list the jurisdiction(s) participating in the plan that are seeking approval?</p>	<p>N/A – Water District HMP</p>		
	<p>c. Does the plan identify who represented each jurisdiction? (At a minimum, it must identify the jurisdiction represented and the person’s position or title and agency within the jurisdiction.)</p>	<p>1. INTRODUCTION Acknowledgements 1-1 LVMWD Ability Support Mitigation 1-4 Plan Development & Update Process 1-9 Plan Participants 1-10 Plan Adoption and Coordinating Body 1-11 15. ANNEX B HMP Kick-off Meeting 15-1</p>		

1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
<p>A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))</p>	<p>a. Does the plan document an opportunity for neighboring communities, local, and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, as well as other interested parties to be involved in the planning process?</p>	<p>1. INTRODUCTION Plan Development & Update Process 1-9 Plan Participants 1-10 Coordination with Existing Programs 1-12</p> <p>12. PLAN MAINTENANCE AND MONITORING Continued Public Involvement 12-1 Coordinating Body 12-2 Implementation Through Existing Programs 12-3 Public Involvement 12-7</p>		
	<p>b. Does the plan identify how the stakeholders were invited to participate in the process?</p>	<p>1. INTRODUCTION Acknowledgements 1-1 LVMWD Ability Support Mitigation 1-4 Plan Development & Update Process 1-9 Plan Participants 1-10 Plan Adoption and Coordinating Body 1-11</p>		
<p>A3. Does the plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))</p>	<p>a. Does the plan document how the public was given the opportunity to be involved in the planning process?</p>	<p>1. INTRODUCTION Plan Development & Update Process 1-9 Plan Participants 1-10</p> <p>12. PLAN MAINTENANCE AND MONITORING Continued Public Involvement 12-1 Public Involvement 12-7</p> <p>ANNEX C: PLANNING AND PUBLIC INVOLVEMENT LVMWD HMP Feedback 16-2</p>		
	<p>b. Does the plan document how the public's feedback was incorporated into the plan?</p>	<p>1. INTRODUCTION Plan Participants 1-10</p> <p>12. PLAN MAINTENANCE AND MONITORING Continued Public Involvement 12-1 Public Involvement 12-7</p> <p>ANNEX C: PLANNING AND PUBLIC INVOLVEMENT LVMWD HMP Feedback 16-2</p>		

<p>A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))</p>	<p>1. INTRODUCTION Plan Development & Update Process 1-9 Plan Participants Internal and External Input 1-10 Coordination with Existing Programs 1-12</p> <p>3. RISK ASSESSMENT Vulnerabilities and Loss Estimates 3-7 Future Development Trends 3-8 to 3-11</p> <p>4. EARTHQUAKE Historical Record of EQ in S.CAL 4-2 Earthquake Probability 4-4 Estimated Impact of an Event 4-6 Earthquake Vulnerabilities 4-7 to 4-8</p> <p>5. WILDFIRE Historical Record of Significant Fires 5-1 to 5-2 Causes & Characteristics of Wildfires 5-3 Very High Fire Hazard Severity Zones 5-3 to 5-5 Estimated Impact of an Event 5-6 Wildfire Vulnerabilities 5-6</p> <p>6. CLIMATE CHANGE Nature of the Climate Change Threat 6-1 Climate Change & Drought History 6-2 Estimated Impact of an Event 6-4 Climate Change Vulnerabilities 6-5 to 6-7</p> <p>7. ENERGY DISRUPTION Historical Record of Power Outages 7-2 Power Outage Hazard Identification 7-3 Estimated Impact of an Event 7-6</p> <p>8. LANDSLIDE AND DEBRIS FLOWS Natura of the Landslide and Debris Flow Threat 8-1 Historical Record of Landslide Events 8-2 to 8-4 2018 Southern CA Mudflows 8-4 1994 Northridge EQ Landslide Impact 8-4 Agoura Hills Landslides 8-5 Estimated Impact of an Event 8-6</p> <p>9. WINDSTORM Estimated Impact of an Event 9-3 Windstorm Vulnerabilities 9-3</p> <p>10. FLOOD / SEVERE WINTER STORM Historical Record of Flooding 10-1 to 10-5 Estimated Impact of an Event 10-9</p> <p>11. TERRORISM Causes & Characteristics of Terrorism 11-2 Mass Violence Incidents in the U.S. 11-8 Estimated Impact of an Event 11-9</p> <p>12. PLAN MAINTENANCE AND MONITORING Coordinating Body 12-2 Implementation Through Existing Programs 12-3</p>		
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1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))		1. INTRODUCTION Plan Development & Update Process 1-9 Plan Participants 1-10 12. PLAN MAINTENANCE AND MONITORING Continued Public Involvement 12-1 Public Involvement 12-7		
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	a. Does the plan identify how, when, and by whom the plan will be monitored (how will implementation be tracked) over time?	1. INTRODUCTION LVMWD Ability Support Mitigation 1-4 Plan Development & Update Process 1-9 Mitigation Strategy 5-Yr Action Plan 1-12 12. PLAN MAINTENANCE AND MONITORING Adoption and Implementation 12-2		
	b. Does the plan identify how, when, and by whom the plan will be evaluated (assessing the effectiveness of the plan at achieving stated purpose and goals) over time?	1. INTRODUCTION LVMWD Ability Support Mitigation 1-4 to 1-5 Plan Development & Update Process 1-9 Plan Implementation, Monitoring, and Evaluation 1-11 Coordinating Body 1-11 Mitigation Strategy 5-Yr Action Plan 1-12 12. PLAN MAINTENANCE AND MONITORING Coordinating Body 12-2 Adoption and Implementation 12-2 Plan Monitoring, Evaluation, Updates, and Formal Review Process 12-6		
	c. Does the plan identify how, when, and by whom the plan will be updated during the 5-year cycle?	1. INTRODUCTION LVMWD Ability Support Mitigation 1-4 to 1-5 Plan Development & Update Process 1-9 Plan Implementation, Monitoring, and Evaluation 1-11 Coordinating Body 1-11 Mitigation Strategy 5-Yr Action Plan 1-12 12. PLAN MAINTENANCE AND MONITORING Coordinating Body 12-2 Adoption and Implementation 12-2 Plan Monitoring, Evaluation, Updates, and Formal Review Process 12-6		
<u>ELEMENT A: REQUIRED REVISIONS</u>				

ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			
(Reviewer: See Section 4 for assistance with Element B)			
<p>B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))</p>	<p>a. Does the plan include a general description of all natural hazards that can affect each jurisdiction?</p>	<p>Risk Assessment pp. 3-1 to 3-4 Earthquake pp. 4-1 to 4-8 Wildfire pp. 5-1 to 5-16 Climate Change pp. 6-1 to 6-8 Landslide and Debris Flows 8-1 to 8-12 Windstorm 9-1 to 9-11 Flood/Severe Winter Storm 10-1 to 10-10</p>	
	<p>b. Does the plan provide rationale for the omission of any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?</p>	<p>N/A – All commonly recognized natural hazards are included in the HMP</p>	
	<p>c. Does the plan include a description of the type of all natural hazards that can affect each jurisdiction?</p>	<p>Risk Assessment pp. 3-1 to 3-4 Earthquake pp. 4-1 to 4-8 Wildfire pp. 5-1 to 5-16 Climate Change pp. 6-1 to 6-8 Landslide and Debris Flows 8-1 to 8-12 Windstorm 9-1 to 9-11 Flood/Severe Winter Storm 10-1 to 10-10</p>	
	<p>d. Does the plan include a description of the location for all natural hazards that can affect each jurisdiction?</p>	<p>Risk Assessment pp. 3-3 to 3-19 Earthquake pp. 4-2 Wildfire pp. 5-1 to 5-5 Climate Change pp. 6-2 to 6-7 Landslide and Debris Flows 8-2 to 8-8 Windstorm 9-6 Flood/Severe Winter Storm 10-1 to 10-5</p>	
	<p>e. Does the plan include a description of the extent for all natural hazards that can affect each jurisdiction?</p>	<p>Risk Assessment 3-1 to 3-4 Earthquake 4-1 to 4-8 Wildfire 5-1 to 5-16 Climate Change 6-1 to 6-8 Landslide and Debris Flows 8-1 to 8-12 Windstorm 9-1 to 9-11 Flood/Severe Winter Storm 10-1 to 10-10</p>	
<p>B2. Does the plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))</p>	<p>a. Does the plan include information on previous occurrences of hazard events for each jurisdiction?</p>	<p>Risk Assessment 3-3 to 3-12 Earthquake 4-2 Wildfire 5-1 to 5-2 Climate Change 6-2 Landslide and Debris Flows 8-2 to 8-4 Windstorm 9-1 to 9-5 Flood/Severe Winter Storm 10-1 to 10-5</p>	
	<p>b. Does the plan include information on the probability of future hazard events for each jurisdiction?</p>	<p>Earthquake 4-4 Wildfire 5-9 to 5-10 Climate Change 6-5 to 6-7 Landslide and Debris Flows 8-2 to 8-4 Windstorm 9-10 Flood/Severe Winter Storm 10-1 to 10-5</p>	
<p>B3. Is there a description of each identified hazard’s impact on the community as well as an overall summary of the community’s vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))</p>	<p>a. Is there a description of each hazard’s impacts on each jurisdiction (what happens to structures, infrastructure, people, environment, etc.)?</p>	<p>Risk Assessment 3-1 to 3-4 Earthquake 4-1 to 4-8 Wildfire 5-1 to 5-16 Climate Change 6-1 to 6-8 Landslide and Debris Flows 8-1 to 8-12 Windstorm 9-1 to 9-11 Flood/Severe Winter Storm 10-1 to 10-10</p>	

	b. Is there a description of each identified hazard's overall vulnerability (structures, systems, populations, or other community assets defined by the community that are identified as being susceptible to damage and loss from hazard events) for each jurisdiction?	Risk Assessment 3-1 to 3-12 Earthquake 4-1 to 4-8 Wildfire 5-1 to 5-16 Climate Change 6-1 to 6-8 Landslide and Debris Flows 8-1 to 8-12 Windstorm 9-1 to 9-11 Flood/Severe Winter Storm 10-1 to 10-10		
B4. Does the plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))		Flood/Severe Winter Storm 10-5		
ELEMENT B: REQUIRED REVISIONS				
ELEMENT C. MITIGATION STRATEGY				
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))	a. Does the plan document each jurisdiction's existing authorities, policies, programs and resources?	1. INTRODUCTION LVMWD Ability Support Mitigation 1-4 to 1-5 Plan Mission and Goals 1-5 to 1-6 Plan Participants 1-8 Plan Adoption 1-9 Coordination with Existing Programs 1-10 Mitigation Strategy 5-Yr Action Plan 1-10		
	b. Does the plan document each jurisdiction's ability to expand on and improve these existing policies and programs?	1. INTRODUCTION LVMWD Ability Support Mitigation 1-4 to 1-5 12. PLAN IMPLEMENTATION AND MONITORING Implementation Through Existing Programs 12-3 Plan Monitoring, Evaluation, Updates, and Formal Review Process 12-6		
C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))		N/A – Not Under LVMWD Authority		
C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))		1. INTRODUCTION Plan Mission and Goals 1-7 to 1-8 Mitigation Strategy 5-Yr Action Plan 1-12 12. PLAN IMPLEMENTATION AND MONITORING Plan Monitoring, Evaluation, Updates, and Formal Review Process 12-6 13. HAZARD MITIGATION GOALS & STRATEGIES Hazard Mitigation Goals 13-1		

