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BOOMS AND BUSTS: WATER'S ROLE IN THE DEVELOPMENT OF PERRIS

By

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Graduation with University Honors

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APPROVED

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Abstract

This project focuses on the history and impact of water supply on the agriculture and consequently the economy of Perris in the late 19th century through the 20th century to gain greater insight into the significance of water in California's history. Several water developments were examined such as irrigation via the ambitious Bear Valley Dam and Reservoir, the transition to the usage of underground water via the installation of wells and pumps, and the creation of the East Municipal Water District, which sourced water from the Colorado River. This project also examined the impact of setbacks to Perris' water supply, including the failure of the Bear Valley Dam and Reservoir, the siphoning of Perris Valley's underground water via the Temescal Water Company, and the water seepage resulting from the San Jacinto Tunnel. From the research, it can be concluded that water was instrumental in the economic development of Perris—with the initial loss of water in the city's formative years likely having had the greatest impact on its growth. The project drew on documents that were available, including numerous primary sources such as period newspapers, property records, and photographs. Information was also collected from books and articles written by local historians, and through a collaboration with the Perris Valley Historical Museum. The project contributes to a deeper look at one facet of Perris' rich but obscure history. From a research standpoint, the project highlights the importance of preserving history, and perhaps the evanescent nature of information and knowledge.

Acknowledgements

I would like to thank my faculty mentor, Professor Richard Arnott, for helping guide me through the uncertainty of the research process. I am also grateful for the help of Katie Keyes and the rest of the Perris Valley Historical Museum & Association for making my research of Perris possible, given the current conditions of the Archive. I owe it to them for their prior research, their collection of photographs, and their overall dedication to preserving local history, history I would come to find very rich. I would also like to give my thanks to the University Honors program for giving me the opportunity to work on such a project, as daunting as it may have been at first.

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Discussion

Water has played a crucial role in the development of Southern California's Inland Empire, and the city of Perris is no exception. Located in Southern California, Perris is southeast of the cities of Redlands, Riverside, and Moreno Valley. Throughout its history, Perris has been a farming community, but it began as a small settlement called Pinacate, which operated near several mines, the most famous of which was a gold mine known as the Good Hope Mine. The town of Perris was established not long after the Pinacate settlement, and became a major stop for the California Southern Railway, and later the Santa Fe Railway, which connected San Diego to San Bernardino (Lech 2004, 365). During its service in the latter half of the 1880s, the railway received respectable traffic, with six passenger trains and two freight trains arriving every day (City of Perris). However, Perris' economic role as a transportation hub would change when severe rains washed away the tracks at the Temecula Gorge in 1891, effectively severing the town from the northernmost portion of San Diego County.

Perris' development can be related to the success and decline of several major water projects and irrigation practices. These include the Bear Valley Dam and Reservoir in the 1890s, the discovery and use of underground water in the early 1900s, and lastly the East Municipal Water District's provision of water in the 1950s.

The Perris Valley, which contains the town of Perris, has a semi-desert, Mediterranean climate, being hot and dry during the summer months and receiving most of its annual 8 inches of rain during the winter (Perris Valley Historical Museum & Association 2007, 11). The original settlers found a land devoid of trees, with shrubs that were adapted to the climate. The fruit trees and other crops they planted required extra moisture during the summer months to thrive (Ellis 1912, 149). The original population of Pinacate numbered only around 400 people. When the town of Perris was laid out and surveyed in 1886, the population had grown to 500. By 1911, Perris' population was roughly the same, having received an influx of people during the success of the Bear Valley Dam and Reservoir, and losing them when the project failed in the 1890s (Perris Valley Historical Museum & Association 2017).

