

LINCOLN AVENUE WATER COMPANY

ANNUAL REPORT OF OPERATIONS 2017

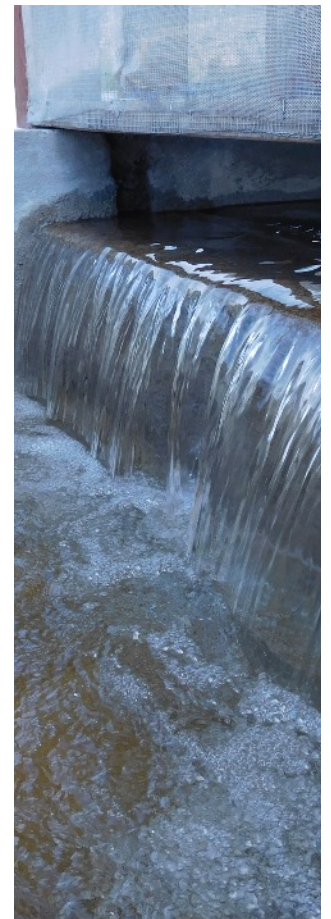
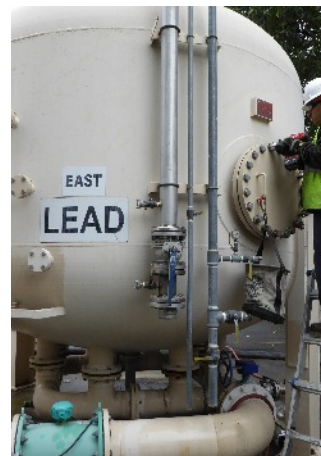


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Lincoln Avenue Water Company

March 31, 2017

John Clairday, President
Board of Directors
Lincoln Avenue Water Company
564 W Harriet Street
Altadena, CA 91001



Dear Mr. Clairday:

On behalf of the Staff and Management of Lincoln Avenue Water Company I am pleased to present the 2017 Annual Report of Operations.

The 2017 rain season brought the much needed end to an unprecedented 5 year drought. The return of rain also helped improve our groundwater levels. However, it will take a number of consecutive wet years before our local aquifer fully recovers.

As a result of the severity of the recent drought the State of California was forced to adopt new **Executive Orders B-37-16 and B-40-17 Making Water Conservation in California A Way of Life**. The impact of the new Executive Orders will have a long term effect on water sales. However, while meeting the challenge of these new executive orders the company was able to complete a number of Operation and Capital Improvement Projects.

Projects completed during 2017 included:

- Final completion and restoration of our Millard and El Prieto canyon watershed facilities following the Station Fire.
- Completion of the construction, development and start-up of our new NASA/JPL funded Well No. 6.
- Modification and repair of our Ion Exchange Groundwater Treatment Facility.
- The replacement of 1,500 feet of aged water main on East Loma Alta Dr.

While we welcome the success of prior year accomplishments we remain focused on the needs of the company and the community in which we serve. The professional staff at Lincoln Avenue remains committed to providing the highest quality and most reliable water service to customers at the most economically feasible cost.

Sincerely,
Lincoln Avenue Water Company

Robert J. Hayward
General Manager

Looking Back at the 2009 Station Fire

It was August of 2009 when our community experienced the largest fire in the recorded history of the Angeles National Forest. We witnessed a tremendous amount of loss as the 52 day Station Fire burned through the Foothills. Included in this great loss was our watershed. Several square miles of Millard and El Prieto Canyon were destroyed.



Following the fire the dry summer weather gave way to the rain season causing major mudslides and debris flow. The rains of 2009 brought more damage to an already devastated burn area.



We depend on our canyon water conveyance system to bring a valuable resource to the community. Since the start-up of our surface water treatment plant in 1997 Lincoln Avenue has treated more than 2,500 acre feet of surface water for domestic use. As a result of the Station Fire and for the 7 years following this event the company was forced to purchase additional imported water. Imported water is our most expensive source of water. Unfortunately, it was necessary to pass on this additional expense to our customers in the form of higher water rates.

ASSESSMENT & REPAIR

STARTING IN 2010 WITH A COMMITMENT TO REBUILD OUR DAMAGED FACILITIES AND RESTORE THE OPERATION AS SOON AS POSSIBLE, THE AREA AROUND OUR DIVERSION WEIR WAS DREDGED BY HAND. THIS WAS DONE TO PROTECT NATIVE MATERIALS. THIS ACTION RESTORED NATURAL WATER FLOW TO THE CREEK. WE THEN REPAIRED THE WEIR WHICH IS THE STARTING POINT OF OUR SURFACE WATER DIVERSION SYSTEM.