<p>C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))</p>	<p>a. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects to reduce the impacts from hazards?</p>	<p>13. HAZARD MITIGATION GOALS & STRATEGIES Hazard Mitigation Goals 13-1 Hazard Mitigation Strategies 13-2 to 13-25</p>		
	<p>b. Does the plan identify mitigation actions for every hazard posing a threat to each participating jurisdiction?</p>	<p>13. HAZARD MITIGATION GOALS & STRATEGIES Hazard Mitigation Goals 13-1 Hazard Mitigation Strategies 13-2 to 13-25</p>		
	<p>c. Do the identified mitigation actions and projects have an emphasis on new and existing buildings and infrastructure?</p>	<p>13. HAZARD MITIGATION GOALS & STRATEGIES Hazard Mitigation Goals 13-1 Hazard Mitigation Strategies 13-2 to 13-25</p>		
<p>C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))</p>	<p>a. Does the plan explain how the mitigation actions will be prioritized (including cost benefit review)?</p>	<p>1. INTRODUCTION Economic Analysis of Mitigation Projects 1-12 12. PLAN IMPLEMENTATION AND MONITORING Economic Analysis of Mitigation Projects 12-3 to 12-5 13. HAZARD MITIGATION GOALS & STRATEGIES Hazard Mitigation Goals 13-1 Hazard Mitigation Prioritization of Projects and Actions 13-3</p>		
	<p>b. Does the plan identify the position, office, department, or agency responsible for implementing and administering the action, potential funding sources and expected timeframes for completion?</p>	<p>1. INTRODUCTION LVMWD Ability Support Mitigation 1-4 13. HAZARD MITIGATION GOALS & STRATEGIES Hazard Mitigation Goals 13-1 to 13-25</p>		
<p>C6. Does the plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when</p>	<p>a. Does the plan identify the local planning mechanisms where hazard mitigation information and/or actions may be incorporated?</p>	<p>1. INTRODUCTION Coordination with Existing Programs 1-12 15. PLAN MAINTENANCE AND MONITORING Implementation Through Existing Programs 12-3</p>		

appropriate? (Requirement §201.6(c)(4)(ii))	b. Does the plan describe each community's process to integrate the data, information, and hazard mitigation goals and actions into other planning mechanisms?	1. INTRODUCTION Coordination with Existing Programs 1-12 15. PLAN MAINTENANCE AND MONITORING Implementation Through Existing Programs 12-3		
	c. The updated plan must explain how the jurisdiction(s) incorporated the mitigation plan, when appropriate, into other planning mechanisms as a demonstration of progress in local hazard mitigation efforts.	1. INTRODUCTION Coordination with Existing Programs 1-12 15. PLAN MAINTENANCE AND MONITORING Implementation Through Existing Programs 12-3		
<u>ELEMENT C: REQUIRED REVISIONS</u>				
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (Applicable to plan updates only)				
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))		N/A Original HMP		
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))		N/A – Original HMP		
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))		N/A – Original HMP		
<u>ELEMENT D: REQUIRED REVISIONS</u>				
ELEMENT E. PLAN ADOPTION				
E1. Does the plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))		SECTION 17 PLAN APPROVAL DOCUMENTATION 17-1 TO BE INSERTED		
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))		N/A		
<u>ELEMENT E: REQUIRED REVISIONS</u>				
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (Optional for State Reviewers only; not to be completed by FEMA)				

F1.			
F2.			
<p><u>ELEMENT F: REQUIRED REVISIONS</u></p>			

RESOLUTION NO. 2566

**A RESOLUTION OF THE BOARD OF DIRECTORS OF
LAS VIRGENES MUNICIPAL WATER DISTRICT
ADOPTING THE 2019 HAZARD MITIGATION PLAN**

WHEREAS, the Federal Disaster Mitigation Act of 2000 (DMA 2000), requires that local governments develop and submit a local hazard mitigation plan to the Federal Emergency Management Agency (FEMA) as a condition of receiving FEMA Hazard Mitigation Grant Program Funds; and

WHEREAS, development of the 2019 Hazard Mitigation Plan qualifies the Las Virgenes Municipal Water District to apply for FEMA Grants, including the eligibility to apply for funding of the stationary generators at District pump stations; and

WHEREAS, Las Virgenes Municipal Water District has developed its 2019 Hazard Mitigation Plan (2019 HMP), in compliance with Federal and State requirements for the development of mitigation plans; and

WHEREAS, the public has been provided an opportunity to comment on the 2019 Hazard Mitigation Plan and Las Virgenes Municipal Water District has conducted a public hearing to solicit community input regarding the plan; and

WHEREAS, Las Virgenes Municipal Water District, received a final approval letter from FEMA, dated October 2, 2019, for the 2019 HMP pending adoption by the LVMWD Board of Directors;

NOW THEREFORE, BE IT RESOLVED by the Board of Directors of Las Virgenes Municipal Water District that the 2019 Hazard Mitigation Plan, Report #2566.00 is hereby adopted.

PASSED, APPROVED AND ADOPTED this 17th day of December 2019.

Jay Lewitt, President

ATTEST:

Charles P. Caspary, Secretary

(SEAL)

APPROVED AS TO FORM:

W. Keith Lemieux, District Counsel



December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Engineering and External Affairs

**Subject : Westlake Filtration Plant and Torchwood Tank Landscaping Project:
CEQA Determination and Call for Bids**

SUMMARY:

Landscaping improvements around the Torchwood Tank (aka the 5-Million-Gallon Tank) and Westlake Filtration Plant have been planned since 2015. The project for landscaping was originally put out to bid in April 2018; however, no bids were received and the project was not re-advertised. Subsequently, damage occurred to the Westlake Filtration Plant in the November 2018 Woolsey Fire, including damage to the surrounding landscaping and irrigation system. Staff concluded that combining the proposed landscaping work for these two facilities would increase the likelihood of obtaining bids for the work since it would be a larger project.

RECOMMENDATION(S):

Find that the work is exempt from the provisions of the California Environmental Quality Act and authorize the issuance of a Call for Bids for the Westlake Filtration Plant and Torchwood Tank Landscaping Project.

