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Water Museum: A First for San Antonio

The importance of water in the development of San Antonio can hardly be overstated. Water sources and distribution have played a vital role in the 250-year history of the city. To emphasize this importance and to promote appreciation of past and present water systems, the **San Antonio City Water Board** (CWB) has opened the **San Antonio Water Museum.**

As far as Curator Bob Winn knows, this is the only museum in the world entirely devoted to water. He describes the museum as a "growing" facility which will not only tell the history of San Antonio's water supply from the past to the present, but will also feature new exhibits to keep pace with technological developments in the water industry.

The museum was formally opened in July, 1976, and is housed in a 100-year-old building adjacent to the City Water Board main office building. Exhibits are directed toward educating visitors on the sources of water and on the processes used in providing that resource during San Antonio's 250-year history. Currently everything displayed in the museum has something to do with past or present San Antonio water systems. Future plans include exhibits showing history of water systems or new developments from other areas of the country or world.

The present water source for the city is effectively displayed in a room featuring the Edwards Underground Aquifer. The aquifer, a 175-mile-long underground reservoir, provides water for over one million people including all industry and military installations in San Antonio. A mode] of the aquifer depicts the area and topography of the springs and recharge area. A core sample of a well drilled into the formation is exhibited as well as a large sample of porous limestone from which the aquifer formation is made.

The amount of water taken from the reservoir each year varies widely due to climatic conditions, but the average withdrawal for all purposes since 1964 has been 314,150 acre-feet per year. An acre-foot is approximately 326,000 gallons.

Rainfall seeping through the porous, honeycombed limestone recharges the aquifer at an estimated 500,000 acre-feet per year. The limestone not only allows ground water to replenish the reservoir, but filters it as well. The quality of water from the aquifer is high, and long-term monitoring of streams entering the recharge zone shows no deterioration of water quality from present development.

The **Edwards Underground Water District** created in 1959 for the purpose of protecting the aquifer carries on continuing studies of water quality, movement of water through the aquifer, rate of flow, and amount of water contained in the limestone formation. A bulletin which explains details of the aquifer is provided by the Water District to all who visit the museum.

Recreational uses of water provides the topic for another room. There are extensive photos on San Antonio's famous River Walk and the many springs which provide recreational opportunities for citizens and visitors alike. In the future, special displays showing the recreational aspects of both ground and surface water sources will be prepared, tying man's requirement for water to sustain life to his requirement for water as a means of recreation and pleasure.

A model of the CWB Heating and Chilling Plant is set up in the basement of the museum. This plant was built in 1968 to furnish air conditioning to the buildings at the HemisFair. The plant is designed to eventually furnish steam and chilled water to the entire downtown area. It is now supplying steam and chilled water to HemisFair buildings and other new buildings in the area.

One half of the museum is currently dedicated to the history of water distribution systems in San Antonio.

Wooden water mains which were in use in San Antonio from 1890 until 1950, cast iron mains installed in 1889, a fire hydrant dating to the early 1900's, and assorted fittings used by early private water distribution companies are all on display in the artifacts room of the museum. Also on exhibit are water meters in use at the turn of the century. Early records on payrolls and on costs of materials are compared with present records.

Of special interest to history buffs, casual visitors, or serious researchers is the acequia system exhibit. Acequia, pronounced "ah-say-key-ah," is a Spanish term meaning ditch.

Between 1740 and 1745, Spanish missionaries, with the help of Indian converts, constructed a series of canals, or ditches, along a 15-mile stretch of the San Antonio River. The canal system was originally designed to bring water to six missions including the Alamo and to irrigate farmland. As the town of San Antonio developed, the acequias conducted water to the townspeople for drinking, bathing, and firefighting. The open canals were an integral part of San Antonio life until the late 19th century when private water companies began digging wells and "piping" water to homes.

The acequia system, one of the earliest recorded uses of engineered water supply and irrigation systems in the U.S., is a special feature of the Water Museum. Maps and pictures show details of the system and purposes it has served throughout the years. Large pottery containers are displayed to show how water was carried from the ditches to the individual houses and stored for drinking and bathing.

In his research for the exhibit, Winn found long lists of restrictions to protect the quality of the acequia system water. Water for animals had to be carried because they were not allowed to drink from the ditch. Laundering and bathing were not allowed in the ditches and were limited to once per week with water transported from the ditches. Each family paid a fee for the use of the water. The fee was based on the number of family members and livestock using the water.

230 YEARS OLD AND STILL FLOWING

Today, 230 years later, 2 of the 8 major canals still function as originally intended– providing irrigation to the fields south of San Antonio. Scattered remains of the system have been uncovered and restored. They may be seen within the Alamo gardens, on the HemisFair grounds, and in use at the San Antonio Zoo. Use of water transported by the canals is now governed by groups of landowners called "ditch committees." These committees determine how many hours of flow can be used by any one landowner and how much he must pay.