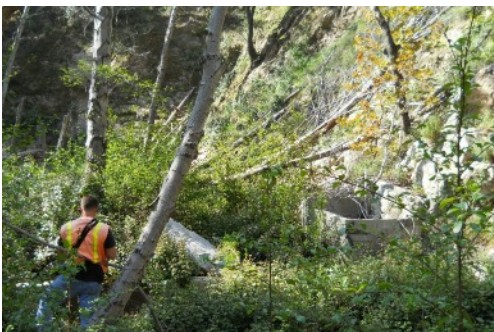
The catch box which was destroyed during the heavy rains and debris flow is repaired.

REPAIRS WERE SLOWED TO A HALT ONCE WE REALIZED THAT IT WOULD BE NECESSARY TO REPLACE SEVERAL HUNDRED FEET OF AGED TRANSMISSION PIPELINE. KNOWING IT WOULD TAKE SEVERAL YEARS FOR THE WATER SHED TO RECOVER, COUPLED WITH THE VARIOUS STATE AND FEDERAL REGULATORY PERMITS NEEDED TO RESTART THE OPERATION PRESENTED A MONUMENTAL TASK. HOWEVER, OUR COMMITMENT TO RESTORING THE CONVEYANCE SYSTEM THROUGH THE STEEP AND UNEVEN CANYON TERRAIN CONTINUED TO BE A MAJOR PRIORITY FOR THE COMPANY.



Several portions of the broken conveyance system were located on steep hillsides.

BY 2013 WE HAD SECURED ALL THE NECESSARY PERMITS TO CONTINUE REPAIRING THE SYSTEM. AS A RESULT OF NOT BEING ABLE TO ACCESS THE AREA FOR SEVERAL YEARS, REACHING THESE FACILITIES BECAME A CHALLENGE. ACCOMPANIED BY A TEAM OF BIOLOGISTS WE VENTURED INTO THE CANYON TO DEVELOP A NEW MAINTENANCE PLAN WHICH WOULD PROVIDE SAFE ACCESS FOR OUR STAFF AS WELL AS PROTECT THE SURROUNDING HABITATS.



A biologist surveys the Millard Canyon & El Prieto Weirs.

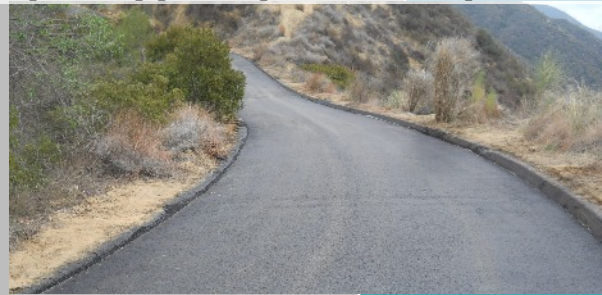
The catch box full of

RESTORING OUR CANYON FACILITIES

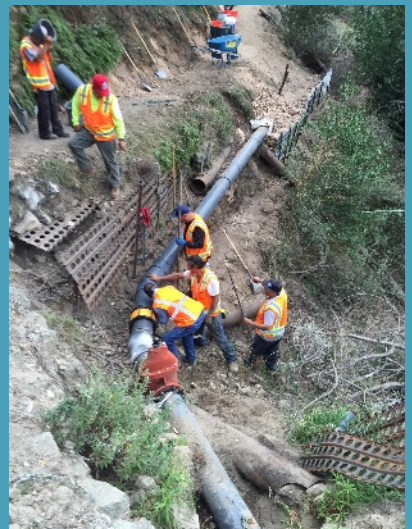
LATER THAT YEAR, UNDER THE WATCHFUL EYE OF AN ARCHEOLOGIST AND BIOLOGIST, WE STARTED THE FIRST PHASE OF THE MILLARD CANYON PIPELINE REPLACEMENT PROJECT. LOCATED ALONG MOUNT LOWE ROAD, THIS 1,400 FOOT SECTION OF THE CONVEYANCE PIPE WAS ORIGINALLY INSTALLED PRIOR TO WORLD WAR I AND THE ONLY AREA OF THE PROJECT ACCESSIBLE BY VEHICLE. THE REMAINING WORK WOULD REQUIRE A MORE LABOR-INTENSIVE EFFORT.



The first phase of pipeline replacement is completed.



THE SECOND PHASE OF THIS PROJECT INVOLVED REPLACING 1,500 FEET OF AGED AND DAMAGED 8-INCH PIPE THAT HAD TO BE MANUALLY TRANSPORTED INTO THE CANYON ALONG WITH OTHER MATERIALS AND TOOLS. ALL TRENCHES WERE DUG BY HAND IN AN AREA THAT AT TIMES WAS ONLY 3 FEET WIDE. ONCE THE NEW PIPE WAS INSTALLED WE WERE TASKED WITH REPAIRING AND STABILIZING THE TRAIL.



