COMMENT LETTER 29 - WILLIAM B. AND MARY DIAZ-ROMERO (SEPTEMBER 24, 1996), RECEIVED SEPTEMBER 24, 1996

Response to Comment 29-1

Comment Summary: The comment expresses the opinion that the Project would not benefit agriculture, but is only intended to dispose of wastewater.

The Draft EIR/EIS acknowledges that disposal of wastewater is part of the primary Project objectives. However, maximizing reclamation is a supporting objective, and analysis presented in Section 4.18 (pages 4.18-38 through 4.18-44) has shown that reclaimed water can provide substantial benefits to agriculture. Many other comments on the Draft EIR/EIS have emphasized the significant benefits to agriculture in the County and the State from reclaimed water.

Response to Comment 29-2

Comment Summary: The comment questions the validity of irrigation suitability determinations because all land in the Project area was not surveyed.

As noted on page 5 of Appendix E-2 (Irrigation Suitability Land Classification, West County) of the Draft EIR/EIS, "Some owners and operators refused authorized entry. In these cases, land classification and existing land use boundaries were photo interpreted ...Checking and field verification of these areas was made by road-side observations, and extrapolations from nearby areas. Additional soil drainage and wetland investigations may be needed for some parcels (particularly those to which access was denied ...). These investigations would be conducted as part of future planning/permitting and irrigation design studies as specific parcels are considered for inclusion within the reclamation system." The Draft EIR/EIS has recognized the limitations of studies conducted to date, and has established performance standards to ensure that unsuitable land is not irrigated.

Response to Comment 29-3

Comment Summary: The comment suggests that the estimated average annual irrigation water use of 23 inches for the West County study area is too high and cites the U.S. Department of Agriculture Soils Survey, which states that water capacity for West County soil is from 4 to 11 inches.

The comment has confused available water capacity, which is a measure of the water held in the soil at any particular moment in time, with the annual crop water requirement that has been determined for West County. These two values are different.

According to the U.S. Department of Agriculture (USDA) Soil Survey, Sonoma County California, the available water capacity for the dominant soils suitable for irrigation in West County ranges from 4 to 11 inches. Available water capacity, as defined by USDA is “The capacity of soils to hold water available for use by most plants. It is commonly

defined as the difference between the amount of soil water at field capacity and the amount at wilting capacity." After the capacity of a soil to hold water (field capacity) is reached, water is removed by one or more of the following processes: infiltration, evaporation, evapotranspiration, and overland flow. At the end of a wet winter, soils typically hold their full water capacity, but soils will dry out and by mid summer may hold little to no water. Irrigation replenishes the water in soils. An annual irrigation water application of 23 inches would gradually replace the available water that is lost through natural processes throughout the summer months.

As stated on page 2 of Appendix E-2 (Irrigation Suitability Land Classification, West County) of the Draft EIR/EIS, the 23 inches "is based on an average crop consumptive water use of 20 inches per year and an irrigation efficiency of about 80 percent." Methods for estimating crop water use are presented in Section 4.1 of Appendix E-2, starting on page 17. The goal of a well managed irrigation program is to supply the crop with just enough water to meet the needs of the crop and to minimize water loss to runoff, deep percolation or sub-flow. The average amount of water needed by a crop, or crop water requirement, was estimated for the West County by utilizing guidelines in the State Water Resources Control Board Report Number 84-1, *Irrigation with Reclaimed Municipal Waster, A Guidance Manual*, 1984.

Annual consumptive water use by a crop was calculated by adding the net monthly evapotranspiration. Evapotranspiration is the loss of water during a period from evaporation from the soil surface and transpiration from plants. Crop coefficients for typical growing season conditions were adjusted against the net monthly reference evapotranspiration rates, by area, to develop monthly and annual consumptive water use data. A typical growing season for West County, based on climatic data supplied by the California Department of Water Resources and U.C. Cooperative Extension, extends from early May through September. The net monthly evapotranspiration for a crop was determined by subtracting the average monthly reference evapotranspiration for each geographic study area from the average rainfall. The reference evapotranspiration approximates the evapotranspiration of a large field of 4 to 7 inch tall, cool-season grass that is not water stressed.

The crop water consumption figure of 20 inches is an estimate based on weighted averages. The actual annual consumptive water by a crop will vary depending on the weather conditions, crop type, soil conditions, and irrigation efficiency.