Today, Perris is neither the largest nor one of the most famous cities in Southern California. The city currently has a population of around 72,300 people whereas nearby cities such as Riverside and Moreno Valley boast populations of over 316,000 and 201,000 respectively (United States Census Bureau). However, there was once a time that Perris was involved in one of the largest and most ambitious irrigation projects in the late 19th century. Although Perris' climate had enabled settlers to grow crops, it was discovered that there was insufficient moisture to produce bountiful harvests (149). A water solution had to be found. The directors and engineers of the newly formed Perris

Irrigation district found it in the Bear Valley Dam and Reservoir. Despite its distance from Perris, the Perris Irrigation Company determined the Bear Valley Dam and Reservoir to be the most economical and reliable solution; it was not only the largest water reservoir in the country at the time; plans were in place to make it the largest in the world (149). In 1891, the Bear Valley Dam and Reservoir began to deliver water to Perris (Perris Valley Historical Museum & Association 2007, 69). From the early 1890s, the influx of water from the Bear Valley Dam and Reservoir provided Perris with the means to grow a variety of produce, and attracted numerous settlers until eventual drought would forced the dam to cease service in 1894.

The Bear Valley is located in the San Bernardino Mountains, northeast from Perris, in what is now the City of Big Bear Lake. Converting Bear Valley into a lake was the brainchild of engineer and surveyor Frank Brown, who found that the narrow canyons and springs within the valley were able to support a tall dam at minimal cost (Ellis 1912, 150). Brown gathered a conglomerate of investors, who would become the Bear Valley Land and Water Company, and organized a capital stock of \$360,000. By the year 1885, Brown's dam had created a huge lake within the Bear Valley with which he could provide water to the City of Redlands. Per the Perris New Era, the newspaper at the time, the dam was 60 feet high with a capacity of 10 million gallons, covering 2250 acres (Perris New Era, 11 October 1894). After the Bear Valley Dam and Reservoir provided this water, the City of Redlands flourished and investors flocked accordingly. It was this success and the generous capacity of the dam that caused Brown to consider extending the Bear Valley's irrigation services to other cities such as Perris (Lech 2004, 377).

In 1890, the Perris Irrigation District and the Bear Valley Irrigation Company came to an agreement to provide a set amount of water to the city of Perris every year. Like Redlands, Perris too saw agricultural gains, and the rise of beautiful homes (379). This success was highlighted in an account by Perris historian W.H Ellis, who remarked that the “Perris Valley took on new life, orchards of all kinds of fruit trees were to be seen growing in any direction, gardens flourished, flowers bloomed and it seemed indeed it was God’s country” (384). This period of prosperity continued from 1892-1893, during in which time Perris produced carloads of fruits. This productivity made Perris comparable to Riverside and Redlands (386). In 1893, Riverside itself had the highest per capita income in the country (Patterson 2015, 121). However, the success was not to last. Frank Brown had overestimated the Bear Valley Dam and Reservoir’s capability to supply the Inland Empire. Major Powell of the United States Geological Survey, during an Irrigation Congress, accurately observed that the Bear Valley Dam and Reservoir’s seemingly endless water supply was the result of excess rains and was not sustainable due to heavy irrigation demands. This observation was validated as California entered one of its drought cycles (389). Thus, despite Bear Valley Dam and Reservoir’s massive capacity, due to a lack of rain from the drought, it eventually suffered from low water levels. In response to this shortage, Redlands successfully lobbied the Bear Valley Dam and Reservoir to prioritize it for water delivery. Consequently, the dam could not deliver its water to Perris or other Inland Empire towns. The dam completely shut down not long after, in 1894 (Perris Historical Society 2007, 57).

The drought and subsequent failure of the Bear Valley Dam and Reservoir resulted in a mass depopulation of areas of the Perris Valley and forced a change to less

water intensive forms of agriculture. Many of those who left Perris moved to Riverside (Lech, 389). Records of property values in Perris from 1896-1900 display a general depreciation in the value of properties especially when compared to 1890-1895. This depreciation is consistent with the decline in Perris' economic prosperity. In the years following the failure of Bear Valley, Perris' gardens and flowers dried up, its fruit trees became barren, and its alfalfa fields became brown and grey. Thus, boom turned into bust, and many households left the valley, leaving it desolate (Ellis 1912, 159).