Pipeline is installed in steep and uneven terrain.



Retaining walls were constructed to stabilize the trail and reduce erosion.

North Coulter Surface Water Sandbox



The aged building is demolished.



As part of the Station Fire repairs it was necessary to re-build the surface water debris collection sandbox. Due to exposure to the elements, surface water often contains organic debris. As the water enters the sandbox it passes through several screens to remove insoluble items such as leaf particles and sand. The filtered water flows into our North Coulter Raw Water Reservoir prior to entering the Surface Water Treatment Plant.



The structure is framed.



Concrete is applied to the wood frame.



The roof is constructed.



Canyon water is filtered then flows into the raw water reservoir.



Construction of the sandbox is complete.



Millard Canyon Diversion Weir Pictorial Summary 2004 - 2017

2004

The serene facility prior to the Station Fire.



2010

After the Station Fire and mud & debris flow, the area was severely damaged.

2013

In the absence of regular maintenance the area became overgrown.



2017

Working with State and Federal regulatory agencies we were able to restore this facility.

Well 6

In August 2017 we received final approval from the State Water Resources Control Board to begin the operation of Well No. 6. This new state of the art groundwater extraction well is equipped with a Variable Frequency Drive (VFD) pump. We are now able to adjust water production based on customer demand. This new 900 foot deep well will optimize groundwater remediation efforts on the leading edge of the contamination plume and provide production efficiency and reliability. Our continued partnership with NASA/JPL ensures groundwater treatment until all clean-up effort is complete.



The final construction phase included upgrading our customer parking lot to comply with current Americans with Disabilities Act standards.

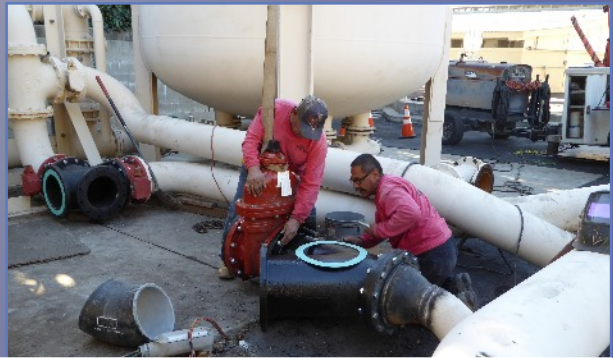


ION EXCHANGE MAINTENANCE & MODIFICATION

Our Ion Exchange Perchlorate Removal System (IX) has been online and operating since 2004. Over that time we have successfully treated more than 25,000 acre feet of contaminated groundwater meet State and Federal drinking water standards. With the addition of Well No. 6 it was necessary to make upgrades to the IX system. The interior of both IX vessels were thoroughly inspected and all septa screens were replaced. These screens allow water to pass through the vessels while holding the media in place. These new upgrades will ensure that the system operates at maximum efficiency.



The stainless steel septa screens are an important part of the ion exchange vessel.



The Ion Exchange booster pump is modified for operational efficiency.



EAST LOMA ALTA DRIVE PIPELINE PROJECT



The 62 year old East Loma Alta pipeline was originally installed in 1956. In the Fall of 2017 we began replacing 1,500 feet of this aged & undersized watermain with new 12" diameter pipe. Working in a narrow roadway while minimizing the inconvenience to the surrounding residents is always a challenge, however it's one that we take very seriously.