FISCAL IMPACT:

No

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

There is no financial impact associated with the issuance of a Call for Bids. Sufficient funding is available in the adopted Fiscal Year 2019-20 Budget for CIP No. 10642 (Westlake Filtration Plant Landscaping) and CIP No. 10690 (Westlake Filtration Plant - Woolsey Fire). Costs for

design and construction will be tracked and allocated separately as pre-Woolsey Fire improvements versus post-Woolsey Fire replacements for insurance and FEMA reimbursement purposes.

DISCUSSION:

The Westlake Filtration Plant Landscaping Project (CIP No. 10642) is the last phase of improvements at the Westlake Filtration Plant following its expansion. The proposed landscaping improvements were designed by L. Newman Design Group (LNDG) and incorporated comments and suggestions from the City of Westlake Village, Three-Springs HOA and local residents. The Board authorized a Call for Bids on April 24, 2018. No bids were received despite staff's outreach to many local landscape contractors. The contractors were either too busy to bid or the size and dollar value of the project was considered too small.

Following the November 2018 Woolsey Fire, staff initiated a facility condition assessment to begin scope development for several fire recovery projects. M6 Consulting Inc. (M6) is under contract for CIP No. 10690, Westlake Filter Plant - Fire Repair, which includes the restoration of landscaping and the irrigation system around the facility. M6 subcontracted the landscape and irrigation system design to LNDG. Additionally, LNDG was selected as the landscape architect to assess the conditions of District facilities and remote sites, which included Torchwood Tank.

Given LNDG's involvement with these various projects, staff requested that the plans be combined into one bid package to be advertised with a larger scope project to encourage proposals from landscape contractors. Also, staff ensured that LNDG considered fire safety when making landscaping recommendations for the project. Staff will also be making a concerted effort to reach out to both local and regional landscape contractors to ensure that they are aware of the project.

Following is the proposed bid schedule:

Notice Inviting Sealed Proposals Approval	December 17, 2019
1st Advertisement	January 9, 2020
2nd Advertisement	January 16, 2020
Mandatory Pre-bid Job Walk	January 23, 2020
Bid Opening	February 13, 2020
Award of Contract	March 3, 2020

The work is categorically exempt from the provisions of the California Environmental Quality Act (CEQA), pursuant to Section 15301(b) of the CEQA Guidelines because it involves the replacement of irrigation and landscaping at existing facilities with no expansion of use. Attached is the Notice of Exemption that staff will complete and file with the County Clerk, pending Board approval of the CEQA determination.

GOALS:

Construct, Manage and Maintain All Facilities and Provide Services to Assure System Reliability and Environmental Compatibility

Prepared by: Veronica Hurtado, Assistant Engineer

ATTACHMENTS:

Westlake Filtration Plant and Torchwood Tank Notice of Exemption
Notice Inviting Sealed Proposals

Notice of Exemption

Appendix E

To: Office of Planning and Research

P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk

County of: Los Angeles

12400 Imperial Highway

Norwalk, CA 90650

From: (Public Agency): Las Virgenes Municipal Water District

4232 Las Virgenes Road

Calabasas, CA 91302

(Address)

Project Title: Westlake Filter Plant and Torchwood Tank Landscaping Project

Project Applicant: Las Virgenes Municipal Water District

Project Location - Specific: 32601 Torchwood Pl.

Project Location - City: Westlake Village Project Location - County: Los Angeles

Description of Nature, Purpose and Beneficiaries of Project:

Replace irrigation and landscaping, damaged in the Woolsey Fire, around the Westlake Filtration Plant and Torchwood Tank. Additional trees and plants will be added to help screen the facility and tank from the surrounding Community's view.

Name of Public Agency Approving Project: Las Virgenes Municipal Water District

Name of Person or Agency Carrying Out Project: Las Virgenes Municipal Water District

Exempt Status: **(check one):**

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption. State type and section number: Existing Facilities, Section 15301 (b)
- Statutory Exemptions. State code number: _____

Reasons why project is exempt:

The project involves the replacement of damaged irrigation and landscaping with the addition of a few native plants and trees surrounding existing facilities with no expansion of use. The project would not have a significant effect on the environment.

Lead Agency

Contact Person: Veronica Hurtado Area Code/Telephone/Extension: (818) 251-2332

If filed by applicant:

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

Signature: _____ Date: _____ Title: _____

Signed by Lead Agency Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____

NOTICE INVITING SEALED PROPOSALS (BIDS)
Westlake Filter Plant and Torchwood Tank Landscaping

NOTICE IS HEREBY GIVEN that the Board of Directors of Las Virgenes Municipal Water District invites and will receive sealed proposals (bids) up to the hour of 3:00PM on February 13, 2020, for furnishing the work described in the contract documents. Bids received after the time stated in the Call for Bids will not be accepted and will be returned, unopened, to the bidder. The time shall be determined by the time on the receptionist telephone console in our Headquarters lobby. Proposals will be publicly opened and read aloud at the office of the District, 4232 Las Virgenes Road, Calabasas, California 91302. Said bids shall conform to and be responsive to the Specifications and Contract Documents for said work as heretofore approved by the District.

A **mandatory** pre-bid tour will be conducted at 9:00AM on January 23, 2020. The meeting will begin at the District headquarters at 4232 Las Virgenes Road, Calabasas, CA 91302. Attendance at the pre-bid conference is a condition precedent to submittal of the bid and the District will not consider a bid from any bidder not represented at the pre-bid conference. Questions regarding the project may be directed to Veronica Hurtado, Project Engineer, at (818) 251-2332.

Sets of contract documents may be downloaded for free by going to <http://www.LVMWD.com/Ebidboard> and following the links to this project.

In order to be placed on the plan holder's list, contractors shall register for free as a document holder for this project on Ebidboard by going to www.LVMWD.com/Ebidboard and following the links to this project. Addendum notifications will be issued through Ebidboard.com, but may also be provided by calling the District's Project Manager. Although Ebidboard will fax and/or email all notifications to registered plan holders after the District uploads the information, Bidders are responsible for obtaining all addenda and updated contract documents.

Each bid must be on the District bid form and shall be sealed and filed with the secretary of the District at or before the time stated in the Notice.