Farmers who remained in the area began to look underground for their water by drilling wells (Hirt 1953, 1). In other towns afflicted by the drought and water cutoff, such as Moreno and Alessandro, similar attempts to find water underground failed because the water was too deep. Perris, in contrast, fared better due to a much higher water table by comparison (Lech 2004, 389). Per the *Perris New Era*, residents of Perris began irrigating their crops from underground reservoirs as early as November 1894. Perris farmer Dr. W. B. Payton bored a well, and with the aid of a gasoline engine successfully irrigated a forty-acre field of alfalfa (Ellis 1912, 159). As other ranchers followed suit, Perris gradually recovered from the drought, and by 1905 crops were again growing in the areas that had once relied on the Bear Valley Dam and Reservoir; however, this underground water was not able to support agriculture to the same extent as previously, thus causing Perris to focus on less irrigation intensive farming (Lech 2004, 389). Despite these adjustments, by the accounts of some residents, the damage had been done and Perris would not reach same the level of prosperity it enjoyed whilst supplied by the Bear Valley Dam and Reservoir (Hirt, 1953).

Later, at the start of the 20th century, Perris would once again run into problems with the water supply, this time involving the Temescal Water Company in the area known as Ethanac. Ethanac was a small colony of alfalfa farms, named after Ethan Allen Chase, located in the southeastern corner of Perris, in an area known today as Romoland (*Press Enterprise*). The Temescal Water Company purchased 3,600 acres of land in Ethanac's artesian water belt near Perris in 1901 and constructed a pumping station consisting of twenty wells. The company leased this land to farmers, but it retained the rights to the water. This allowed the company to pump large volumes of water, 6,300 gallons per minute, twenty-four hours a day out to the citrus farms of wealthy landowners in Corona. A landowner from Perris, named William Newport, believed this practice would lower Perris' underground water table and make it more difficult to irrigate, and thus filed a lawsuit against the company. He failed to defeat the Temescal Water Company in court in 1904, which resulted in the pump station being able to bleed water from the Perris Valley for approximately forty years (Perris Valley Historical Museum & Association 2007, 57). Still, this outflow of water did not halt Perris' agricultural growth as abruptly as had the failure of the Bear Valley Dam and Reservoir. Per W.H. Ellis, during 1912 an abundance of wells and pumping plants on each ranch contributed to the irrigation of thousands of acres of alfalfa and fruit trees (160).

Perris' water table and agriculture came under threat yet again with the construction of the San Jacinto Tunnel, which was begun in 1933 and completed in 1939. The San Jacinto Tunnel was part of an ambitious project designed by the newly formed Metropolitan Water District to transport water from the Colorado River over 230 miles to cities near Los Angeles, in response to increasing demand for water (Perris Valley

Historical Museum & Association 2007, 59). For the Colorado River Aqueduct to make it west to Los Angeles, it had to go thirteen miles through the San Jacinto Mountains which were just east of Perris, requiring over 3000 laborers to complete it. This tunneling disturbed water within the mountain, causing the water to leak into the tunnel, where it was then pumped out into the San Jacinto River. Even after it was completed, water continued to seep into the concrete lined tunnel. As Perris relied on aquifers which were filled by the watershed from the San Jacinto Mountains, it was affected when the seepage and pumping lowered the water table throughout the valley (59).

The San Jacinto Tunnel posed a threat to farmers similar to the Temescal Water Company's pumping of water out of Ethanac a few decades earlier, and in the same vein, this issue too was taken to court. This time it was a concerted effort by the San Jacinto Protective Committee, which was formed by farmers from not only Perris, but also other areas such as Hemet and San Jacinto that were also threatened by the massive water seepage (59). Unlike the case with the Temescal Water Company, with the additional assistance of the Riverside County Board of Supervisors and state legislators, the Committee succeeded in getting the MWD to help provide a solution to the seepage problem (59). Although the MWD failed to contain the seepage, it compromised by including Perris and other affected cities in a new water district, the Eastern Municipal Water District, to which it agreed to supply the Colorado River sourced water (60). This development would prevail in providing water to Perris to fuel its agriculture. However, increase in the demand for water, the costs of irrigation in later years, and the value of farmland for other purposes, resulted in the decline of large scale farming in Perris (64).

