

# ATTACHMENT 11. PROGRAM PREFERENCES

The Water Supply Stabilization Project No. 2 (WSSP2) will meet most of the Program Preferences identified in the Proposition 84 Integrated Regional Water Management Guidelines. Listed below are the specific Program Preferences the WSSP2 will meet and a description of how it will meet them.

## INCLUDE REGIONAL PROJECTS

The WSSP2 is, by design, a high priority regional project identified in the Antelope Valley IRWMP. It will store excess water for any entity in or even outside of the Region for later use. Transfer agreements have already been established between the three State Water Project Contractors that serve the Region, namely AVEK, Palmdale Water District, and Littlerock Creek Irrigation District, so that water can be stored at the WSSP2 on behalf of any entity and later recovered and served to any entity either directly or through exchanges.

As previously discussed, the WSSP provides the nexus between two of AVEK's largest regional projects – the West Feeder and the South-North Intertie Pipeline (SNIP). Raw water can be diverted from the State Water Project to the West Feeder and will be delivered and recharged at the WSSP2. When needed, water will be recovered through new groundwater wells, moved through the new Recovered Water Transmission Pipeline to the Recovered Water Pump Station and Steel Reservoir, and lifted into the SNIP. The SNIP is capable of delivering treated water to anywhere in AVEK's service area.

Existing agreements would also allow Palmdale Water District or Littlerock Creek Irrigation District to take delivery of AVEK's entitlement from the State Water Project in exchange for AVEK recovering a like amount of water from the WSSP2.

## RESOLVE WATER CONFLICTS

The source of the most conflict in the Antelope Valley Region is, without question, the pending adjudication of the groundwater basin. The WSSP2 will provide a mechanism for all parties to the adjudication to more effectively utilize the imported water supplies available to the Region, thereby increasing the overall water supply portfolio for the Region and lessening the impact of anticipated curtailments in groundwater use following adjudication. The WSSP will increase the supply available to the Region by 150,000 AF every 10 years by simply providing the ability to store excess water during times of plenty for use during times of drought. It will serve as a physical solution for the Region to efficiently use the available water resources.

## CONTRIBUTE TO ATTAINMENT OF OBJECTIVES OF THE CALFED BAY-DELTA PROGRAM

The WSSP2 will reduce the Antelope Valley Region's yearly dependence on water supplies imported from the Bay-Delta. The project allows the Region to take delivery of water from the Bay Delta through the State Water Project during periods when there is excess water available. In turn, the Region will be less dependent on receiving water supplies from the Bay Delta in subsequent years when reduced

precipitation and environmental constraints restrict the amount of water that can be moved through and/or exported out of the Bay Delta.

## **EFFECTIVELY INTEGRATE WATER MANAGEMENT WITH LAND USE PLANNING**

All local jurisdictions in the Antelope Valley recognize that effectively managing water supplies is the key to continued development in the Region. In addition to the WSSP2, and other water supply management projects, the cities of Palmdale and Lancaster have established new development standards to require the efficient use of water by end users. Together, the stakeholders in the Region have worked together to improve the reliability and efficient use of the available and limited water supplies. To improve the reliability of the Region's water supplies, AVEK and other water entities have worked with the local municipalities to establish fees assessed to new development in the Region to fund water storage and banking projects. Much of the local funding for the WSSP2 comes from funds accumulated through the assessment of these fees.

## **DROUGHT PREPAREDNESS**

Projections by the DWR indicate that over the long term, SWP contractors may only receive about 60% of their contractual entitlements. In "dry years", the volume of SWP water could be as low as 7%.

The proposed recharge area was identified by and includes about 400 acres of recharge basins. Based on the USGS study, it is expected to recharge at least 23,000 AFY over a four month period from November through February and is anticipated that about 20,000 AFY will be available for recovery. AVEK owns a total of 1,500 acres at the recharge site.

