



City of Santa Barbara
Public Works Department

Interoffice Memorandum

DATE: August 29, 2008
TO: Planning Commission
FROM: Rebecca Bjork, Acting Water Resources Manager
SUBJECT: Plan Santa Barbara - Water Supply Summary

This memo responds to a request from the Planning Division staff to provide the best information currently available on the status of our water supply, in support of discussions the Planning Commission will undertake during September meetings. This is preliminary information in advance of results from planned and ongoing water supply analyses.

Water Supply Sources

- Gibraltar Reservoir/Mission Tunnel: While results are not in yet on the recent bathymetric survey, we are assuming that erosion associated with the Zaca Fire will result in a substantial reduction of storage capacity from the pre-fire capacity of approximately 6,800 AF. It is presumed that we will exercise the City's right to enter "Pass Through" mode under the 1989 Upper Santa Ynez River Operations Agreement. This will allow delivery of a portion of our Gibraltar water through Lake Cachuma, allowing us to approximate historic yields from the reservoir. For planning purposes, we have estimated a 10% reduction in deliveries, in addition to reductions due to a critical drought period.
- Lake Cachuma: At this time we expect the Cachuma Project to continue to yield deliveries consistent with assumptions of the Long Term Water Supply Analysis. This includes successive reductions in project deliveries during drought as storage volume drops below 100,000 AF. Our practice is to accumulate at least 3,000 AF of "carryover" water in Cachuma in the first years after a spill for use in case of drought.
- State Water Project: Planning assumptions for State Water deliveries are based on the California Department of Water Resources draft "State Water Project Delivery Reliability Report "(2007). Average deliveries during multiple dry years are estimated at 34% of project "Table A" allotment. This value is the basis of our assumptions for State Water deliveries during a critical drought period.
- Groundwater: Groundwater is assumed in an amount of up to 4,500 AFY, consistent with the Long Term Water Supply Program. Work is underway to rehabilitate the Ortega Groundwater Treatment Plant to allow this target to be met.
- Recycled Water: Consistent with the LTWSP and current operations, we assume delivery of 800 AFY of recycled water.
- Desalination: Consistent with the LTWSP, the desalination facility is assumed to be used only in the event of a critical drought period. Our analysis assumes desalination would not be available until the fifth year of the critical drought period, reflecting anticipated deferral of this expense as long as possible. The capacity used in our planning is 3,125 AFY.

- Safety Margin: A 10% safety margin is included to provide for unanticipated shortages in supply or increases in demand.

Based on the above parameters, we have analyzed anticipated performance of the water supply during a critical drought period, which is the basis for evaluating our water supply. The water supply is currently estimated to be sufficient to meet a demand of 17,900 AFY, including the 10% safety margin and a 10% acceptable shortage. This is slightly lower than the demand target of 18,200 AFY in the LTWSP, primarily due to reductions in anticipated State Water deliveries.

The above is a preliminary update based on the currently adopted LTWSP. As we prepare for an update of the LTWSP following completion of the *Plan Santa Barbara* process, we will be thoroughly investigating a number of concepts to provide the optimal water supply for the planning period of 2010 through 2030. Key issues will include enhanced water conservation, expanded use of recycled water, firming reliability of State Water deliveries through purchases of non-project water and groundwater banking, and adjustment of reservoir operations to maximize yield. Some of these decisions will be dependent on the outcome of development projections resulting from the *Plan Santa Barbara* process.

Water Demand

As we come to the end the current planning period, demand is significantly below projections. The LTWSP used a projected 2008 demand of 16,400 AFY. Current demand is approximately 15,000 AFY. The reduction can be attributed in part to our progressive conservation program, evidenced by a 20% reduction in per capita water consumption since 1988, as well as construction of only about half the number of new dwelling units assumed in the original projection during the 1988 General Plan Update.

When planning water supplies to meet demand, it has been our practice to include a 10% safety margin. Effectively, this means that the 17,900 AFY capability of the current water supply is adjusted downward to 16,300 AFY to incorporate the safety margin. Assuming the current demand of 15,000 AFY, this leaves approximately 1,300 AFY of additional supply.

Current average demand in the residential sector is 13 hundred cubic feet (HCF) for single family residences and 6 HCF for multifamily residences, including apartments, condominiums, and other attached residences. Weighting these demands at 25% for single family and 75% for multifamily yields a weighted average demand of about 7.75 HCF per dwelling unit per month, or about .21 AFY per dwelling unit. At this rate of demand, 2,000 dwelling units would use approximately 420 AFY. For the non-residential sector, dividing current commercial/industrial sector water use by the estimated current non-residential square footage of 21.3 million square feet equals water use of about 0.11 AF/year per 1,000 square feet. A more thorough analysis of water demand factors is planned during the coming months.

BF/spm

cc: Christine F. Andersen, Public Works Director
Cathy Taylor, Water System Manager
Board of Water Commissioners