Literature Review

When I began my research process, there was extant literature that discussed aspects of Perris' history; however, much of this was part of a larger context. Steve Lech's book on Riverside County, Along the Old Roads, discusses the history of the Bear Valley Dam and Reservoir and to an extent, Perris, in detail; however, this is primarily in the context of the whole of Riverside County. I had difficulty sourcing material that focused the city of Perris, though I managed to source the books, Perris a Place to Remember and Perris Valley from the Perris Valley Historical Museum & Association. The latter was published only shortly after I began my research on this topic. These sources provided a detailed history of Perris including the topic of water which is explored in my project. This project attempts to contextualize this information in a narrower topic about the effects of Perris' water supply, and at times lack thereof, on the history of the city's development. Although in my research, I was unable to find data such as historical water tables, or personal accounts of those affected by the Bear Valley Dam and Reservoir's failure, I could employ primary sources, such as the period newspaper, the Perris New Era, along with historical records of land and property values for deeper insight into the significance of the availability of the water supply in Perris.

Directions for Future Research

Because of the limited timeframe and the limited access to documents at the time of the research process, I believe there is ample room for continuing the research project. More sources such as other newspapers can potentially provide additional insight on the effects of the water shortage in the 1890s. Further research and statistical analysis can also be conducted on the property records and how they correspond with Perris' economic health at a given time. After the Perris Valley Historical Archives is repaired, the increased availability of documents would contribute to continuing the research process. Whereas the research materials go into depth on the history of Perris' water, and aspects of its agriculture, the decline of large scale farming after the 1960s was not gone into depth in these documents. Therefore, the circumstances that led to the end of large scale farming in Perris is a research question that deserves investigation. Furthermore, it is worth researching to what degree Perris' water history was idiosyncratic, by comparing it to other nearby cities such as Riverside, Moreno Valley, and Menifee.

Possible limitations to this project included the limited number of primary sources that were available from the onset of the research project. This limitation manifested itself in the search for documents via libraries and archives. The creation of the Perris Valley Historical Archives and the restoration of the Perris Valley Historical Museum prompted the moving of historical documents from sources such as the Perris Library to the Archives. This should have simplified access to these documents. However, the documents were put in jeopardy just a few months before I began research on the City of Perris, since a faulty fire suppression system ironically inundated the archives. Although the documents were not damaged, the archive was closed for repair, scheduled to finish

months later, and the documents were boxed up, and placed storage in no obvious order. Also, as mentioned before, there was only so much available literature dedicated to Perris' history. Additionally, only a certain number of issues of the Perris New Era newspaper were available in the Archive. In another vein, this lack of readily accessible information on Perris is to a large degree what motivated me to conduct research on the city and eventually on its water supply.

Conclusion

This project illustrates the value of local history in illuminating history in a larger context. By studying Perris, I gained valuable insight regarding Southern California's relationship with water, as well as a glimpse into water politics in California. From a research standpoint, I believe that the research process also highlighted the evanescence of knowledge and the importance of preserving local history.