Water in a section of the acequia still in use is carried over Piedras Creek by a colonial aqueduct–the only one in existence in the U.S. The aqueduct has been designated a National Historic Landmark by the National Park Service. To ensure its future, the **San Antonio Conservation Society** has purchased 10 acres of land around the aqueduct and has obtained a grant of $50,000 to reinforce the structure to protect it against flood waters from Piedras Creek.

Future plans for the museum include the establishment of a Water Museum Library. It will provide a setting for the accumulation of water facts, historical data and photographs, and honors which have been awarded to the City Water Board through the years.

Curator Winn is excited about the possibilities for the museum and is actively researching and collecting materials in Texas and Mexico for future Water Museum exhibits. When Winn was approached for his guidance on setting up the new museum he immediately became interested because "a water museum was something I had never heard of before. Of course, anything that is new is even more exciting to me." He formerly served as curator of the Witte Museum in San Antonio and as a consultant to the Institute of Texan Cultures at the HemisFair. He is donating his consulting services to the CWB museum.

According to **Inez Macias,** assistant director of the Mains and Services Division, education is not a new field for the San Antonio City Water Board. Programs for school children have been presented for many years and a speakers service from various divisions in the utility company is now available to school and civic groups. Macias

explains, "We recognize a need for water education. School children, and even parents, are not aware of what is involved in a water distribution system. Students like to come in and learn about the system; then they are not as likely to take water for granted."

CWB officials hope to hire a curator when the museum becomes better established. At the present time Macias takes time from his CWB position to schedule and guide tours. A custodian now opens the museum from 8 until 3 each weekday and visitors are welcome to browse during that time.

Visitors to the Water Museum are likely to learn more than why water runs out the tap. They will find lessons in history, engineering, ecology, and sociology that relate to the basic lesson of the importance of water development to San Antonio.

Old Home for New Museum

San Antonio's unique museum dedicated to water is housed in a century-old building. Restoration of the house which is adjacent to the **City Water Board** (CWB) office building was an official Bicentennial project undertaken by CWB employees.

All of the restoration and renovation work on the old home was performed by utility employees who turned from their regular jobs to undertake the project under the direction of **Phil Kosub,** CWB Distribution Branch Manager.

The **San Antonio Conservation Society** has termed the restoration work done on the house as "the best that has been done in the city." This is a considerable compliment in a community which prides itself on the conservation of old homes and landmarks. A Conservation Society plaque, highest award for preservation efforts, is displayed at the entrance to the museum.

The decision to restore the home came about primarily because of its location on the full city block acquired by the utility company in 1967. "When our main offices moved to the new building in 1970, there was such a contrast between the office building and the old shabby house. The house was in bad condition, a real eyesore," relates CWB official, **Inez Macias.** The San Antonio Conservation Society had recognized it as a historical building, but no legal action had been taken to protect it. CWB officials discussed demolishing it and expanding the parking lot or making the area into a small park. Not until late 1975 was the decision made to restore the building and use it as a museum.

CWB employees put long hours into renovating both the house and the grounds around it. Much of the work was detailed and tedious. "When they made the paint that was on the walls inside and on the trim outside, they didn't make it to be removed by mere paint remover," recalls Macias. For weeks men from the CWB Supply and Services Department scraped and burned paint until the bare walls were ready to be restored and repainted.

Work was done primarily by distribution branch personnel because they had the equipment, carpentry shop, and maintenance and construction materials. "We used our own electricians from the production department. I think they had fun doing it and I know there is a great deal of pride throughout the whole CWB organization," states **Kay Kutchins,** editor of the utility's personnel newsletter. The only major projects not accomplished by CWB employees were air conditioning and roofing.

Changes made in the original structure include a concrete basement floor to replace the original dirt floor and air conditioning and plumbing systems. According to the Historic American Buildings Survey, the house dates back to 1868 and is typical of many San Antonio residences erected during the 1850-75 period. The full basement is an unusual characteristic for that period and makes the house especially valuable in its restored state.

The inside as well as outside walls of the house are solid limestone and 15 inches thick; the basement has even thicker limestone walls. The 1 2-foot-wide hallway runs from front to back door and is commonly called a "dog run." The basic floor plan includes four 15 by 17 feet rooms, two on each side of the hallway. There is also a small kitchen area which might have been added at a later time. The basement area has the same four rooms and hallway. Great care has been taken to control temperature and humidity and to protect against flooding so that the basement will be safe to exhibit valuable museum articles.

Outside, the weather had taken its toll of trim woods; and new ones had to be milled. Kosub explains, "Our efforts were directed towards restoring the original structure and to do that we had to redo both inside and outside. We kept the same designs, but the craftsmanship that went into the original trim had been covered up by continued painting over the years. Once we had the new materials we took extra care to preserve the details."

First a home to early San Antonio residents, then a boarding house, a flop house, a house of ill-repute, and a warehouse during the 1968 HemisFair, the building at 1000 East Commerce now has a new and vital role to play thanks to the CWB employees who have restored it. It is gradually being filled with exhibits and other historical material to tell the story of the city's water resources from the ancient acequias built 230 years ago by Spanish engineers to the efficient, modern water system which serves metropolitan San Antonio today.