

July 16, 2012

RWQCB Members, Staff, and Sub-committee,

The following comments on the Recycled Water Management Plan for the Los Osos Wastewater Project are focused on the recycled water and conservation sections of the document. Even though my comments are in page number order, they will be easier to understand and follow if you have a copy of the plan available when you read them.

There are gross inaccuracies and inconsistencies throughout the plan due to the fact that the County and its consultants relied on outdated information in its preparation. Updated information could have been obtained by simply making a few phone calls to the water purveyors. Instead, production data for 2006-08 was relied upon to establish 2,056 AFY as the water demand baseline used in all related tables and graphs in the plan. A number that grossly overstates current water demand conditions within the service area. Purveyor production totals for years 2010-2011 clearly establish current water demand at approximately 1,600 AFY, not 2,056 AFY. Therefore, when reading my comments in conjunction with the recycled management plan, please notice how many of the tables and graphs are, as of 2012, obsolete. I apologize in advance if the last comment is repeated numerous times in the body of my comments, but this point is very important in evaluating the current and future utility of this document.

The purpose of this plan was to quantify and project the impacts of the County's proposed water conservation plan, referred to as Program D, on consumption, and to accurately establish in AFY, the amount of treated wastewater to be recycled annually. I believe my comments will prove that neither of these goals is obtainable based on the numerical assumptions in this plan. Collectively, Los Osos has reduced water consumption significantly during the past decade and, more recently, by 22% in the last 3 years. Pending double digit rate increases by both the LOCSD water district and Golden State Water Company should reduce consumption even further. In the future, the County should not be allowed to use 2,056 AFY as the baseline for purposes of quantifying the effectiveness of their project related water conservation program. The community should get credit for its own water conservation efforts and the County's Program D should stand on its own merits. Any future, before and after, comparisons should be to current

total water demand of 1,600 AFY, which equates to a residential indoor consumption of 55 gpcd. Now, to my specific comments:

Page 4 – paragraph 2 states: “Based on current water production records from the three water purveyors, current indoor water use within the Service Area is approximately 1.1mgd. With water conservation prior to startup of the wastewater treatment plant, the indoor water use will drop to an estimated 0.7mgd.” The County’s assertion that their water conservation program will reduce indoor water consumption by an average of 0.4mgd (400,000 gallons) prior to startup of the wastewater treatment plant is not supported in this document. 400,000 gallons/day is equivalent to approximately 450 AFY. Table 3-11 on page 53 indicates that total water savings, by year 2035, under the County proposed conservation program will save 344 AFY, not 450 AFY. Of this 344 AFY total, 79 AFY of water savings measures are tied to new development in the future, after startup of the wastewater treatment plant, not before. The 344 AFY total also includes 60 AFY of savings, by 2035, related to the current Los Osos retrofit on property sale ordinance. However, after the mandatory plumbing fixtures retrofit condition of the project is satisfied, for all prohibition zone properties, this potential savings in the future will be dramatically reduced, realistically to 20 AFY or less. More than 87% of the residences and almost all commercial properties fall within the prohibition zone boundary and therefore will not be affected by this ordinance after project startup in 2015.

Page 8 –last 2 sentences, “The current indoor residential water use is estimated at 70 gpcd. This is based on the historical water use and population data from years 2006-08”. The draft plan was submitted in Nov. 2011, devoid of water purveyor numbers for 2009-2011. The County is a member of the ISJ process, in conjunction with the 3 water purveyors mentioned in the plan. The County and consultant could have easily obtained, and based their findings, conclusions and recommendations on more recent information than that provided in the draft or final version of the plan. There has been a dramatic reduction in purveyor production and customer consumption since 2006-08, due in part to water rate increases and a conscious effort on behalf of the community to conserve water. The 1.1mgd of current indoor water consumption referred to above, for the LOWWP service area, is currently approximately 0.8mgd. Nothing in this plan verifies that the county’s proposed water conservation will reduce

indoor consumption 0.4mgd (450AFY), or roughly in half, prior to the startup of the treatment plant.

Section 2.4, page 20 states: "The wastewater stream that will be treated by the Los Osos Wastewater Treatment Plant will be from primarily residential land uses with a small component of commercial". I disagree, and the following breakdown will prove that flow from the commercial properties inside the prohibition zone to the treatment plant will not be small, or insignificant. Utilizing Figure 3-1& Table 3-2, page 35 and the related formulas used in their creation, the following depicts the indoor and outdoor water demands of the residential, commercial, and institutional customers served by the 3 purveyors. The first breakdown below incorporates this plan's stated baseline of 2,056AFY and the second breakdown starts with actual current total water demand at 1,600AFY.

Breakdown using 2,056AFY, for years 2006-08, as stated in the Recycled Management Plan:

2,056AFY - Total current water production per Table 3-4, 3-5, 3-8, &3-9.
- 179AFY - Unaccounted for water (8.7% of total purveyor production).
=1,877AFY - Total consumption by residential, commercial, & institutional.