Figures

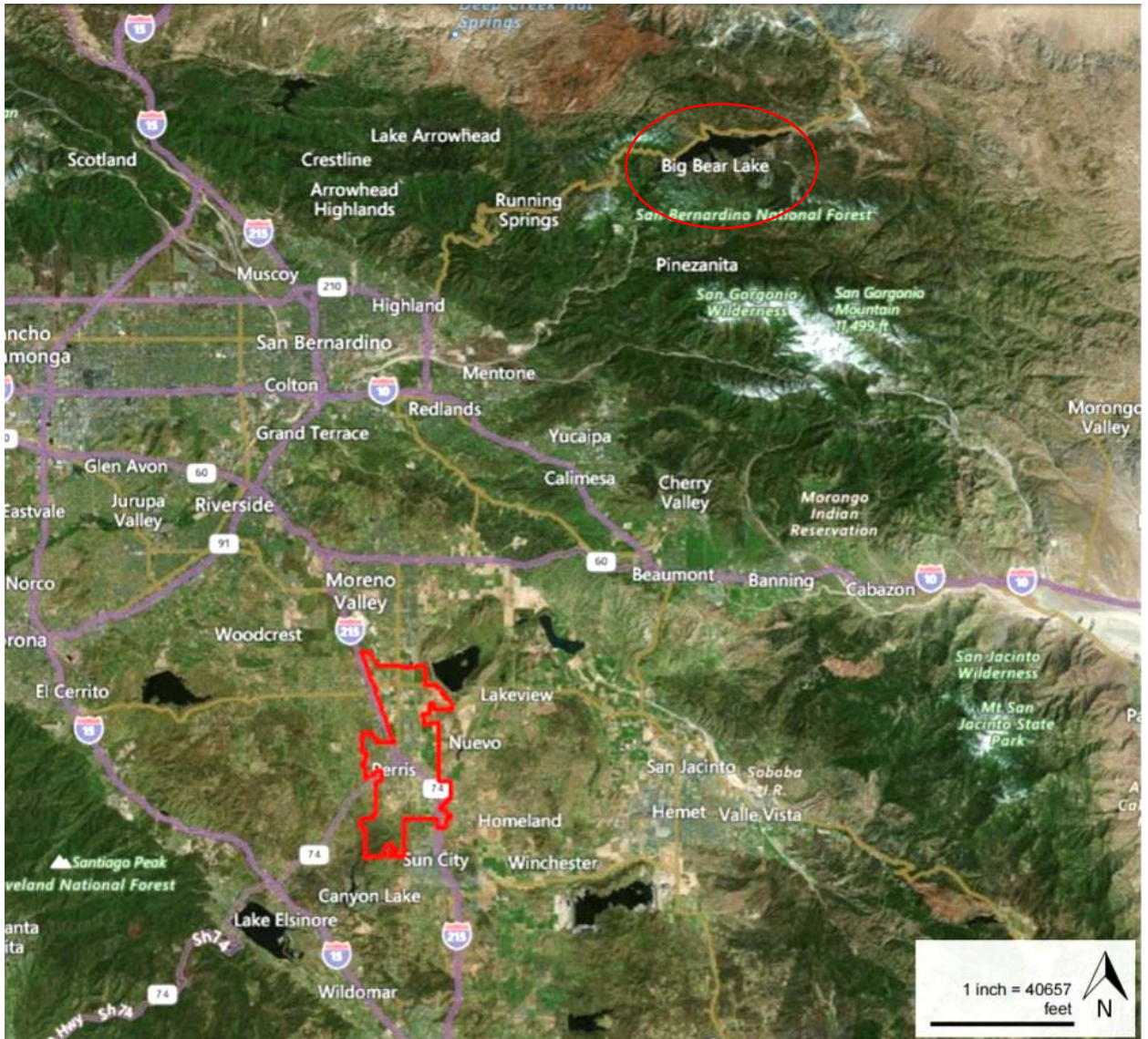