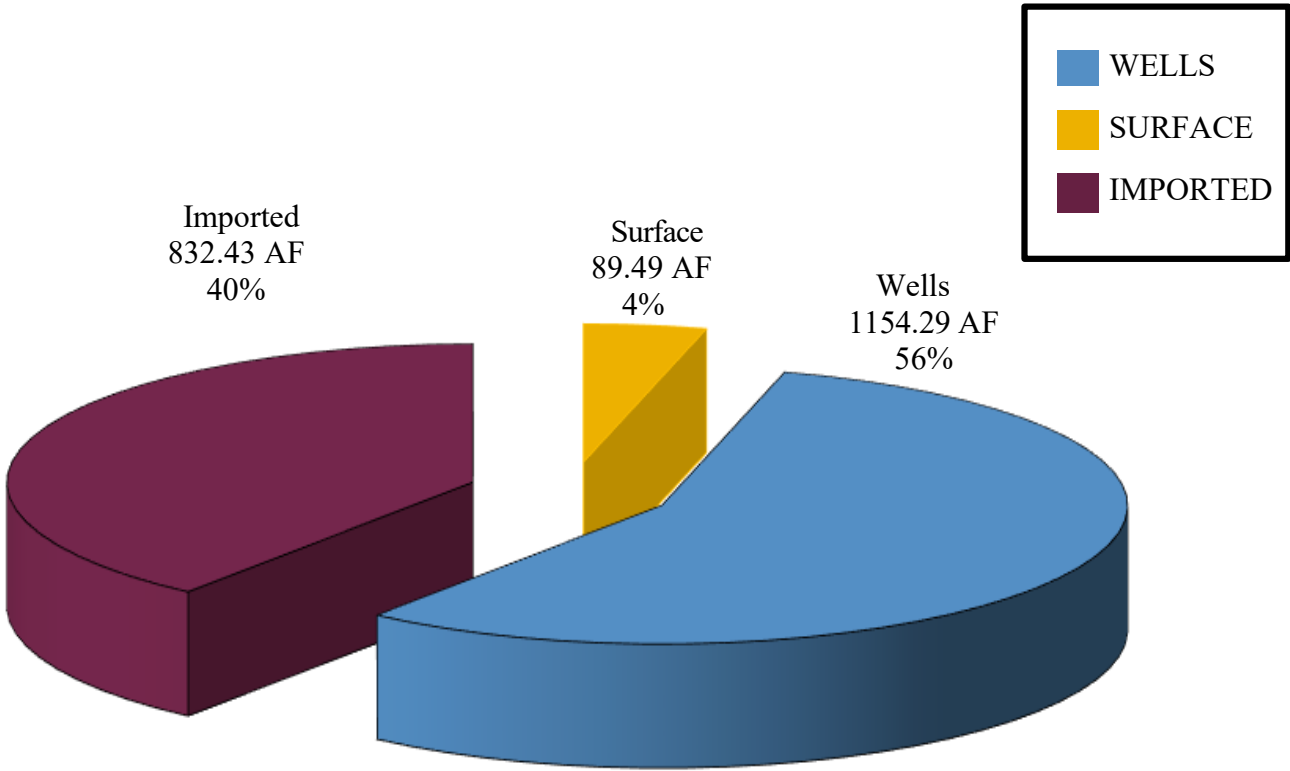


EAST LOMA ALTA DRIVE PIPELINE PROJECT

This new pipeline included the installation of 4 new fire hydrant which will improve fire protection to this area.



**2017 WATER PRODUCTION
BY SOURCE**



Wells	1,154.29 AF
Surface	89.49 AF
Imported	832.43 AF
Total Production	2,076.21 AF

**WATER SALES AND PRODUCTION FOR 2017
IN ACRE FEET**

MONTH	IMPORTED WATER PURCHASE	WELL PRODUCTION	LOCAL SURFACE WATER	TOTAL PRODUCTION	SALES	RAIN FALL (INCHES)
January	0	102.57	0	102.57	99.03	11.76
February	12.58	56.40	8.81	77.79	82.16	5.82
March	33.77	47.80	44.86	126.43	82.69	0.70
April	98.92	48.82	19.45	167.19	132.56	0.17
May	128.01	50.13	8.30	186.44	149.27	1.06
June	156.27	42.97	8.07	207.31	169.45	0
July	166.18	75.43	0	241.61	226.37	0
August	87.44	138.28	0	225.72	205.59	0
September	19.95	177.68	0	197.63	197.44	0.14
October	30.62	171.87	0	202.49	170.62	0.04
November	67.24	101.12	0	168.36	173.83	0.05
December	31.45	141.22	0	172.67	143.83	0.00
TOTAL	832.43	1154.29	89.49	2076.21	1832.83	19.74

PUMPED FROM WELLS

WELL #3	297.50
WELL #5	175.19
WELL #6	681.60
TOTAL	<u>1154.29</u>

Total Production	2076.21
Total Sales	<u>-1832.83</u>
Subtotal	243.38
Treatment Plant Operation & Water Quality Control	<u>-54.81</u>
Non-Sales Production	188.57 or 9%

Non-Sales Production is water used for routine water quality sampling, evaporation from reservoirs, irrigating at Company sites, water quality flushing, pipeline ditch compaction, fire fighting, fire training, leaks on mains, etc.

The Company's well production consists of 567 acre feet annual decreed right plus spread credit from mountain run-off, and available leased groundwater rights.

