

SANTA ROSA'S SEWERAGE SYSTEM

By

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It is a rather nice feeling to have a new wastewater treatment plant on line during this, the centennial of the founding of the City of Santa Rosa, and know that this means that the expansion of the City will not be held up due to lack of a sewer system. The City is in this position now because of the farsightedness of the City fathers, but this was not always the case. It seems hard to realize that the City had a sewer system by at least 1875. At this time the Council minutes show an ordinance that prohibited the drainage of slop into the streets and set up methods of connecting to the drain system. By 1883 the new courthouse ran a sewer to the street and in 1885 the system was expanding to the west as there was an easement under the San Francisco and North Pacific Railroad at Fifth Street.

In May of 1889 the records show that the City was collecting easements toward the west to what is now the site of our West College Avenue Sewage Treatment Plant. In February, 1889, the City had purchased 11.72 acres along side of the creek in this site. In 1890 they purchased a right of way to the site and in 1891 they purchased an additional 5.14 acres. All this land was not on the same side of the creek so that the land south of the creek was always used for farming. At this time one septic tank was built. It appears to have been 100 x 20 feet in size and there is no record of the depth of the tank.

In 1894 a suit was filed against the City because of odors and improper operation of the sewer farm. The suit was won by the plaintiff and a decision handed down in 1896 which gave the plaintiff \$3,000 and

told the City that it must operate the sewer farm properly. This led to the issuance of bonds in the sum of \$72,500 at 4% interest in 1905. The City then purchased 100 acres at this site as well as additional rights of way and constructed two wood septic tanks 100 x 20 feet with a small pond.

~~There were additional rights of way acquired between 1902 and 1905~~ and it appears that the line to the sewer farm was changed. At this time it seems to have been a twelve inch line.

The contract documents show that the bid price on these septic tanks was \$996 and the actual construction price was \$1,066. The budgets in the early 1910's show that the tax rate for retirement of these bonds varied from \$0.06 to \$0.07 per \$100 of assessed valuation.

In the annual message of 1903, the Mayor had reported, "Our sewer system is in good order. It should be extended to unconnected parts of the City, but with our present facilities for flushing sewers it is useless to put down new sewers unless we increase the supply for flushing them." He asked that \$5,000 be allowed for water. It is not known whether this money was appropriated.

The County Atlas of 1909 under the heading, "Sewer System" reports that Santa Rosa had a septic tank system second to none. It was also claimed to be a pioneer operation of this type of system.

In 1924 two suits were filed against the City for pollution of Santa Rosa Creek. A bond issue for \$142,500 at 5% was approved by the people for the building of an activated sludge plant. Instead of this there were some improvements in the plant with the adjacent farmers to get the water free for irrigation purposes. The suits were withdrawn and in October of 1926 the State Health Department issued a permit to operate the sewer farm. The improvements were the construction of two

wooden septic tanks 200 x 20 with six small ponds. The permit required that the City not allow the water to get into Santa Rosa Creek but it was found that this was not possible so a dry feed chlorinator was installed. It does not appear that this equipment ever worked for very long at a time.

A short time later an additional five acres of ponds were built and an additional chlorinator installed.

In 1938 two concrete septic tanks were built by WPA labor. These tanks were 300 x 20 x 6 feet. Within a short time the City forces built a third septic tank along side of the first two. By 1943 it was necessary to increase the pond capacity. An additional 31.7 acres of ponds were built, and one of the chlorinators moved to another location. These chlorinators were poorly maintained and had a capacity of 9 to 12 pounds of chlorine per day. They could not satisfy the needs for chlorine as the amount needed was at least ten times their capacity. The ponds were poorly constructed and had uneven bottoms. As they were drained by the farmers frequently there was almost no chance of algae growth. There were numerous complaints at this time of the odors from the farm.

At this point it might be well to say that this seems to have been a good farming operation with grain, sheep and hogs raised on the land. The return to the City went a long ways toward paying the costs of the operation.

In 1944 Charles Lee made a report entitled, "Sonoma County Sanitary Survey." This report was for the Board of Supervisors and covered the whole county. In this report Mr. Lee states that the plant site is well located for the City. He also stated that it was not well operated and was a constant source of pollution of Santa Rosa Creek.

In 1946 the City floated a \$300,000 bond issue with interest for the first five years at 5% and the remaining 15 years at 3/4%. Also floated at the same time was a bond issue for hospitals of \$175,000.