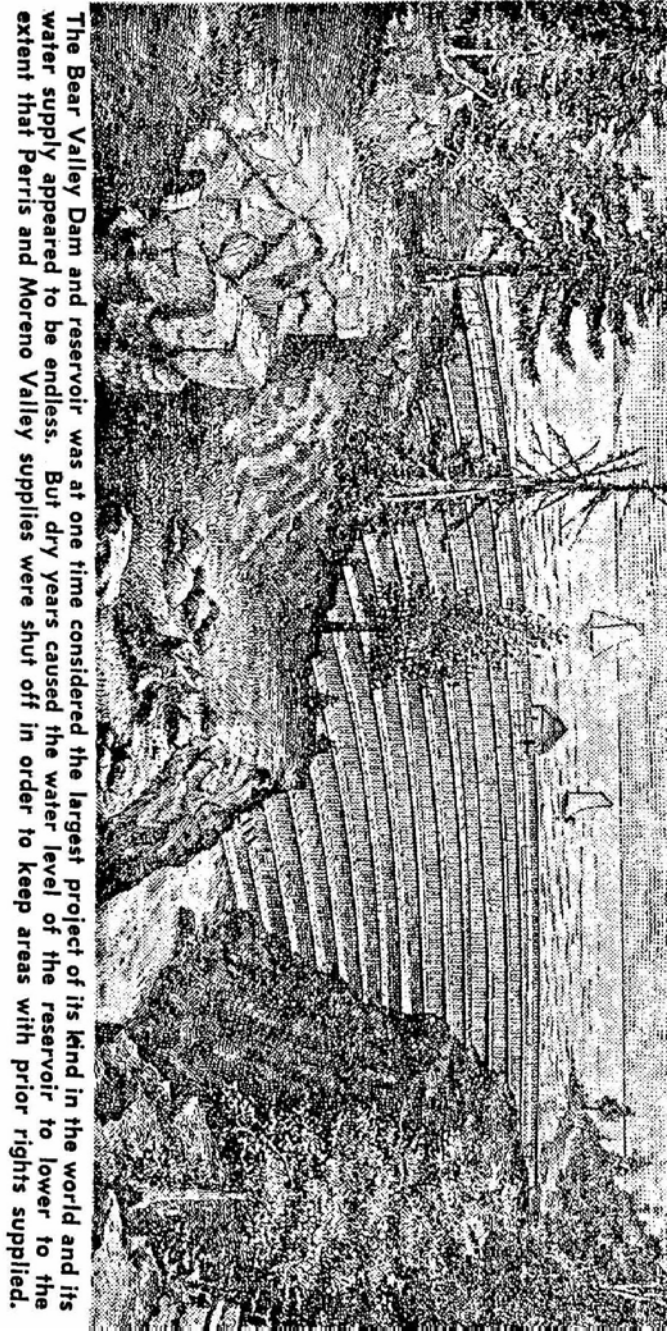