ENERGY COST BY WELLS AND PUMPING STATIONS

2013 - 2017

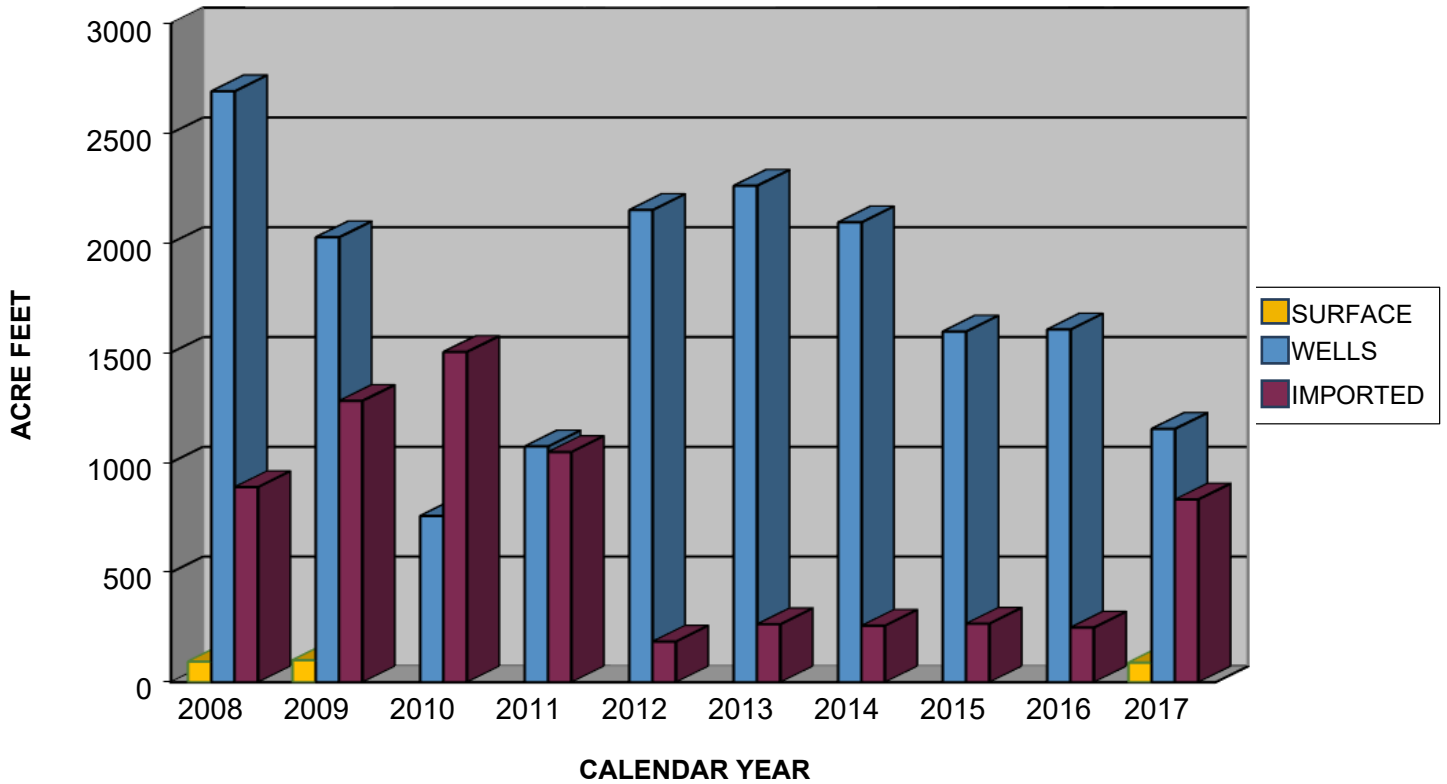
WELLS & PUMPING STATIONS	2017 ANNUAL		2016 ANNUAL		2015 ANNUAL		2014 ANNUAL		2013 ANNUAL	
	ENERGY COST	COST/AF	ENERGY COST	COST/AF	ENERGY COST	COST/AF	ENERGY COST	COST/AF	ENERGY COST	COST/AF
Well #3 (Pump to Main Plant)	22,453.11	75.47	43,575.63	72.90	\$46,657.37	\$77.89	\$65,176.53	\$69.03	\$54,368.65	\$54.92
Well #5 (Pump to Main Plant)	11,690.17	66.73	65,635.50	65.05	70,407.46	70.52	78,535.78	68.25	67,918.96	53.42
Well #6 (Pump to Main Plant)	68,304.34	100.21								
Main Plant (Pump to Glenrose Resv.)	95,843.33	46.33	111,084.41	58.05	108,920.30	55.52	138,605.32	57.45	130,538.65	52.49
Glenrose Reservoir (Pump to Wapello Resv.)	39,256.78	38.47	38,950.26	38.88	37,992.59	40.20	47,151.47	39.72	53,564.53	39.63
Wapello Reservoir (Pump to Ware & La Vina & Swigart Resv.)	43,256.69	53.81	40,686.37	54.70	40,013.54	53.71	51,110.93	48.77	53,439.08	44.98
Ware Reservoir (Pump to Coulter Resv.)	4,153.23	23.98	11,356.20	54.46	11,267.75	53.58	21,049.34	88.52	22,370.95	66.03
TOTAL ANNUAL ENERGY COST	\$284,962.65		\$311,288.37		\$315,259.01		\$401,629.37	(New TOU Rate)	\$382,200.82	