No Contractor or Subcontractor may be listed on a bid proposal for a public works project submitted on or after March 1, 2015 unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. No Contractor or Subcontractor may be awarded a contract for public work on a public works project awarded on or after April 1, 2015 unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. Effective January 1, 2016, no Contractor or Subcontractor may perform on a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. This project is subject to compliance monitoring and enforcement by the DIR.

All terms and conditions contained in the Specifications and Contract Documents shall become part of the contract. The Board of Directors of Las Virgenes Municipal Water District

reserves the right to reject any and all bids and to waive any and all irregularities in any bid. No bidder may withdraw his bid after the said time for bid openings until 60-days thereafter or until the District has made a final award to the successful bidder or has rejected all bids, whichever event first occurs.

The Board of Directors of the District reserves the right to select the schedule(s) under which the bids are to be compared and contract(s) awarded.

**BY ORDER OF THE GOVERNING BODY OF
LAS VIRGENES MUNICIPAL WATER DISTRICT**

Dated

Jay Lewitt, President



December 17, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Finance & Administration

Subject : Reimbursable Expenses for Fiscal Year 2018-19

SUMMARY:

The Las Virgenes Municipal Water District Code requires the District to publish a list of reimbursable expenditures over \$100 incurred during the prior fiscal year. Attached is the Fiscal Year 2018-19 Reimbursable Expenses Report. On December 5, 2019, a notice was published in The Acorn to indicate the availability of the report.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

DISCUSSION:

Pursuant to Section 2-2.107 of the Las Virgenes Municipal Water District Code and Government Code Section 53065.5, the District is required to report reimbursed expenditures in excess of \$100 in a publicly available document at the District's headquarters in December and January.

In the interest of transparency, the District has historically reported more than minimally required by law. While the law requires the reporting of reimbursed expenditures over \$100, the District's report contains all employee/director-related expenditures over \$100 that were reimbursed to the employee/director or directly paid for with a District credit card. This approach is most transparent and appears to be consistent with the intent of the law to publically report employee/director-related expenditures over \$100 that are incurred in the course of one's position or to expand knowledge and resources for the District through attendance at training events and conferences.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Angela Saccareccia, Finance Manager

ATTACHMENTS:

Fiscal Year 2018-19 Reimbursable Expense Report

**LAS VIRGENES MUNICIPAL WATER DISTRICT
REPORTABLE EXPENSE REIMBURSEMENTS
FOR FISCAL YEAR ENDED JUNE 30, 2019**

NAME		DATE		EVENT	CONFERENCES & OTHER MEETINGS ATTENDED					OTHER EXPENSES EXPLANATION	TOTAL
LAST	FIRST	DATE	LOCATION		REGISTRATION	TRAVEL	LODGING	MEALS			
CASPARY	CHARLES	11/28-1/29/18	SAN DIEGO, CA	ACWA CONFERENCE	699.00	200.68	224.53				1,124.21
CASPARY	CHARLES	2/1/19	SACRAMENTO, CA	ACWA STATE LEGISLATIVE MEETING		303.21					303.21
CASPARY	CHARLES	3/15/19	SACRAMENTO, CA	ACWA STATE LEGISLATIVE MEETING		544.46				16.65 PRINTING	561.11
