



# OJAI VALLEY SANITARY DISTRICT

A Public Agency

1072 Tico Road, Ojai, California 93023

(805) 646-5548 • FAX (805) 640-0842

www.ojaisan.org

## NOTICE OF SPECIAL MEETING & INFORMATIONAL WORKSHOP

**NOTICE IS HEREBY GIVEN** that the Ojai Valley Sanitary District Board of Directors will hold a special meeting/informational workshop at 6:00 p.m. on Tuesday September 20, 2016 at the District Office located at 1072 Tico Road, Ojai, California.

If you require special accommodations for attendance at or participation in this meeting, please notify our office 24 hours in advance at (805) 646-5549. (Govt. Code Section 54954.1 and 54954.2(a).

The Ojai Valley Sanitary District Board of Directors encourages all interested parties to speak on any issue or subject matter subject to the District's jurisdiction. It is the desire of the Board that its business be conducted in an orderly and efficient manner.

### **PUBLIC INPUT:**

**All comments from the public are to be addressed to the Board of Directors, not to District Staff, Consultants or District Legal Counsel.**

### **Items Not On The Agenda:**

All speakers are requested to fill out a **Speaker Card (Green)** and submit it to the Clerk of the Board. All speakers are requested to present their information to the Board as concisely as possible with a three (3) minute time limit. This time limit may be modified by the Board Chairperson if necessary. If a member of the **public does not wish to speak** but wishes the Board to have benefit of their position on an issue, **they can present a Comment Card (Peach)** which will be acknowledged by the Chairperson. No response will be given or action taken unless an emergency exists as defined in subdivision (b) of the Government Code 54954.2. Items requiring action will be referred to staff or placed on a subsequent agenda.

### **Items On The Agenda:**

All speakers are requested to fill out a **Speaker's Card (Green)** and submit it to the Clerk of the Board before the item is taken up for consideration. All speakers are requested to present their information to the Board as concisely as possible with a three (3) minute time limit. Allowing an individual to speak more than three minutes is at the discretion of the Chairperson of the Board. Speakers are encouraged to refrain from restating previous testimony. If a member of the **public does not wish to speak** but wishes the Board to have benefit of their position on an issue, they can present a **Comment Card (Peach)** which will be acknowledged by the Chairperson.

### **AGENDA**

The agenda is posted at the District Office no later than 24 hours preceding this Board meeting, and contains all items on which Board action will be allowed pursuant to Government Code Section 54956. Action will be taken on unanticipated items only when an emergency (as defined in Section 54956.5) exists or as otherwise allowed under Section 54954.2(b). All Board meetings are tape recorded in their entirety (excluding authorized closed sessions).

SPECIAL MEETING - AGENDA

September 20, 2016

Page 2

The business to be transacted is as follows:

1. **Call to Order**
2. **Roll Call**
3. **Pledge of Allegiance**
4. **Additions or amendments to the Agenda (Special Meeting None Permitted)**
5. **Public Comment** (items not on the agenda - three minute limit).

This is an opportunity for members of the public to address the Board on any item not on the agenda but under the subject matter jurisdiction of the Ojai Valley Sanitary District.

6. **A Review of Treatment Plant Water Quality, Discharge Regulations, Drought Issues, Reclaimed Water and Project Planning**

Staff will be presenting a power point presentation covering each of the issues noted.

7. **Board Member & General Manager Comment**
  - a. Board Member Comments
  - b. General Manager Comments

8. **Adjournment**

A staff report providing more detailed information is available for most agenda items, and may be reviewed in the District office during regular business hours (Monday through Friday from 8 a.m. to 5 p.m.). Copies of individual reports may be requested from the Clerk of the Board (646-5548).

ATTEST TO POSTING:

  
Brenda Krout – Clerk of The Board

**September 16, 2016 @ 2:30 p.m.**  
Date & Time Posted At District Office



## OJAI VALLEY SANITARY DISTRICT

A Public Agency

1072 Tico Road, Ojai, California 93023

(805) 646-5548 • FAX (805) 640-0842

[www.ojaisan.org](http://www.ojaisan.org)

September 16, 2016

Board of Directors  
Ojai Valley Sanitary District  
Ojai, CA 93023

### A REVIEW OF TREATMENT PLANT WATER QUALITY, DISCHARGE REGULATIONS, DROUGHT ISSUES, RECLAIMED WATER AND PROJECT PLANNING

As the drought has continued and deepened, there has been much conversation about water supplies in the valley. At the same time, OVSD is working to comply with the 2013 Total Maximum Daily Limit (TMDL) regulations, both interim discharge limits and year 2025 final discharge limits, adopted by the RWQCB regulating nutrient discharges into the Ventura River. As a result, sewer influent flow quantities, influent pollutant strength, extra flow from inflow and infiltration, private sewer lateral compliance programs, flow reductions due to drought conservation, reclaimed water concepts, grey water usage and river conditions are very relevant to the daily operations, capital projects and capital project planning for OVSD.