In 1948 the City hired Charles G. Hyde and the firm of Brown and Caldwell to make a survey of the sewage disposal needs of the City. Their report was issued in 1949 and they recommended that the site the City was using as a sewer farm be used for the new plant. This was to be a trickling filter plant with ponding instead of chlorination. In 1951 the City issued bonds for \$350,000 with the interest rate for the first five years being 1-3/4% and the next five years to be 1-1/2%. At the same time the hospital bonds were converted to use for the new sewage treatment plant.

Construction started on the plant in 1951. This plant was built by Walsh Construction Company, San Francisco and New York. The primary treatment portion of the plant was completed and put into operation in April 1952 with the remainder of the plant on line in July, 1952. The plant was designed for a flow of 5 million gallons per day. This plant was a complete treatment plant using gas engines for pumping and the production of air. At the time of start up the plant was treating 2.5 million gallons per day and was designed to handle a population equivalent of 54,000 at capacity which was assumed to be 1970.

The cost of this plant was \$956,000 which came from the balance of the 1946 sewer bonds, the 1946 hospital bonds, the 1951 sewer bonds, sales tax revenues, and \$126,000 in Chapter 20 and 47 funds.

In 1949 the County formed a sanitation district to the south of the City limits. The sewers were laid to terminate in a lift station which then pumped into the City of Santa Rosa system. Charges to the

district were to pay a proportionate share of the cost of the treatment plant and treatment costs based on the prior years plant operating costs and the number of connections on the sanitation district system.

In 1955 a committee was formed that made a survey of the sewer needs of the City and its environs. This group established the area to be served by the sewer system and Frank B. Sarles was retained to design the system. Bonds to the total of \$3,878.00^{Million?} were authorized with connection fees established so as to repay these bonds. These fees were set so that persons participating in the sewer mains would pay a low fee compared to those who did not pay anything toward the mains in the street. Beside these connection fees a portion of sales tax revenue was also to be used for the bond interest and redemption. A large portion of these lines were built immediately and bonds were only sold to pay for the extensions as need arose. As it was hoped that these sewers would expand the City the rules were set so that the only way sewer service could be had was by the annexation to the City. This started annexations which followed the outlines of the City but with many small fingers.

1956
Area

In 1962 a large area east of the sewer service area came up for annexation. It was decided that the trunk sewers could not be used for this area as it would then not allow the people the sewers were designed for to use them. This area was to be a retirement community, and they were required to install the sewer system and build a treatment plant that could be expanded to an ultimate capacity of 2.0 million gallons per day. The initial stage was to be for 0.65 million gallons per day with the design such that it could be easily enlarged. The costs to the City would be those costs directly chargeable to the capacity of over 1.3 million gallons per day which was what would be

required for this development. The system and treatment plant were designed by Sarles, Brelje and Race of Santa Rosa. Construction started in late 1963 on a "Rapid-Block" type activated sludge plant. This plant was not put into actual operation until April, 1967, as the growth of Oakmont was not as rapid as anticipated. For the time prior to take over and start up by the City all the flow was diverted to two ponds adjacent to the plant. This plant is to eventually become a water reclamation plant when the flow becomes sufficient to operate it efficiently.

In 1962 more expansion appeared on the horizon as in that year the Sonoma County Board of Supervisors hired the firm of Carleton Yoder of Berkeley to study the sewerage disposal needs of the Santa Rosa Plains. In July, 1962, this report was presented to the Board of Supervisors. Since the City had great interest in this, for they are the largest political indentivity in the Santa Rosa Plains, the City Council asked Sarles, Brelje and Race to make comments on this report. This report was furnished to the Council in October, 1962, and differed only slightly from the Yoder report. As it would be of great advantage to all parties, an agreement was reached in July of 1964 by the City Council and Board of Supervisors which outlined the area of service and the method of repayment of bonds which were to be issued by the City of Santa Rosa. In this agreement the South Park Sanitation District was to pay a flat sum to the City and annual payments to pay for its share (1.2 million gallons per day capacity). Connection fees were set so that it was anticipated that these fees and the district monies would pay for the lines and the plant. Bonds in the sum of \$3,800,000 were authorized by the City. In October of 1964 the City retained the firm of Brown and Caldwell to design a 2.5 million gallon per day

activated sludge plant while the Sanitation Engineer's Department of Sonoma County started the design of the trunk sewers. Construction was started on the lines and plant in 1966 and at the present time the lines are complete except for the relaying of a sewer that was discovered to be partially collapsed. The plant is complete except for minor adjustments that are always needed at the start of a new plant.

In 1966 the City also authorized bonds to the sum of \$1,600,000 to install trunk sewers and a lift station to the northwest area adjacent to the City. This has been completed and the bonds are presently being paid by a loan from the school district which is the present major user of this portion of the system.