CASPARY	CHARLES	4/5/19	SACRAMENTO, CA	ACWA STATE LEGISLATIVE MEETING		286.46			7.49		293.95
CASPARY	CHARLES	6/14/19	SACRAMENTO, CA	ACWA STATE LEGISLATIVE MEETING		259.75					259.75
Sub-Total											
LEWITT	JAY	9/13/18	SACRAMENTO, CA	ACWA COMMITTEE MEETING		213.71			8.09		221.80
LEWITT	JAY	11/27-11/29/18	SAN DIEGO, CA	ACWA CONFERENCE	699.00	210.49	449.06		20.75		1,379.30
LEWITT	JAY	12/10-12/11/18	PHOENIX, AZ	WATER INNOVATION SUMMIT	65.00	211.58	366.36		71.30		714.24
LEWITT	JAY	1/23-1/25/19	INDIAN WELLS, CA	CASA CONFERENCE	575.00	187.92	416.70		47.10		1,226.72
LEWITT	JAY	2/24-2/26/19	WASHINGTON, D.C.	CASA PUBLIC POLICY FORUM	695.00	371.00	758.68		49.24		1,873.92
LEWITT	JAY	2/26-3/3/19	WASHINGTON, D.C.	ACWA DC CONFERENCE	690.00	307.56	758.68		166.00		1,922.24
LEWITT	JAY	3/5-3/6	SACRAMENTO, CA	ACWA LEGISLATIVE SYMPOSIUM	270.00	173.35	298.36		55.69		797.40
LEWITT	JAY	3/17-3/19/19	GARDEN GROVE, CA	WATERUSE CONFERENCE	450.00	78.76	420.70		22.83		972.29
LEWITT	JAY	3/31-4/3/19	WASHINGTON, D.C.	LOBBYING-PURE WATER PROJECT		1,598.60	1,101.22		110.64		2,810.46
LEWITT	JAY	5/7-5/10/19	MONTEREY, CA	ACWA CONFERENCE	725.00	434.60	782.19		77.65		2,019.44
Sub-Total											
LO-HILL	LYNDA	11/28-11/30/18	SAN DIEGO, CA	ACWA CONFERENCE	699.00	105.66	511.56				1,316.22
LO-HILL	LYNDA	1/23-1/25/19	INDIAN WELLS, CA	CASA WINTER CONFERENCE	575.00	183.28					758.28
LO-HILL	LYNDA	3/17-3/19/19	ANAHEIM, CA	WATERUSE CONFERENCE	500.00	114.88	420.72				1,035.60
LO-HILL	LYNDA	4/18/19	OXNARD, CA	AWAVC WATER SYMPOSIUM	205.00	36.89					241.89
Sub-Total											
PETERSON	GLEN	8/7-8/10/18	MONTEREY, CA	CASA CONFERENCE	575.00	390.08	895.20		60.31		1,920.59
POLAN	LEONARD	8/7-8/10/18	MONTEREY, CA	CASA CONFERENCE	575.00	409.09	895.20		167.31		2,046.60
POLAN	LEONARD	10/4/18	LA VERNE, CA	ACWA REGION 8 MEETING	40.00	79.03					119.03
POLAN	LEONARD	11/27-1/28/18	SAN DIEGO, CA	ACWA CONFERENCE	290.00	247.67	673.59		35.36		1,246.62
POLAN	LEONARD	1/23-1/25/19	INDIAN WELLS, CA	CASA CONFERENCE	575.00	189.08	416.70				1,180.78
POLAN	LEONARD	2/24-2/25/19	WASHINGTON D.C.	CASA PUBLIC POLICY FORUM	695.00	329.59	262.59		68.08		1,355.26
POLAN	LEONARD	2/25-3/5/19	WASHINGTON D.C.	ACWA DC CONFERENCE	690.00	265.52	1,465.62		30.10		2,451.24
POLAN	LEONARD	3/17-3/19/19	GARDEN GROVE, CA	WATERUSE CONFERENCE	450.00	85.61	420.72		3.61		959.94
POLAN	LEONARD	3/31-4/4/19	WASHINGTON D.C.	LOBBYING-PURE WATER PROJECT		1,083.88	1,806.56		283.36	81.20 SHIPPING	3,255.00
POLAN	LEONARD	4/18/19	OXNARD, CA	AWAVC WATER SYMPOSIUM	205.00	28.54					233.54
POLAN	LEONARD	5/6-5/10/19	MONTEREY, CA	ACWA CONFERENCE	725.00	467.36	1,042.92		164.47		2,399.75
Sub-Total											
RENGER	LEE	11/27-1/30/18	SAN DIEGO, CA	ACWA CONFERENCE/WORKSHOP	699.00	279.40	673.59		54.26		1,706.25
RENGER	LEE	5/6-5/10/19	MONTEREY, CA	ACWA CONFERENCE	725.00	466.56	1,042.92				2,234.48
Sub-Total											
ARENAS	ANDY	9/25-9/27/18	IRVINE, CA	SUPERVISOR TRAINING	499.00	234.79			52.63		786.42
ARENAS	ANDY	1/14-1/18/19	LOS ANGELES, CA	BACKFLOW PREVENTION TRAINING	1,000.00	172.84					1,172.84
ARENAS	ANDY	6/25/19	OXNARD, CA	PROJECT MANAGEMENT WORKSHOP	149.00						149.00
Sub-Total											
BAIRD	STEVEN	8/8-8/10/18	MONTEREY, CA	CASA CONFERENCE	575.00	193.10	596.80		15.23		1,380.13
BAIRD	STEVEN	12/10-12/11/18	LAKEWOOD, CA	WATER EDUCATION MEETING		111.18					111.18
BAIRD	STEVEN	3/4-3/8/19	LOS ANGELES, CA	ADOBE AFTER EFFECTS WORKSHOP	1,995.00	257.10			71.34		2,323.44
BAIRD	STEVEN	4/9-4/11/19	LOS ANGELES, CA	DIGITAL MARKETING CONFERENCE	400.00						400.00
BAIRD	STEVEN	5/17-5/18/19	TEMECULA, CA	SOLAR CUP EVENT			212.06		18.76		230.82
Sub-Total											
4,445.57											