Since AVEK supplies water to the Antelope Valley Region, the Project will increase the reliability of the water supply for all of the customers in the Region.

## **USE AND REUSE WATER MORE EFFICIENTLY**

The WSSP2 accomplishes the two objectives of increasing water supply reliability and adapting to climate change. The project will allow the Region to more efficiently use or store its available water supply every year thereby improving reliability. The available SWP water that cannot immediately be used by customers during exceptionally wet periods will be stored so that it can instead be used when other supplies are curtailed during dry or high demand periods. In addition, there is considerable uncertainty surrounding the long term impacts of climate change on the Antelope Valley. While insufficient research has been conducted to determine the changes in when water supplies will be available to the Region, the WSSP2 will allow the Region to store these supplies whenever they are available so that they can be beneficially used when they are needed.

## **EXPAND ENVIRONMENTAL STEWARDSHIP**

The Project will beneficially impact the environment by replenishing the local groundwater basin. The groundwater surface has declined about 100 feet since the 1960s. The WSSP2 is part of the overall plan to manage water resources (SWP and local surface and groundwater) to meet the water needs of the Antelope Valley and improve the condition of the groundwater basin.

## **PROTECT SURFACE WATER AND GROUNDWATER QUALITY**

The Project will protect groundwater quality by replenishing the aquifer with good quality water from the SWP. As noted earlier, the Antelope Valley Groundwater Basin is over drafted. One result typically seen when groundwater basins are over drafted is decline of the groundwater quality. Recharging the groundwater with SWP water will reduce the potential for degradation of the groundwater quality.

Assuming that the groundwater adjudication proceedings now under way result in reductions in groundwater pumping, the addition of SWP to the groundwater basin will have a positive impact on the groundwater quality.

## **ENSURE EQUITABLE DISTRIBUTION OF BENEFITS**

The Project will supplement the water naturally recharged to the groundwater basin with SWP water. Besides increasing the amount of water recharged, the Project will increase the reliability and volume of water available to all residents of Antelope Valley including residents of disadvantaged communities..

## **CLIMATE CHANGE**

The WSSP2 will assist in meeting several facets of the state priority referred to as Climate Change Response Actions. Brief discussions of what these beneficial impacts are expected to be are given in the following paragraphs.

### **Water Management**

Reduction of GHG and Reduced Power Consumption—Greenhouse gas production will be reduced if the proposed Project is implemented for the following reasons:

1. Approximately 20,000 AFY of drinkable water will be provided by the groundwater recovery wells. Thus, the need for treatment of “surface water”, as is currently provided by AVEK’s four water treatment plants that treat SWP water will be reduced by 20,000 AFY. Surface water treatment involves such things as chemicals, electricity, and generation of filter backwash water which requires treatment so that it can be recovered and used.
2. Reduced chemical consumption will result in lower demand for chemical production.
3. Power consumption for production of chemicals and treatment plant operations will be reduced.

### **Expand Conjunctive Management of Multiple Water Supply Sources**

Recharging the groundwater basin and then recovering the recharged water is a conjunctive use project that will enable better management of the both the groundwater and the SWP water. Recharge of SWP water during the winter months when water demand is less than during other months of the year will provide an opportunity to increase the annual volume of water that can be delivered by the SWP. The recharged groundwater can be recovered to supplement SWP deliveries.

### **Use Water More Efficiently**

The avoided Buttes Reservoir storage project discussed in Attachment 7 would have a surface area of about 630 acres. The annual evaporation in Antelope Valley is about 5.5 feet and the water lost by evaporation from the Buttes Reservoir would be about 3500 AFY.

The proposed groundwater recharge basins will have a water surface area of less than 400 acres. Recharge is planned for the four months of November through February with the total evaporation during

these four months at about 0.5 feet. The evaporation loss from the recharge basins would be about 200 AFY.

The proposed Project will reduce the evaporation loss by more than 3,000 AFY as compared to the alternative Buttes Reservoir.