The OVSD Collection System and Treatment Plant, built and upgraded since the early days of the City of Ojai in the 1920's, through the expansion in the 1960-70's, and finally in the 1990's has constantly met new and every increasing regulations related to water quality discharges. The system, now a modern tertiary system with UV disinfection, has many of the most modern and best treatment components in the nation. Pollutant concentrations have been reduced over 90% since the 1970's and now rival many of the most complex sewage treatment systems, coming close to the limits of engineering and chemical technology. As a result, the discharge water is quite clean and the river ecosystem shows many of those efforts.

However, new and even more stringent limits on nutrients to control algae have been adopted, requiring compliance with final regulations by 2025. Interim limits, enacted in 2013 however, must be met up to the final deadline.

OVSD's collection system, including the almost 120 miles of public mainlines and estimated 60+ miles of private laterals, are susceptible to extra flow from downspouts, groundwater leaking into the pipes, yard drains and a variety of other sources. The total quantity of sewage plus extra flows varies greatly, from today's average of 1.3 million gallons a day up to over 9.0 million gallons a day during the extreme winter of 2005.

The treatment plan to meet the 2025 new nutrient regulations is simple in its concept, but comprises many elements: control and eliminate the extra flows and increase the treatment levels at the plant. The flow control efforts also include behavioral changes where people use less water, water usage conservation due to drought efforts and plumbing code changes such as low flow fixtures and the use of grey water systems. As a result, our flows today are lower than the flow in 1985, even with the amount of growth, although very low, that has occurred in our service area. Just because the flow is down doesn't mean the flow strength as stayed the same.

Actually, as the flow QUANTITY has dropped, the flow STRENGTH has increased. Less water flow while using the same quantity of soap, detergent, shampoo and generated grease and food waste just means that there is less water carrying the pollutants to the plant and the resulting strength of flow goes up. The concentrations of pollutants in the flow are now up 30% for some constituents. This means that the operations at the plant such as good bacteria concentrations, pump speed variations, air injection systems and even food additives to help the process are necessary to achieve the old discharge limits, much less the even new more stringent limits.

While the plant is quite modern, new and additional treatment steps are necessary to address not just the new nutrient regulations but also address the changing flow characteristics. This includes projects such as variable speed drives on aerators, rag and debris control that clogs sensors and equipment, new secondary anoxic and aeration treatment steps, better biosolids flow control, expanded SCADA controls and sensors and food additive injection to help the biological process during daily and weekly low spots. Even seasonal temperature changes need to be taken into consideration in the project component design configurations.

Three phases of pilot studies have been or are being completed to better determine performance issues. For 3 years now, using modern and new SCADA sensors, pilot studies have been completed to simulate future plant configurations using a 250 gallon, 3000 gallon and 93,000 gallon tanks. The studies have been done over a range of detention times, winter and summer temperature seasons and with and without food additives to determine the decay rate or possible nitrate reductions to calculate how to meet the final total nitrogen and total phosphorus 2025 limits.

The results of the pilot studies show that by expanding the plant from a 3 tank treatment system to a 5 tank treatment system, with food additive in low periods, can achieve the required 2025 limits. Essentially two additional tanks will be built and inserted into the overall treatment system. The beginning influent pump station and ending filtration and UV disinfection systems will remain the same. Studies to now determine the sizing of those two new tanks, locations, reuse of existing digesters and aeration systems will begin. This overall concept will be governed by being as cost effective in construction and operation as possible and by pay-as-you-go to spread out the costs and avoid loans that require extra costs.

On the water supply side, there are many conversations beginning in the valley. Periodically, the effluent from the Treatment Plant has been discussed as a potential reuse option and of recent has again been part of the overall water conversation in the Ojai Valley.

Effluent currently is approximately 1.3 million gallons a day (mgd). "Normal" or non-drought effluent is approximately 1.45 mgd, so we have seen a decrease in .15 mgd or 150,000 gallons per day over the past year. This is about a 15% reduction in our flows. Effluent quantity does vary a little however on a daily, weekly and annually basis due to use factors such as how full the hotels are, schools in or out of session, Pepsi/DFA flow changes and similar business changes.

Effluent quantities have also varied over the years from three larger more external type factors: inflow and infiltration from groundwater and storm water; water efficient plumbing fixtures; and behavioral use patterns. Average daily effluent quantities have been as high as 2.0 mgd under normal conditions, 3.5 mgd under wet year/groundwater infiltration conditions and we have seen daily spikes as high as 9.0 mgd under extreme conditions. Control of inflow and infiltration and storm water spikes is necessary given our nutrient reduction permit and TMDL requirements. So, long-term, we will need to be less than 2.0 mgd under normal operating conditions. Periodic spikes, much less than 9.0 mgd can be handled on a short term basis but still present operating issues.

Fully treated water is used in the plant for a variety of uses as utility water. It is used for clarifier wash, filter backflush, fine screen wash and also used to fill the water truck for collection system cleaning. All of that water is then routed back to the influent system and again fully treated so it never leaves the system or is never untreated before discharge to the river.