**LAS VIRGENES MUNICIPAL WATER DISTRICT
REPORTABLE EXPENSE REIMBURSEMENTS
FOR FISCAL YEAR ENDED JUNE 30, 2019**

LAST NAME	FIRST NAME	DATE	EVENT	CONFERENCES & OTHER MEETINGS ATTENDED				OTHER EXPENSES EXPLANATION	TOTAL	
				LOCATION	REGISTRATION	TRAVEL	LODGING			MEALS
BARROW	DOUG	3/4-3/7/19	OSHA OUTREACH TRAINING FOR CONST.	OXNARD, CA	675.00				33.80	708.80
BOCKELMAN	DUANE	3/4-3/7/19	OSHA OUTREACH TRAINING FOR CONST.	OXNARD, CA	675.00				34.34	709.34
BODENHAMER	JOANNE	10/29-11/2/18	CIS USER CONFERENCE	CHICAGO, IL	927.90	413.29	700.89		79.86	2,121.94
BODENHAMER	JOANNE	6/26/19	MANAGING PROJECTS TRAINING	VENTURA, CA	149.00				149.00	149.00
									Sub-Total	2,270.94
BRIL	BURTON	6/16-6/19/19	WATER TREATMENT WORKSHOP	SACRAMENTO, CA	325.00	329.30	335.58		152.48	1,142.36
BUCHANAN	DAWN	4/8-4/11/19	CAPIO CONFERENCE	NEWPORT BEACH, CA	480.00		645.78		63.68	1,189.46
BULLOCK	GRETCHEN	1/13-1/20/19	CAPPO CONFERENCE	SACRAMENTO, CA	395.00	245.13	991.58		133.59	1,765.30
CAPPS	MARY	9/11-9/14/18	TECHNICAL TRAINING FOR CLERKS	RIVERSIDE, CA	1,150.00	94.61	460.70		32.00	1,737.31
CAPPS	MARY	6/10/19	RECORDS & INFO MGMT CLASS	ON-LINE	1,499.00					1,499.00
									Sub-Total	3,236.31
CHEN,	JENNIFER	5/20-5/21/19	GFOA CONFERENCE	LOS ANGELES, CA	420.00	33.00			30.00	483.00
FIELDS	GARY	7/8-7/13/18	ESRI USER CONFERENCE	SAN DIEGO, CA		417.86	1,476.45		227.25	2,121.56
GARCIA	GUILLERMO	2/6-2/7/19	CLA-VAL TRAINING	COSTA MESA, CA	200.00	84.68	132.32			417.00
GARMAN	TRAVIS	9/30-10/3/18	SUPERVISORY LEADERSHIP TRAINING	SAN CARLOS, CA	499.00	497.22	987.75		62.22	2,046.19
GARMAN	TRAVIS	10/29-11/2/18	CIS USER CONFERENCE	CHICAGO, IL	927.90	587.80	1,216.28			2,731.98
									Sub-Total	4,778.17
GILMER	CARSON	6/25/19	PROJECT MANAGEMENT WORKSHOP	OXNARD, CA	149.00					149.00
GLASSMAN	BRAD	11/7/18	CWEA WORKSHOP	VENTURA, CA	70.00	35.65			105.65	105.65
GLASSMAN	BRAD	12/5/18	CWEA WORKSHOP	VENTURA, CA	70.00	35.97			105.97	105.97
									Sub-Total	211.62
GUZMAN	JOSIE	8/22-8/24/18	MMC ACADEMY	POMONA, CA	1,050.00	66.05			1,116.05	1,116.05
GUZMAN	JOSIE	1/25/19	CITY CLERKS OF CALIF. TRAINING	MONROVIA, CA	75.00	52.43			127.43	127.43
GUZMAN	JOSIE	2/6-2/8/19	MMC & CLERK OF BOARD ACADEMY	SAN JOSE, CA	1,450.00	311.96			1,761.96	1,761.96
GUZMAN	JOSIE	3/16/19	CCAC ATHENIAN DIALOGUE	TORRENCE, CA	75.00	48.02			123.02	123.02
GUZMAN	JOSIE	5/4/19	CCAC ATHENIAN DIALOGUE	CHINO HILLS, CA	75.00	75.17			150.17	150.17
									Sub-Total	3,278.63
HEITKAMP	SHERRIE	5/28-5/29/19	GOVERNMENTAL ACCOUNTING CLASS	IRVINE, CA	75.00	84.67	104.65			264.32
HEITKAMP	WILLIAM	1/28-2/1/19	CROSS CONNECTION TRAINING	LOS ANGELES, CA	1,000.00	208.80				1,208.80
HEIDRICKS	WILLIAM	2/6-2/7/19	CLA-VAL TRAINING	COSTA MESA, CA	200.00	84.68	112.48			397.16
JOHNSON	DARRELL	10/21-10/25/18	AWWA CONFERENCE	RANCHO MIRAGE, CA	465.00	161.87	951.28		120.95	1,699.10
JOHNSON	DARRELL	4/9-4/12/19	CWEA CONFERENCE	PALM SPRINGS, CA	525.00	162.98	743.82		120.69	1,552.49
JOHNSON	DARRELL	4/15-4/16/19	CUSTOMER SERVICE WORKSHOP	RANCHO CUCAMONGA, CA	395.00	161.94			37.64	594.58
									Sub-Total	3,846.17

