Chapter 5

Alternative 3: San Vicente
50,000 AF + Moosa 50,000
AF (SV 50K/Moosa 50K)

5.1 Project Description and General Environmental Setting

5.1.1 Project Description

As described in Section 2.4 of this EIR/EIS, this alternative involves a reduced raise of San Vicente Dam, which would provide approximately 50,000 AF of usable carryover storage capacity at San Vicente Reservoir, and construction of a new dam at Moosa Canyon to create a new reservoir that would provide another 50,000 AF of usable carryover storage capacity. The two projects taken together would provide a combined 100,000 AF of usable carryover storage capacity. It is assumed that both projects would be constructed concurrently. The locations of San Vicente Reservoir and Moosa Canyon are described in Sections 3.1 (Project Description and
5.1.1.1 50,000 AF Increase of San Vicente Reservoir

San Vicente Dam would be raised an additional 32 feet beyond the approved 54-foot dam raise for the ESP, increasing the overall height of the dam by 86 feet (or a total dam height of 306 feet). The dam crest would extend approximately 1,347 feet in length and 20 feet in width. The central 275 feet of the dam would include an overflow spillway. The spillway would lie approximately 10 feet below the dam crest at an elevation of 735 feet AMSL.

Implementation of this alternative would increase the total storage capacity of San Vicente Reservoir by an estimated 107,925 AF (50,994 AF from the CSP component and 56,931 AF from the ESP dam raise). The elevation of the spillway crest would be raised from 650 to 735 feet AMSL. Total storage capacity and surface area (at MNP) of the expanded reservoir would be 197,988 AF and 1,498 acres, respectively. The MNP for the expanded reservoir would be at 733 feet AMSL, two feet below the planned elevation of the raised spillway crest. The PMF level for the expanded reservoir would be at 747 feet AMSL.

As with the Proposed Action, additional facilities associated with this alternative would include a downstream control facility, outlet pipeline, relocated Bypass Pipeline, relocated marina facilities, and new access roads to the dam crest, relocated marina, and First Aqueduct Diversion/Terminal Structure. Modifications to the First Aqueduct Diversion/Terminal Structure would not be required for this alternative.

As described in Section 3.1 (Project Description and General Environmental Setting for the Proposed Action) of this EIR/EIS, the right to divert and store water at San Vicente Dam comes from the City’s pueblo rights. As a result, no appropriative right will be required for the SV 50K component of this alternative.

5.1.1.2 50,000 AF Reservoir at Moosa Canyon

In addition to an approximate 50,000 AF increase in the usable carryover storage capacity of San Vicente Reservoir, a new 311-foot-high dam would be constructed at Moosa Canyon to create a reservoir with 50,000 AF of usable carryover storage. The dam crest would extend approximately 1,913 feet in length and 30 feet in width; the dam crest elevation would be 1,185 feet AMSL. A spillway would be constructed approximately 1,500 feet to the northeast of the main dam; the spillway crest elevation would be 1,170 feet AMSL.

The total surface area (at MNP) of the new reservoir would be about 535 acres. The MNP for the new reservoir would be at 1,168 feet AMSL, two feet below the spillway crest. The PMF level for the new reservoir would be at 1,182 feet AMSL.
As described in Section 4.1 (Project Description and General Environmental Setting for the Moosa 100K Alternative) of this EIR/EIS, an appropriative right to divert and store water will still be required for the Moosa 50K Alternative. This may include transfer of the VCMWD rights to Turner Reservoir, but would also include a change in the point of diversion and authorized place of use.

5.1.2 General Environmental Setting

The environmental setting for the SV 50K component of the SV 50K/Moosa 50K Alternative would generally be the same as described in Section 3.1 (Project Description and General Environmental Setting for the Proposed Action) of this EIR/EIS, and the setting for the Moosa 50K component would be the same as described Section 4.1 (Project Description and General Environmental Setting for the Moosa 100K Alternative) of this EIR/EIS, as each component would be a subset of the larger respective carryover storage alternatives. Major differences between this alternative and the larger Proposed Action and Moosa 100K Alternative are that there would be less land and/or fewer structures inundated by water at each location, smaller improvements at both footprints, and less disturbance from excavation for quarry operations at each site.

5.1.3 Methodology for Environmental Analysis

The SV 50K/Moosa 50K Alternative would result in smaller inundation and construction footprints at each site than the Proposed Action and Moosa 100K Alternative. However, this alternative would employ the same construction methods, safety measures, and project design features at the SV 50K and Moosa 50K footprints as the Proposed Action and the Moosa 100K Alternative. Most of the impacts associated with this alternative would be similar or less at the SV 50K and Moosa 50K footprints than the impacts anticipated for the Proposed Action and the Moosa 100K Alternative. However, the overall impacts of this alternative, taking into consideration both locations combined, would be greater for all environmental issues evaluated in this chapter than the individual impacts of the Proposed Action (Chapter 3.0 of this EIR/EIS) and the Moosa 100K Alternative (Chapter 4.0 of this EIR/EIS).

In this chapter, the methodology used to evaluate environmental impacts associated with the SV 50K component of the SV 50K/Moosa 50K Alternative is the same as described in the corresponding sections in Chapter 3.0 of this EIR/EIS (Proposed Action), and the methodology used to evaluate impacts associated with the Moosa 50K component of this alternative is the same as described in the corresponding sections in Chapter 4.0 of this EIR/EIS (Moosa 100K Alternative).