All of our effluent currently is required to be discharged to the Ventura River by our NPDES permit from the Regional Water Quality Control Board and our Conditional Use Permit from Ventura County. For reference, 1.2 mgd is 3.7 acre feet of water and assuming that was a uniform flow rate over the course of a year, is only 1,350 acre feet of water. Lake Casitas is providing approximately 16,000 acre feet of water a year or 12 times our annual flow.

Reuse of OVSD effluent has a number of legal, environmental and technical hurdles. There are a number of potential reuse scenarios that also have additional constraints.

### Technical Issues

OVSD effluent is tertiary treated, filtered and then disinfected with UV. It meets all the standards for discharge into the river, but does not meet reuse requirements known as Title 22. There are a number of plant engineering and control requirements of Title 22 that would require both physical and operational changes that would require construction of improvements and then long term staffing and operating costs.

### Environmental Issues

Any reuse scenario would have the impact of reducing the discharge quantity into the river, or lessening the river flow. In wet years, the effluent represents a small percentage of the overall river flow but in years such as this, the river is essentially dry above the treatment plant except for occasional pockets or ponds of stagnant water. Below the treatment plant, our flow is the only flow in the river and may not even make it to the es-

tuary due to groundwater percolation. Reduction in effluent quantity from the plant would have to study and address river flow quantity impacts. A multitude of agencies and groups have direct permitting authority or significant interest over changes in water flow rates. CEQA, Fish and Wildlife and NMFS will require extensive studies of ecosystem issues for any flow reduction or flow reuse projects.

### Legal Issues

In order to implement a reuse project, there are a number of permits that will need to be modified. Primarily the NPDES permit and CUP will need permit changes, hearings, and action by the County and RWQCB. This will require extensive work with staff and consultants to prepare a project description, identify impacts and mitigations, negotiate conditions of approval and then obtain approval through public hearings. This will be a long and difficult process.

There is also the issue of groundwater rights. Reductions in flow have the impact of reducing percolation and downstream water rights holders; users will need to be contacted and any impacts studied. Groundwater conditions, percolation, infiltration, sea water intrusion, estuary health will all be significant discussion points.

The City of Ventura also owns the treatment plant site which OVSD has under lease until 2060. As part of that lease, the City has a condition that allows for potential reuse of the effluent. That condition would also be subject to the same Title 22 requirements as well as the environmental permitting issues addresses above. The City has performed a couple of studies over the years, and the same environmental, legal and technical road-blocks remain.

There have been 4 major reuse scenarios that seem to be discussed the most: (1) reuse by the City of Ventura, (2) pumping the water back up to the lake, (3) installation of stripping plants up in the valley and (4) an onsite reuse program.

### Reuse by the City of Ventura

Reuse by the City of Ventura is allowed as a condition of the lease, however, as discussed above there are significant issues related to reduced river flows, groundwater rights, river and estuary health issues. The studies over the years have looked at partial reuse options, again the permitting and river environmental issues have stopped any projects so far.

### Reuse by Pumping effluent to the lake

This scenario has all the same issues as the City of Ventura option, with the added cost of pumps, a pipeline and power to pump the water back into the lake. There is also the concern of the lake that the effluent may introduce algae and nutrients into the lake that will exacerbate water quality issues in the lake.

6-4

Reuse by Stripping Plants

This scenario has a number of issues, including legal, environmental, cost, technical, definition of users and siting. A stripping plant essentially pre-treats the water, taking off some clean water for use and putting all the pollutants back into the system for actual treatment at the plant. Only a fraction of water can be stripped off, due to actual treatment process needs. 25-30% is a rough range of reasonable amounts of water than can be stripped and used before the resulting, now dirtier, water becomes quite costly to treat. Where to site a plant, sizing, storage and delivery to users and how to treat the more concentrated discharge are difficult questions. This new water may only be used for agricultural or plant watering uses and is quite expensive, ranging up to \$5,000 per acre foot, not including then delivery costs.

Reuse through onsite reuse program

Reuse through some sort of onsite pickup program is possible; there are definitely permitting and environmental issues. Many agencies are doing this; even the City of Ventura has a program. Essentially some fraction of the treated effluent, is further treated and tested, then given to local citizens who would come to the plant and fill up containers for their use at home for trees or non-food crops. There are lots of details such as container size, training, certification, further treatment to ensure disinfection, traffic flow for pickup of the water and many others. Given the constraints of the plant and these details, such a program, if determined, would be quite small.

Grey water

Grey water systems, such as laundry water reuse systems are not under the jurisdiction of OVSD. They are allowed under the plumbing code and are governed by the City of Ojai and County of Ventura. There are many people who have modified their plumbing to take advantage of this allowable reuse, including some who use buckets to carry laundry water to their trees. It is difficult to estimate the amount of grey water reuse that is occurring and/or the reduction in laundry soaps that therefore need to be treated.

Staff will be presenting a power point presentation at your study session covering each of the issues noted; this presentation will facilitate a more in-depth discussion,



Jeff Palmer  
General Manager