2,056AFY X 55.4% = 1,139AFY - Residential Indoor Consumption
2,056AFY X 18.4% = 378AFY - Residential Outdoor Consumption
2,056AFY X 14.7% = 302AFY - Commercial Indoor/Outdoor
2,056AFY X 2.8% = 58AFY - Institutional Indoor/Outdoor
1,877AFY - Total Consumption - Residential,
Commercial, Institutional

The total consumption # of 1,877AFY is backed up in the plan in Table 3-3, page 36, by dividing the total average daily use for all categories (1.676mgd), by the number of gallons in an acre foot (325,851), and then multiplying by the number of days in a calendar year (365).

302AFY X 67.0% = 202AFY - Commercial Indoor Per Table 3-2
302AFY X 33.0% = 100AFY - Commercial Outdoor Per Table 3-2
58AFY X 30.0% = 17AFY - Institutional Indoor Per Table 3-2
58AFY X 70.0% = 41AFY - Institutional Outdoor Per Table 3-2

1,139AFY - Residential Indoor Consumption
 202AFY - Commercial Indoor Consumption
 17AFY - Institutional Indoor Consumption
 1,358AFY - Total Indoor Consumption Per Table 3-2 & Figure 3-1, p.35

Breakdown using 1,600AFY, for years 2010-11, as actual purveyor production that should have been used in the plan:

1,600AFY - Total actual purveyor production for years 2010-11.
 -139AFY - Unaccounted for water (8.7% of total purveyor production).
 =1,461AFY - Total consumption by residential, commercial, & institute.

1,600AFY X 55.4% = 886AFY - Residential Indoor Consumption
 1,600AFY X 18.4% = 295AFY - Residential Outdoor Consumption
 1,600AFY X 14.7% = 235AFY - Commercial Indoor/ Outdoor
 1,600AFY X 2.8% = 45AFY - Institutional Indoor/ Outdoor
 1,461AFY - Total Consumption - Residential, Commercial, Institutional

235AFY X 67.0% = 157AFY - Commercial Indoor Per Table 3-2
 235AFY X 33.0% = 78AFY - Commercial Outdoor Per Table 3-2

45AFY X 30.0% = 14AFY - Institutional Indoor Per Table 3-2
 45AFY X 70.0% = 31AFY - Institutional Outdoor Per Table 3-2

886AFY - Residential Indoor Consumption
 157AFY - Commercial Indoor Consumption
 14AFY - Institutional Indoor Consumption
 1,057AFY - Total Indoor Consumption Per Table 3-2 & Figure 3-1, p.35

Based on the above calculations, current indoor commercial use of 157AFY represents approximately 15% of total indoor use. **Neither small, nor insignificant.** Indoor commercial flow, as a percentage of total flow to the treatment plant could be greater than 15%, as almost all of the commercial properties in Los Osos lie within the prohibition zone, are served by the two largest water purveyors, and will be connecting to the wastewater project. On the other hand, not all residential properties served by the water purveyors lie within the prohibition zone and therefore will not be connecting to the treatment facility at this time. Examples being: the Martin

Tract, Monarch Grove Subdivision, and Cabrillo Estates. Also, it should be noted that there are currently an inordinate number of commercial vacancies throughout Los Osos, which, when occupied in the future could increase commercial indoor consumption and wastewater flow to the treatment plant.

I also question the assumption in Table 3-2 that only 67% of commercial water demand is indoors. Previous studies set 80%/20% as the indoor/outdoor commercial consumption breakdown. Also, 67% does not reflect current observable conditions throughout the commercial district in Los Osos, as most commercial accounts have little or no landscaping associated with the property.

It doesn't matter whether you use the outdated water demand numbers for 2006-08 or the current 2010-11 numbers, one thing should be very clear. Commercial indoor consumption and the resulting future flows to the wastewater treatment plant have been woefully understated for years. In the Rates and Charges Ordinance for the Wastewater Project, adopted in Dec. 2010 by the SLO County Board of Supervisors, the indoor wastewater flow from non-residential customers (commercial & institutional) was estimated at 31AFY (4% of total flows). Even if the County's conservation program could reduce commercial indoor consumption, and the resulting flow to the treatment plant, by as much as one-third, from the current 157AFY, to say approximately 100AFY; 100AFY would still represent usage and flows more than triple the 31AFY used by the County in establishing the revenue requirements from the non-residential category in the above referenced rates and charges ordinance. I believe the County, and the engineer who prepared this recycled plan, inaccurately predicted the daily wastewater flow from the commercial district.

Figure 3-1, page 35 – indicates that 55.4% of annual purveyor production is utilized by residential indoor consumption. In 2011, water production, for the LOCSO, totaled approximately 248,200,000 gallons (762AFY). $55.4\% \text{ of } 248,200,000 = 137,502,800$ gallons total indoor consumption. Total indoor consumption of 137,502,800 divided by census population of the LOCSO water district (7,086) = 19,405 gallons of annual indoor consumption per capita. 19,405 gallons annual indoor consumption per capita divided by 365 calendar days = **53.2 gallons per capita per day residential indoor consumption**. 53.2gpcd is significantly lower than the 70gpcd residential indoor consumption level stipulated to throughout this document. Current community wide water demand of 1,600AFY translates

to approximately 55gpcd - indoor residential consumption. Again, far less than 70 gpcd.