Figure 2. Map of Perris. This zoomed out map displays the location of Perris south of Big Bear Lake which was the site of the Bear Valley Dam and Reservoir. Image resized to fit, not true to legend. Circled in red is the location of the Bear Valley Dam and Reservoir. Ethanac and Romoland are not labeled but are on the southeastern most corner of the city (City of Perris)



The Bear Valley Dam and reservoir was at one time considered the largest project of its kind in the world and its water supply appeared to be endless. But dry years caused the water level of the reservoir to lower to the extent that Perris and Moreno Valley supplies were shut off in order to keep areas with prior rights supplied.

Figure 3. Bear Valley Dam & Reservoir (Hirt 1953, 3)



Figure 4. Frank E. Brown. Planner of the Bear Valley Dam and Reservoir, and founder of the Bear Valley Land and Water Company. (Steve Lech)

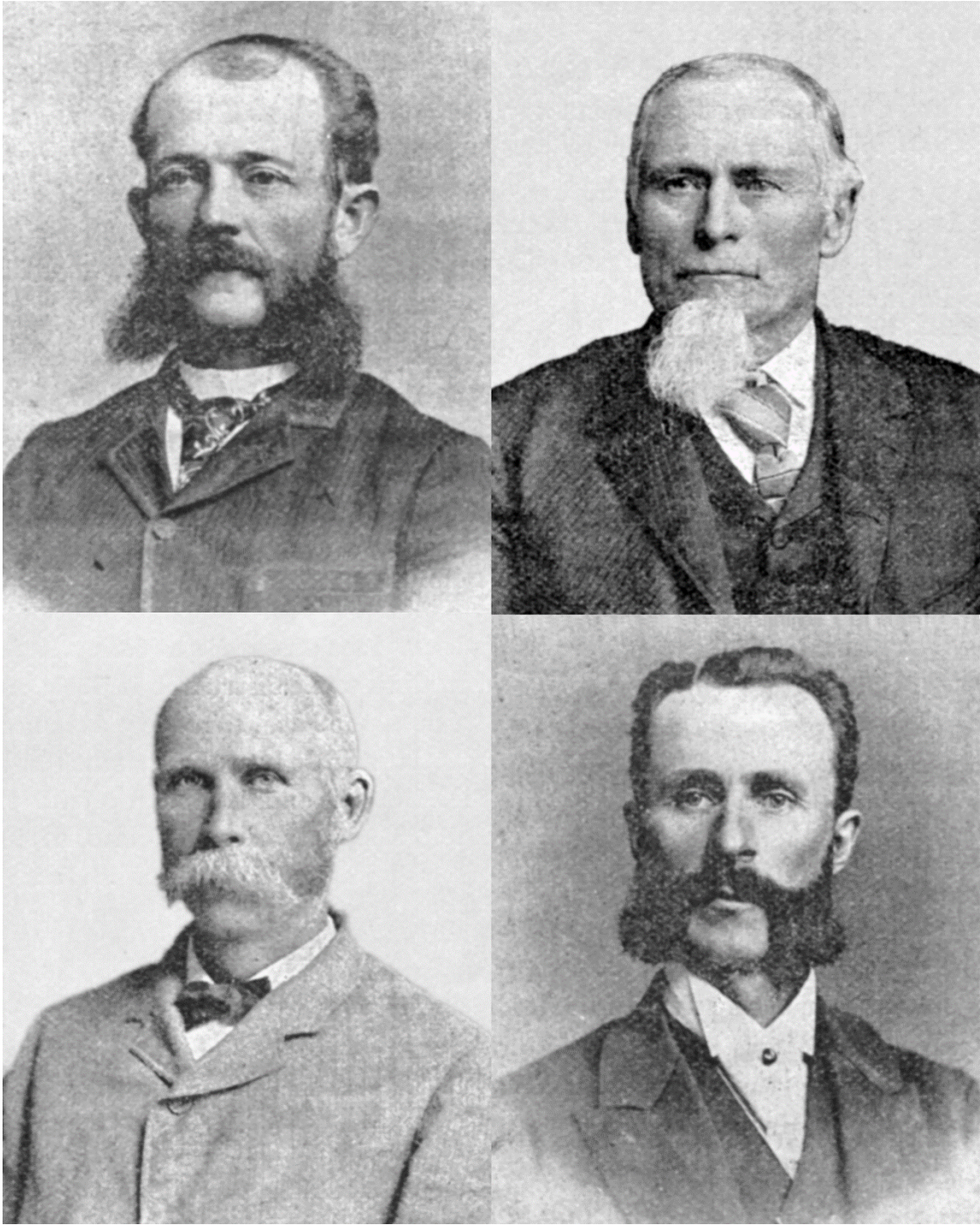


Figure 5. Directors of the Perris Irrigation District. The Perris Irrigation District was organized by order of the Board of Supervisors of San Bernardino County in 1890 (Riverside was not a County until 1893). Supervisors divided it up into five divisions and an election was held on May 20, 1890 to fill the elective offices. Shown in this picture are the following directors. Top, J. W. Nance, Division 1, Israel Metz, Division 2, 2nd row, George P. Oaks, Division 3, and Dr. J. W. Perry. Not shown is W. F. Warner, Division 4 and C. T. Gifford, Division 5. On June 13th, 1890, Mr. Nance was elected President and Dr. J. W. Perry, Secretary. (Perris Valley Historical Museum & Association)



Figure 6. Pumping Plant of Woodward & Sons. William. D. Woodward and his sons G.C. and C.W. had one of the finest alfalfa ranches in east Perris. They built a water pumping plant on San Jacinto Avenue and G Street in Perris. Taken in 1907 this photo shows Mr. Woodward and his family enjoying watching the water flow. His land was irrigated by a 50-horsepower gasoline engine and a No. 8 centrifugal pump. The water was 28 below the ground. They also owned the Woodward Mountain Glen property in Good Hope. (Perris Valley Historical Museum & Association)

