

Sewer

Sewage waste is collected from most of the homes and the few businesses at Heritage Ranch. Private septic systems are used for homes in Tracts 1063, 1910, the 20 acre parcels, the entrance Gatehouse Building of the Owners Association, and the Cappy Culver School located in Tract 1990.

The sewer collection system is made up of gravity flow pipelines made of vitrified clay and poly-vinyl chlorine (PVC) plastic which all drain to a least one lift station where it is pumped either to another section of gravity flow pipelines or to the treatment plant. Lift station is a term used for sewer system pump stations. The term comes from the action wherein the material is “lifted” from a lower elevation to a higher elevation where it is “released to atmosphere” (not under pressure).

We have ten sewer lift stations. Lift stations can have different configurations, but ours are of the “wet well” type. This means a vertical chamber (typically constructed of large diameter concrete pipe and bottom) into which one or more gravity flow pipes are connected. Each station has two pumps (insurance against failure) which take turns lifting when the sewage rises in the chamber to a certain level. The stations are numbered, one to ten. Lift stations are located throughout Heritage Ranch with lift stations 6-10 all located in Tract 1990.

The sewer treatment plant is located on Heritage Road next to the District office. It has a capacity of 400,000 gallons per day. Actual flows are about half of capacity. While the method of treatment for sewage varies, ours are aerated lagoons. Aeration treatment relies on aerobic bacteria to digest the sewage. To enhance the process, we operate “aerators”; floating mixers that are composed of electric motors with “propellers” that hang down in the water about a foot. The objective is to introduce more oxygen in order to speed the digestion process. The treatment process is further enhanced with the use of two ponds; aeration in the first and decanting (less turbid water from the upper layer) into the second pond where it settles out.

The partially treated waste is then pumped from the second pond and with injection of chlorine, takes a 3.5 mile trip to our 220 acre parcel. This parcel (commonly referred to as the “220” because it is 220 acres in size) is used for final treatment and disposal. We can direct the flow from the treatment plant either to the sand filters or pond #3 for storage and later, to the sand filters under drain system for discharge. Flow to the sand filters passes on to an ephemeral creek where the flow eventually percolates underground (occasionally flow may reach the Nacimiento River during significant storm runoff).

A spray irrigation discharge project is under construction at the 220 acre parcel to reduce the total effluent discharge to surface waters. The spray field design will optimize evapotranspiration while minimizing runoff, percolation, capital cost, and annual operation and maintenance cost.

The California Regional Water Quality Control Board, Central Coast Region, issues a NPDES permit for discharge of our treated effluent. The current five-year permit expires

in June 2016. Many tests are required, some of which are very expensive. Monthly, semi annual and annual discharge reports are required by the Regional Board.

Future Sewer Improvement

Since the District's current wastewater treatment plant was built in the 1970s, there have been no significant changes to the treatment process, although discharge regulations have become stricter and flows have increased.

Because of more stringent effluent regulations and future population growth, the District believes an upgrade to the wastewater treatment system may be needed. The District is seeking qualified engineering consultation to analyze the current treatment plan and give recommendations on what upgrades should be made to comply with future discharge regulations and insure adequate capacity. This report will provide a Master Plan for the future of the treatment system. The District has requested grant funds from the regulatory agencies to offset the cost of the master plan preparation.