Table 3-2 Page 35

Intitutional Category

	5,748	gallons per day - per account
<u>X</u>	<u>9</u>	# of institutional customers accounts
	51,732	Total Daily Indoor/Outdoor Consumption – Gallons
<u>X</u>	<u>365</u>	days/year
	18,882,180	Total Annual Indoor/Outdoor Consumption - Gallons
	<u>/ 325,851</u>	gallons/acre foot
	58	Total Annual Acre Feet of Consumption – Institutional
<u>X</u>	<u>70%</u>	% of total annual consumption – outdoor - per Table 3-2
	41	Total Annual Outdoor Consumption – Institutional

Table 3-2 on page 35 indicates that there are 9 customers in the institutional category. 4 of those being school district managed properties. Based on 2006-08 purveyor records and the calculation above, these 9 customers consume approximately 58 AFY – total indoor/outdoor. Approximately 41 AFY of that total represents outdoor consumption. Page 25 of the plan indicates that the 4 school district properties will take, when available, 56 AFY of recycled water in the future. The draft of this plan indicated that the 4 schools would take 42 AFY of recycled water. Why, if the goal of the conservation plan is to reduce consumption, would the 4 schools take more water in the future? And we're not talking about them taking just a little bit more, we're talking about them taking 14 AFY (33%) more than the draft plan and even more than the historical annual average outdoor consumption for the entire institutional category (41AFY) according to Table: 3-2 and 3-3, pages 35 and 36, respectively, and the calculation above. Additionally, recycled water will not be free to the schools. Depending on the school, the initial contracted rate will range from \$1500 to \$1850/AF.

Table: 3-4 & Figure 3-2 (page 37), indicates that water demand, assuming no population growth, for the 3 purveyors, will be 2,057AFY in 2015, and will drop to 2,000AFY, if the impacts of the plumbing code are fully realized. Based on total 2011 purveyor production being approximately 1,600 AFY, not 2,057AFY, this table is completely inaccurate and irrelevant

code on gallons per capita per day water demand. Using the same formula utilized by the consultant throughout the report to calculate gpcd, the following reflect the corrected numbers: For 2015, 67 should be 68. For 2020, 63 should be 66. For 2025, 59 should be 64. For 2030, 57 should be 62. And for 2035, 56 should be 61. At first glance, a 5gpcd difference in 2035 might seem insignificant. However, a 5gpcd difference under the no growth scenario equates to an 81AFY difference (5gpcd X 365 calendar days X 14,488 no growth population, divided by 325,851 gallons/AF = 81AFY) and a 110 AFY difference under the future growth scenario, (5gpcd X 365 calendar days X 19,627 build out population, divided by 325,851 gallons/AF = 110 AFY). Also, there is a slight 1 to 3gpcd inaccuracy on the "With the Plumbing Code and Program D" line of this table starting with year 2015.

Additional comments and questions not necessarily tied to any specific page in the plan:

1. Disposal and Reuse Sites.

Broderson Leach Fields	448 AFY
Bayridge Estates Leach Fields	33 AFY
School Irrigation	56 AFY
Community Park	2 AFY
Sea Pines Golf Course	40 AFY
Los Osos Valley Cemetery	50 AFY
Treatment Site Storage Ponds	50 AFY
Reuse to Farmers	<u>195 AFY</u>
Total AFY to Disposal & Reuse Sites	874 AFY

What is the backup plan if not all the disposal and reuse sites come to fruition? What happens if Monarch Grove Subdivision never hooks up to the project? What if the schools decide in the future to drill their own wells for irrigation purposes? What if Broderson doesn't work as anticipated and flow to that site is reduced? What if the farmers don't sign final delivery contracts? And what if they sign contracts but will not renew in the future due to water quality or pricing issues?

I believe all of the questions above need to be addressed as soon as possible or this project may have some serious disposal/reuse issues to deal with in the near term as well as long-term. Based on current water

demand and the formulas gleaned from this plan, annual indoor flows to the treatment plant will approximately equal the total capacity of all the currently proposed disposal and reuse sites. This section of the plan also makes no mention of future I&I flows to the treatment plant and their potential impact on the capacity of the proposed disposal and reuse sites.

2. The proposed 245AFY of reuse to the cemetery and the farmers is essentially a disposal of water, not a reuse of water. These two sites will have practically no impact on seawater intrusion. The maximum mitigation factor for seawater intrusion at these sites is 0.1. Not a very efficient, or basin enhancing mechanism in dealing with the problem of seawater intrusion.

In closing, I will not repeat the obvious from my comments. However, I am available to discuss them with you at your convenience. I know Larry Raio submitted comments on the dewatering plan and if you would like to meet with the two of us at the same time, I think we can make that work.

Sincerely,

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