

HIGHLAND WATER

By Charles Greenland

The history of Highland cannot be told without mentioning water, for without it Highland couldn't have survived and flourished.

The city of Lehi was settled in 1850 and they were very soon aware that they needed a source of water to survive. They decided to dig a ditch from the mouth of American Fork Canyon across the bench (Highland) to carry the spring runoff to the residents of Lehi. They soon discovered that digging in Highland was very difficult because of all the rocks. They used horses, mules, scrapers and dynamite in order to penetrate the hardpan soil. Some days they managed to dig only 3 feet of the ditch. It was completed in 1853 and was about 3 feet wide and 2 1/2 feet deep. Sometimes the spring runoff was too much for the ditch to hold so on those occasions a bit of Highland was flooded. For the next 20 years men from American Fork and Alpine ran cattle and sheep on the bench during early spring months when there was ample feed from the winter precipitation but by early summer there was little forage left. In 1869 the Federal Government finally allowed the Homestead Act of 1862 to take effect in Utah and land could be homesteaded for \$1.25 per acre. Stephen Beck, John Poole, Alexander Adamson, Albert Preece, John Hegan, Hyrum Healey, George Y Myers and many others homesteaded and tried to raise crops but with little success.

In 1874 a group of homesteaders met with Lehi residents to try and negotiate some sharing of the water and Lehi agreed to share 50% if Highland people would double the width and depth of the ditch and a written agreement was reached. In 1875 the first home was built on Highland by John Poole, near the Lehi ditch at approx 5860 W 10620 N. (2016-On the back part of Courage Reins property).

Highlanders then began to dig secondary ditches to provide water to the whole area: Winn, Main A.F., 80 Rod, Club (North & South, Upper and Lower of each), Harmon, Grey, Progressive & Cedar Hollow were all names of ditches that branched from the Lehi ditch and took water to all of Highland and parts of northeast Lehi that were south of Dry Creek. In 1875 William Austin Sr., Byron W. Brown Sr., Elisha H. Davis Jr. and John Thomas of Lehi, made a survey for a ditch from the mouth of the canyon above Alpine across the Bench to the Jordan River. The ditch was constructed during 1876 and the water began flowing in May 1877. They called it Bull River and it has changed little in 140 years. This ditch served/serves the part of Highland north of Dry Creek.

In 1877 drought came to much of Utah and Lehi residents declared there would be no more water for Highland, even with the written agreement in place (although no one could find a copy of the agreement). Highland people used the water anyway and many fights broke out, guns, knives, shovels and hoes were brandished and since the Mormon bishop was also the water master there were a couple of excommunications from the Church over water arguments. Stephen Moyle, one who was excommunicated, hired a lawyer, George Sutherland, who was well-known and respected, and the case went to court. Moyle and Sutherland won and Lehi was ordered to share half of the available water. It was a landmark decision and is still referred to in Utah. (George Sutherland later became the only Utahan to serve on the United States Supreme Court). The two excommunicated men were reinstated into the Church and the Bishop made a public apology.

In 1911 the Provo Reservoir Company, founded by Joseph R Murdock Sr., built a canal from the mouth of Provo Canyon 21.5 miles across Orem, Pleasant Grove, Lindon, Highland and Lehi to the Point of the Mountain with the capacity of 180 cubic feet per second (c.f.s.). It was totally gravity flow and had 4 siphons along the way. One at the mouth of Provo Canyon was almost a mile long, one through American Fork Creek was 1285 feet, Dry Creek was 1185 feet and one under the U.S. Highway at Point of the Mountains was 1100 feet long. In 1913, O.C. Day, began petitioning for some of that water to go to Highland farmers, however, it was too expensive for

most of them, costing \$70 per share. Most of those who did buy, bought 10-30 shares. The Highland Water Conservation District was formed and Mr. Day was appointed the first water master.

In 1930 the Federal Government announced plans for a dam and reservoir in Provo Canyon. In 1933 the project was officially authorized and Arthur V. Watkins, U.S. Senator from Utah was appointed director of the Deer Creek Reservoir and Dam planning commission. FDR signed the proposal in 1935 and Senator Watkins came to the home of O.C. Day and presented the project plans and asked him to fill the position of director of the Lehi, American Fork, Alpine and Highland areas. He accepted and spent many hours by horseback contacting residents of the four areas to extol the benefits of purchasing Deer Creek water shares. It was the middle of the depression and people had a hard time coming up with the money to purchase shares but O.C. was very persistent-visiting and re-visiting many homes to share his conviction with them. In most years the runoff from American Fork Canyon had dwindled by July and Deer Creek water would be available from then until early October. The farmers could thus harvest 3 crops of hay instead of one or maybe 2.

In 1941 Deer Creek Dam was finally completed and Water Conservation Districts were formed. Mr. Day became the first director and water master for Highland. It was determined that since water was so valuable that land and water were inseparable and no land could be sold without the water rights. The Provo Reservoir canal was purchased as part of the Provo River Project and became the Murdock canal and in 1944 was expanded to a bottom width of 18 feet which more than tripled its capacity to 550 c.f.s.