ANNUAL PRODUCTION IN ACRE FEET

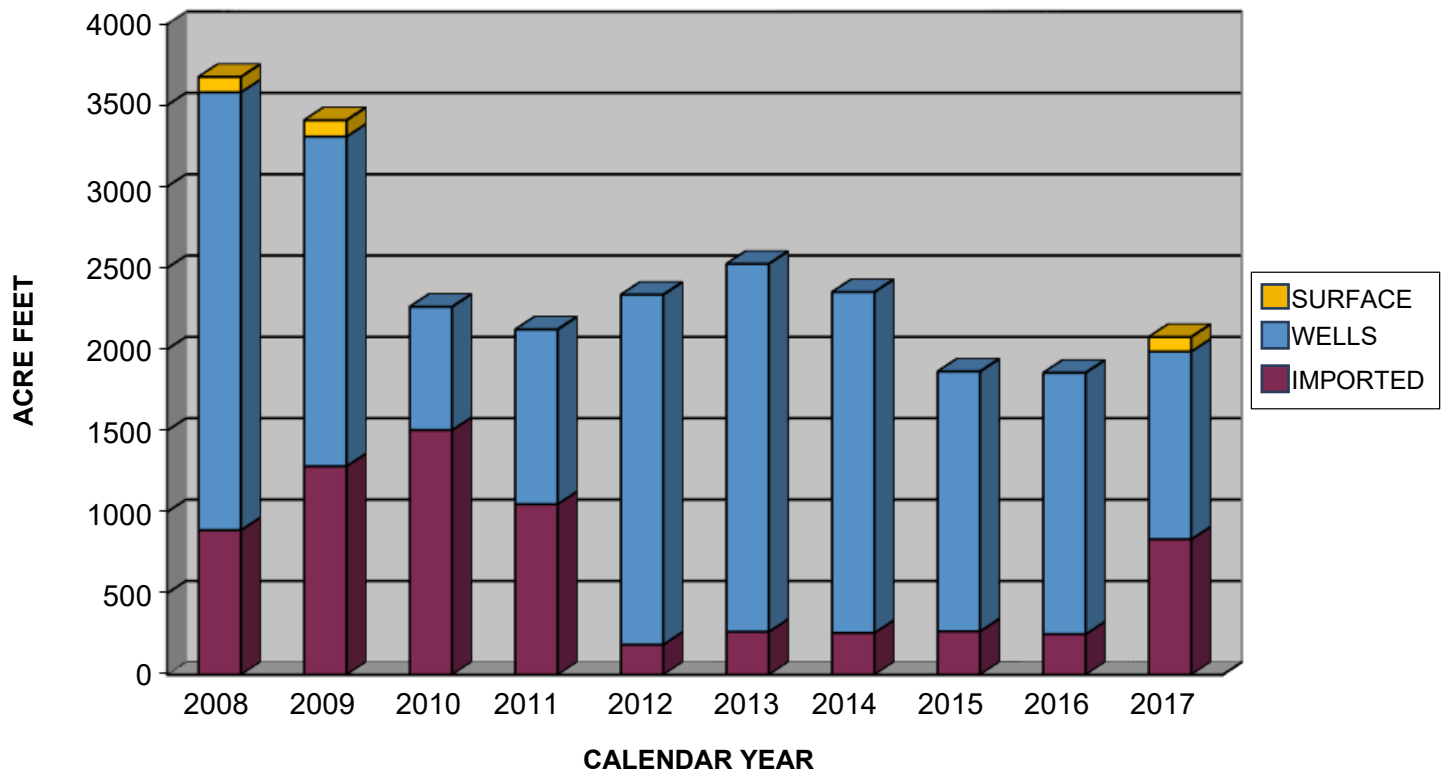
2008 - 2017

CALENDAR YEAR	WELL #3	WELL #5	WELL #6	SURFACE	IMPORTED	TOTAL PRODUCTION	LESS LEASE WATER DELIVERY	ACTUAL PRODUCTION (LINCOLN)	RAINFALL (INCHES)
2017	297.50	175.19	681.60	89.49	832.43	2076.21	0	2076.21	19.47
2016	597.73	1008.99		0	249.26	1855.98	0	1855.98	18.60
2015	599.02	998.41		0	266.71	1864.14	0	1864.14	10.22
2014	944.15	1150.76		0	257.49	2352.40	0	2352.40	14.88
2013	989.88	1271.38		0	264.35	2525.61	96.39	2429.22	10.13
2012	691.28	1459.58		0	185.33	2336.19	0	2336.19	18.20
2011	599.17	474.85		0	1048.62	2122.64	0	2122.64	17.65
2010	757.68	0.03		0	1504.14	2261.85	108.70	2153.15	37.00
2009	1269.96	756.55		100.55	1281.62	3408.68	915.40	2493.28	16.17
2008	1379.75	1311.92		94.56	888.76	3674.99	944.90	2730.09	30.30