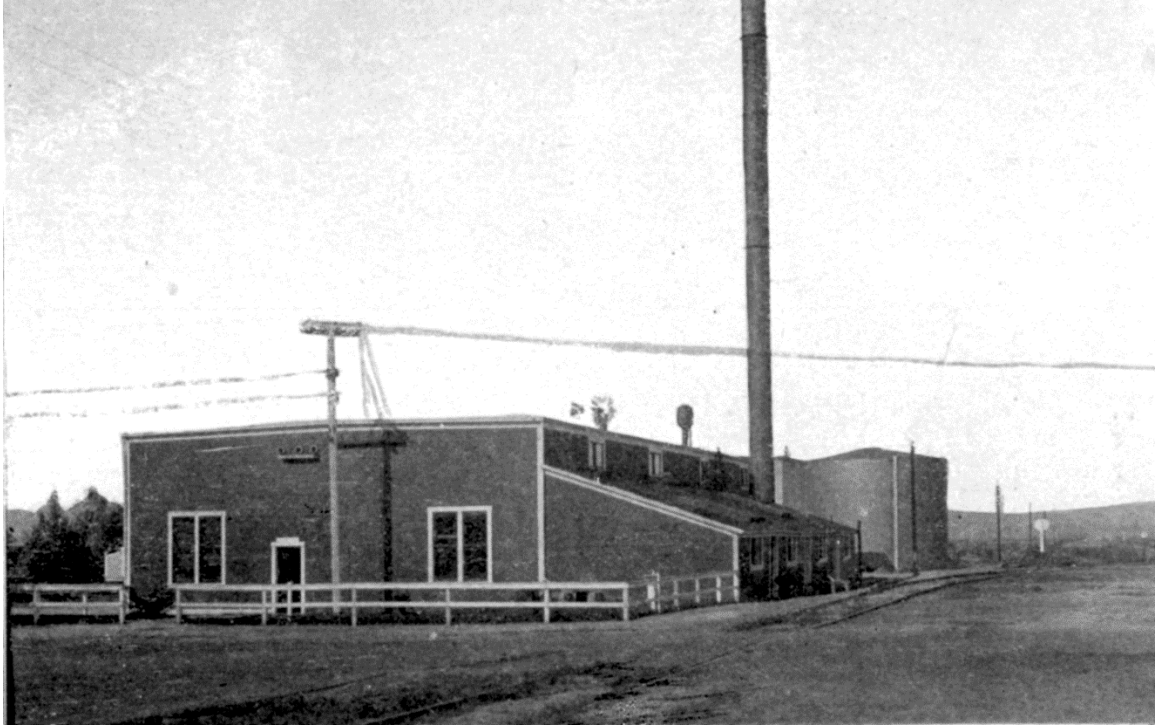


Figure 7. Temescal Water Company Power Plant in Ethanac. In 1901 the Temescal Water Company, comprising several wealthy citrus growers in Corona built this power plant in Ethanac to pump water to their citrus groves in Corona. Ethan Allen Chase was one of the citrus growers Ethanac was named for. They purchased approximately 3,000 acres of land in the area (later known as Romoland) and leased it out to local farmers. After several years of the Temescal Water Company pumping water to Corona the local farmer's water source was running dry. Law suits were filed, and though they failed, eventually the Temescal Water Company Power Plant was shut down. (Perris Valley Historical Museum & Association)

Figure 8. Price of Land in Dollars in Perris' D Street from 1892-1899

		Land	Value						
	Lot	1892	1893	1894	1895	1896	1897	1898	1899
Wise Knight	1	35	50	50	50	50	50	45	40
" "	2	35	50	50	50	50	50	45	40
J.W Nance	3	35	50	50	50	50	50	45	40
" "	4	35	50	50	50	50	50	45	40
" "	5	35	50	50	50	50	50	45	40

(Riverside County Assessor-County Clerk-Recorder)

Helpful Links

<https://mavensnotebook.com/wp-content/uploads/2014/08/Colorado-River-Aqueduct-Map1.jpg> (Overhead Map of Colorado River Aqueduct)

<http://www.lamag.com/citythinkblog/citydig-1938-map-details-every-dramatic-stretch-242-mile-long-colorado-river-aqueduct/> (Small Picture of Colorado River Aqueduct)

<http://soldiersofthequeen.com/blog/2013/05/17/> (Map of Colorado River Aqueduct)

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Photographs courtesy of the Perris Valley Historical Museum & Association (Figures 5-7)

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