The original siphons through American Fork Creek and Dry Creek were made of wood, 4 ft in diameter and there were two of them, side by side, above ground by approximately 2-6 feet depending upon the surface morphology and the engineered curves that had to be maintained. In the spring, when the water was first turned into the canal (the first week of April), my Dad and Evar Strasburg, who was by then the Deer Creek water master for this section, would go along the length of the siphon in Dry Creek, with large wrenches, tightening the huge U-bolts to stop the leaks that naturally would occur because of the drying of the wood over the winter. The siphons were observed on a regular basis during the summer to assure no leaks occurred. Wooden siphon construction was an engineering feat for that time but had its precedence in the barrel making industry which had been developing for some time. In the late 40's these wooden siphons were replaced by underground concrete ones-single, 8 feet in diameter, and at about that same time a concrete flume was built across Mitchell Hollow to eliminate a horseshoe bend in the canal that went around the head of the Hollow. The horseshoe bend had been a popular swimming place for generations of Highland youth. The flume ran much more swiftly and wasn't as enjoyable to swim in. (Remnants of the horseshoe bend can still be observed today-2016). Over the 21.5 mile length of the canal the drop in elevation is only 60 feet (approx 2 ft 10 in per mile) so the stream is not swift anywhere and it takes water 9-12 hours to complete the journey.

[On October 21, 2010, after many years (decades?) of dreaming, hoping and planning, (and not a few tragedies) ground was broken to enclose the canal in an underground 10.5 foot diameter welded steel pipe. The project was completed in April, 2012, a full year ahead of schedule. Additionally, there was a 17 mile paved trail for pedestrians and bikes created on top of the buried pipeline with an equestrian trial alongside. This was completed in 2013.]

In the early 1950's there began to be some talk about a culinary water system for Highland. Group discussions were held and petitions were signed. Early promoters were: Yukus Inouye, Reed Thompson, O. C. Day, Seth Larsen, Ludvig Larson, Merlin Larson, LaMar Healey, Jerry Pace, Perry Jepperson, Glen Strasburg and others. I don't remember hearing of any detractors-it was generally recognized as a good thing for Highland. In 1956, there was a pledge signed by about 60 families,

agreeing to pay whatever was needed to get the water to all residents. My dad was one of those signers but he passed away in 1957 before the plans came to fruition. On November 29, 1957 at a meeting of the Highland Domestic and Culinary Water Users, a committee of three men was formed to do the leg work among the people to move forward. These men, Yukus Inouye, Ludvig Larson and Reed Thompson had meetings with an attorney, O. DeVere Wootton and drew up Articles of Incorporation. Then on February 21, 1958 a meeting of the same group, with others, was held and they officially formed the Highland Water Company. Yukus Inouye was elected President and director; Reed Thompson as Vice President and director; Ludvig Larson, Perry Jepperson and Legrand Adamson as directors and Don Guymon as secretary & treasurer. The Articles of Incorporation were then read and approved by all those present. The roll showed forty six people in attendance. The directors of the Company, with the Secretary/Treasurer, met at least monthly to conduct the business of the Company. It was determined that 60 people would need to join before construction would begin. That number was reached by November 4, 1958. At that same meeting it was reported that the well drilling had reached the depth of 540 feet. By November 15 it had reached the depth of 600 feet and it was decided to drill no deeper.

In November of 1958 a loan of \$140,000 from the Utah Land and Water Board was arranged-to be repaid over eighteen years with no interest. The remaining \$35,000 of the estimated \$175,000 total cost would be raised from sixty property owners at \$600 each. The original plans specified 15,000 feet of eight inch pipe, 33,000 feet of six inch pipe and 13,000 feet of four inch pipe; to extend east and west on three roads and north and south on three connecting roads and some side lines over short distances, a total of more than 11.5 miles of pipe. Plans also called for a 150,000 gallon reservoir near the mouth of American Fork canyon and a deep well on a corner adjacent to the church. Minutes of the director's meetings do not reveal any bids taken or contracts let for the construction but the actual construction of the system was commenced in late 1958 by Niels Fugal and Sons of Pleasant Grove and was completed by December 17, 1959 when it was reported that "most members of the Highland Water Co. are fully connected and using as well as enjoying the water". Water meters were provided by Hersey-Sparling Water Meter Co; Smith Scott Co. provided the pipe; Pacific Cast Iron Pipe Co. & Water Works Equipment Co. the hydrants & fittings; Herbert Plewe Construction Co., construction of the water tank; Johnston Pumping, well testing; Caldwell, Richards & Sorenson, engineering; Nickerson Pump Co., pump and Eldon Comer Co., well drilling. The first water flowed from the well on November 25, 1958. The amounts paid to the above companies totaled a little under the \$175,000 estimate but other incidental expenses made the total remarkably close. In August of 1960 the Company had to borrow \$4000 to meet current expenses because revenues weren't sufficient but it didn't take long before the company was paying its' own way.