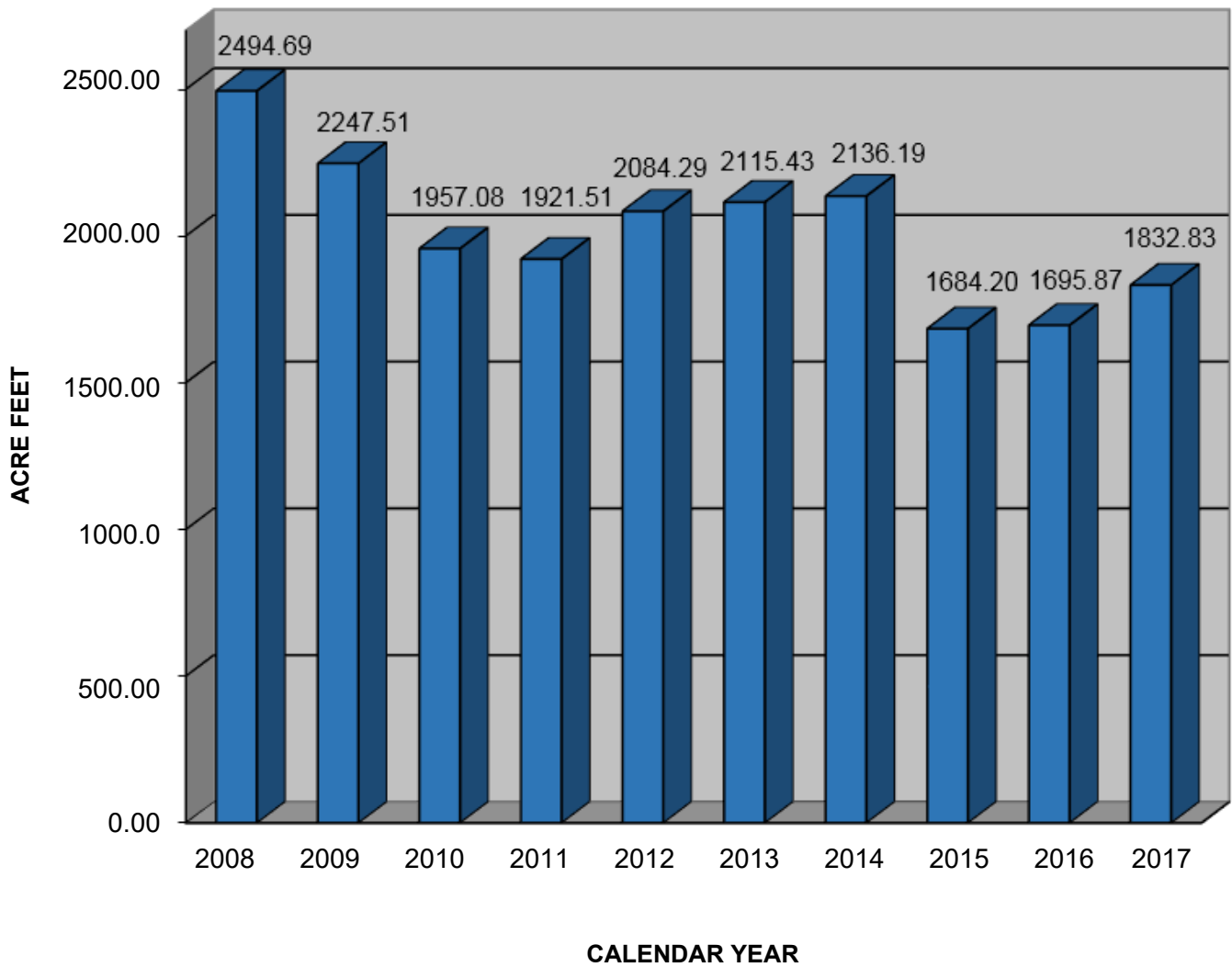
ANNUAL PRODUCTION BY SOURCE - SURFACE, WELLS & IMPORTED



TOTAL ANNUAL PRODUCTION - SURFACE, WELLS & IMPORTED



**ANNUAL WATER SALES IN ACRE FEET
2008 - 2017**



METERS AND SERVICE CONNECTIONS

New service connections installed in 2017	2
Meters replaced in 2017	363
Distribution system service connections in 2017	4474
2017 average consumption per meter per day - Residential	329 gal.
2017 average consumption per meter per day - Commercial	1414 gal.
2017 average consumption per capita per day - Residential	94 gal.