**LAS VIRGENES MUNICIPAL WATER DISTRICT
REPORTABLE EXPENSE REIMBURSEMENTS
FOR FISCAL YEAR ENDED JUNE 30, 2019**

NAME		DATE	EVENT	LOCATION	REGISTRATION	TRAVEL	LODGING	MEALS	OTHER EXPENSES	TOTAL
LAST	FIRST								EXPLANATION	
PEDERSEN	DAVID	11/27-11/29/18	ACWA CONFERENCE	SAN DIEGO, CA	699.00	113.20	781.70			1,593.90
PEDERSEN	DAVID	12/10-12/11/18	WATER INNOVATION SUMMIT	PHOENIX, CA	65.00	221.06	341.18	65.47		692.71
PEDERSEN	DAVID	12/14/18	CASA STATE LEGISLATIVE MEETING	SACRAMENTO, CA		217.16		15.60		232.76
PEDERSEN	DAVID	2/1/19	WATERUSE LEGISLATIVE MEETING	SACRAMENTO, CA		309.95				309.95
PEDERSEN	DAVID	2/27-3/1/19	URBAN WATER INSTITUTE CONF.	PALM SPRINGS, CA	525.00					525.00
PEDERSEN	DAVID	3/17-3/19	WATERUSE CONFERENCE	GARDEN GROVE, CA	450.00					512.00
PEDERSEN	DAVID	3/29-4/5/19	LOBBYING-PURE WATER PROJECT	WASHINGTON DC		1,090.87	2,110.48	128.64	8.00 INFLIGHT WIFI	3,337.99
PEDERSEN	DAVID	4/5/19	WATERUSE LEGISLATIVE MEETING	SACRAMENTO, CA		164.89				164.89
PEDERSEN	DAVID	4/26/19	ACWA/WATERUSE ST LEGISLATIVE MTGS	SACRAMENTO, CA		538.03				538.03
PEDERSEN	DAVID	5/7-5/8/19	ACWA CONFERENCE	MONTEREY, CA	365.00	40.10	484.65	10.73		900.48
PEDERSEN	DAVID	6/4/19	WATERUSE LEGISLATIVE MEETING	SACRAMENTO, CA		312.06		6.60		318.66
Sub-Total										9,126.37
PETERS	DEBORAH	4/8-4/11/19	CAPIO CONFERENCE	NEWPORT BEACH, CA	480.00	131.54	645.78	88.02		1,345.34
ROBERTS	DAVE	10/1-10/5/18	WATER SMART INNOVATIONS CONF.	LAS VEGAS, NV	445.00	215.20	405.36	72.89		1,138.45
ROBERTS	DAVE	10/8-10/10/18	WATER PLAN UPDATE MEETING	SACRAMENTO, CA		420.49	475.44	74.50		970.43
ROBERTS	DAVE	12/3-12/5/18	STEELED SUMMIT CONFERENCE	VENTURA, CA	225.00					225.00
ROBERTS	DAVE	5/14-5/16/19	PEER TO PEER CONFERENCE	ANAHEIM, CA	260.34	68.56	609.26	22.40		960.56
Sub-Total										3,294.44
RUSSO	JUSTINA	4/15-4/16/19	CUSTOMER SERVICE WORKSHOP	RANCHO CUCAMONGA, CA	395.00	80.97	227.76	78.87		782.60
SACCARECCIA	ANGELA	10/16-10/18/18	GFOA ERP TRAINING	DENVER, CO	580.00	321.26	461.22	61.85		1,424.33
SACCARECCIA	ANGELA	12/4/18	GOVERNMENT TAX SEMINAR	LAKEWOOD, CA	395.00					395.00
SACCARECCIA	ANGELA	1/7-1/11/19	CSMF CONFERENCE	PALM SPRINGS, CA	520.00	222.40	1,023.96	109.43		1,875.79
SACCARECCIA	ANGELA	4/17-4/19/19	CMTA ANNUAL CONFERENCE	SAN DIEGO, CA	315.00	260.76	471.08	65.40		1,112.24
SACCARECCIA	ANGELA	5/20-5/21/19	GFOA CONFERENCE	LOS ANGELES, CA	420.00	47.50		46.93		514.43
Sub-Total										5,321.79
SCHLAGETER	ERIC	8/29-8/30/18	ARBITRATION MEETINGS	LOS ANGELES, CA			248.97			248.97
SCHLAGETER	ERIC	6/16-6/19/19	WATER TREATMENT WORKSHOP	SACRAMENTO, CA	325.00	499.96	353.22	151.36		1,329.54
Sub-Total										1,578.51
SONGER	MARIA	10/16/18	ACWA/JPIA HR MEETING	RANCHO CUCAMONGA, CA	30.00	76.19		106.19		212.38
SONGER	MARIA	10/9-10/12/18	NEOGOV CONFERENCE & TRAINING	LAS VEGAS, NV	995.00	225.71	551.02	71.95		1,843.68
SONGER	MARIA	10/21-10/24/18	CALPERS EDUCATIONAL FORUM	INDIAN WELLS, CA	349.00	168.94	653.93	40.13		1,212.00
SONGER	MARIA	JAN. -MAY '19	IPMA-HR TRAINING	ON-LINE	1,032.89					1,032.89
SONGER	MARIA	4/28-5/1/19	IPMA-HR CONFERENCE	WESTMINSTER, CO	325.00	289.15	502.89	67.46		1,184.50
Sub-Total										5,379.26
SPEAR	ANDREW	9/30-10/2/18	MISAC CONFERENCE	RANCHO MIRAGE, CA	350.00	161.32	294.46	22.77		828.55
SPEAR	ANDREW	10/30-11/2/18	CIS USER CONFERENCE	CHICAGO, IL	900.00	366.06	700.89	96.47		2,063.42
Sub-Total										2,891.97
TRIPLETT	SHAWN	3/4-3/7/19	OSHA OUTREACH TRAINING FOR CONST.	OXNARD, CA	675.00	660.90	353.22	36.59		1,711.59
TRIPLETT	SHAWN	6/16-6/19/19	WATER TREATMENT WORKSHOP	SACRAMENTO, CA	325.00			161.07		1,500.19
Sub-Total										2,211.78
VOLLMAR	BRETT	6/16-6/19/19	WATER TREATMENT WORKSHOP	SACRAMENTO, CA	325.00	552.65	353.22	149.33		1,380.20
WALDEN	JUSTIN	2/6-2/7/19	CLA-VAL TRAINING	COSTA MESA, CA	200.00	84.68	112.48			397.16

**LAS VIRGENES MUNICIPAL WATER DISTRICT
REPORTABLE EXPENSE REIMBURSEMENTS
FOR FISCAL YEAR ENDED JUNE 30, 2019**

NAME		DATE	EVENT	CONFERENCES & OTHER MEETINGS ATTENDED				OTHER EXPENSES	TOTAL
LAST	FIRST			LOCATION	REGISTRATION	TRAVEL	LODGING	MEALS	EXPLANATION
WILSON	JASON	12/18/18	BUYER BASIC SEMINAR	LOS ANGELES, CA	229.00	39.14		11.74	
WILLIAMS	SARA	11/7/18	WASTEWATER ANALYSIS TRAINING	RANCHO CUCAMONGA, CA	125.00	67.36			
WILLIAMS	SARA	3/6/19	CWEA TNI WORKSHOP	VENTURA, CA	70.00	48.49			
Sub-Total									310.85
Grand Total									144,778.18

ACWA = ASSOCIATION OF CALIFORNIA WATER AGENCIES
 AWA = ASSOCIATION OF WATER AGENCIES
 AWAVC = ASSOCIATION OF WATER AGENCIES VENTURA COUNTY
 CALPELRA = CALIFORNIA PUBLIC EMPLOYERS LABOR RELATIONS ASSOCIATION
 CALPERS = CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
 CAPIO = CALIFORNIA PUBLIC INFORMATION OFFICIALS
 CAPPO = CALIFORNIA ASSOCIATION OF PUBLIC PROCUREMENT OFFICIALS
 CASA = CALIFORNIA ASSOCIATION OF SANITATION AGENCIES
 CCAC = CITY CLERKS ASSOCIATION OF CALIFORNIA
 CIS = CUSTOMER INFORMATION SYSTEM
 CMTA = CALIFORNIA MUNICIPAL TREASURERS ASSOCIATION
 CMUA = CALIFORNIA MUNICIPAL UTILITIES ASSOCIATION

CSMFO = CALIFORNIA SOCIETY OF MUNICIPAL FINANCE OFFICERS
 CWEA = CALIFORNIA WATER ENVIRONMENT ASSOCIATION
 CWSRF = CLEAN WATER STATE REVOLVING FUND
 ESRI = ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE
 GFOA = GOVERNMENT FINANCE OFFICERS ASSOCIATION
 IPMA-HR = INTERNATIONAL PUBLIC MANAGEMENT ASSOCIATION FOR HUMAN RESOURCES
 LCW = LIEBERT CASSIDY WHITMORE
 MISAC = MUNICIPAL INFORMATION SYSTEMS ASSOCIATION OF CALIFORNIA
 MMC = MASTER MUNICIPAL CLERK
 OSHA = OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 RWQCB = REGIONAL WATER QUALITY CONTROL BOARD