NUMBER OF METERS BY SIZE

5/8"	2815
3/4"	1189
1"	364
1½"	28
2"	69
3"	6
4"	3
TOTAL	4474

WELL PRODUCTION CAPACITY

Well #3 (drilled 1924)	900 GPM
Well #5 (drilled 1971)	1100 GPM
Well #6 (drilled 2016)	2000 GPM

DISTRIBUTION LINES IN LINEAR FEET

Distribution System	288,323
Pumping Lines	18,128
TOTAL	306,451 or 58 miles

**ANNUAL CANYON WATER BASIN RECHARGE
IN ACRE FEET**

CANYON WATER BASIN RECHARGE

Swigart	10.31
El Prieto	21.60
Millard/La Vina	103.10
TOTAL	135.01

All canyon water that flows to the spreading basin is metered with an allowable extraction the following year based on Raymond Basin Management Board percolation calculations.

WATER QUALITY

California State Water Resources Control Board, Division of Drinking Water (DDW) requires Lincoln Avenue Water Company to take distribution system water quality samples which include bacteriological, total trihalomethanes, volatile organic compounds, general physical, general mineral and inorganics, along with other scheduled analyses. Lincoln's system was in compliance with DDW water quality standards at all times during 2017.

**BOARD OF DIRECTORS
FOR THE YEAR 2017**



JOHN CLAIRDAY

PRESIDENT

John Clairday, a graduate of the University of Southern California and Loyola Law School, has served on Lincoln Avenue's Board since 1993. Mr. Clairday recently retired, after 27 years, from the Metropolitan Water District of Southern California, where he served as Chief Deputy General Counsel within the legal department, and as manager of the District's Real Estate Group. In addition to serving as President of Lincoln Avenue's Board, Mr. Clairday is a member of the San Gabriel Valley Habitat for Humanity Board of Directors.



ROBERT J. GOMPERZ

VICE PRESIDENT

Robert J. Gomperz has been a Board member since 1990. He is retired from the Metropolitan Water District of Southern California where he coordinated various communications programs to the public about Metropolitan's programs and policies. Mr. Gomperz has been a public relations professional for more than four decades. He has a degree in Management from the University of Redlands. Prior to joining Metropolitan, he was Pasadena City College's Public Information Director for 12 years. Mr. Gomperz also represented West Altadena for 10 years as a Foothill Municipal Water District director and as a Southern California region director on the Association of California Water Agencies Board.



LAWRENCE W. DUNCAN

1ST VICE PRESIDENT

Lawrence W. Duncan is a retired textile industry supervisor and a 50-year Altadena resident. Mr. Duncan is entering his 17th year as a member of the Lincoln Board and also serves as the Company's Community Liaison Officer.



ANN R. DOUGHERTY

TREASURER

Ann R. Dougherty is a retired Management Consultant. She worked as an Executive Director for various non-profit organizations for 27 years. She currently serves on the Board of Directors for the San Gabriel Valley Habitat for Humanity where she has been involved for 20 years. She is a 46-year resident of Altadena.



DIEGO FERNANDEZ

ASSISTANT SECRETARY

Diego Fernandez is an Operating Partner with the El Cholo Restaurant Management Group LLC. He started work with El Cholo at the age of 18 and in 1994 he was promoted to the position of General Manager. In 2000 he became an Operating Partner. As a partner, Diego has been involved with the opening of El Cholo-Pasadena, Rose City Catering and Hart Pony Baseball & Softball. Mr. Fernandez brings a broad array of business and management skills to Lincoln Avenue. Mr. Fernandez has lived in Altadena for the past 12 years and was appointed to the Board in 2014.

Office Staff



Maria Roxanna Autran

Office Supervisor
oversees Bookkeeping/Accounting
and all administrative compliance.



Jennifer Betancourt

Water Quality Coordinator
and Assistant Office Supervisor
oversees all areas of water quality compliance.



Wendy Childs

Customer Service Representative,
Water Stock Clerk and
Water Conservation Coordinator



Jesus Bugarin

Customer Service Representative
and Administrative Assistant

Field Staff



Left to right:

Michael Cotter, Field Supervisor
Asia Smith, Field Supervisor
Bartolo Gonzalez, Field Representative
Dave Castillo, Field Representative
Nicholas Carino, Field Representative
Jack Harms, Field Representative
Jeremy Rogers, Field Representative