voir into the forebay has resulted in the San Luis Canal heading at a lower elevation than contemplated in the Feasibility Report. Accordingly, the Mile 18 or Dos Amigos Pumping Plant was required to lift the water of the San Luis Canal back up to an elevation where it could flow by gravity to the end of the service area. The construction of the Dos Amigos Pumping Plant also required a substantial change in the electrical transmission facilities and the construction of the switchyard at the Dos Amigos Plant.

The joint use of the San Luis Canal with the State of California, of course, necessitated an increase in the size of the canal. This resulted in the San Luis Canal being built to accommodate approximately 7,000 cubic feet per second in addition to that initially planned for in the Feasibility Report.

Other changes made in relation to the joint use facilities included the flood control works to protect the San Luis Canal. It is not clear, however, that the changes in these engineering plans were necessitated solely because the canal became a joint use facility. The indications are that these changes were probably made as a result of more detailed engineering knowledge of the various ways the flood flows above the canal could be handled and the potential damaging effects which the various water courses could have on the canal and on lands lying below the canal. Thus, instead of the numerous waste ways and detention dams as contemplated in the Feasibility Report, the only existing major flood protection works are the Los Banos Detention Reservoir and the Little Panoche Detention Reservoir.

Substantial changes have occurred in the design and construction of facilities other than the joint use facilities. These include the Pleasant Valley Pumping Plant which was increased from the originally contemplated 600 cubic feet per second to an excess of 1,000 cubic feet per second. This, of course, required that the Pleasant Valley Canal, now referred to as the Coalinga Canal, be increased from the originally contemplated 600 cubic feet per second to 1,000 cubic feet per second. The canal was also shortened from 19.5 to 12 miles. It is not clear whether the rationale for this change was to serve additional irrigated acreage or to provide an augmented source for municipal and industrial demands in that area.

Another major change occurred not in the actual facilities of the Unit but in the size of the service area of the San Luis Unit. All indications are that in excess of 100,000 acres of

irrigable land was added to the size of the San Luis Unit, thus necessitating an increase in the distribution system and probably in the size of the drainage collector systems. This increase in the size of the drainage collector system could also have required the increase of the size of the San Luis Interceptor Drain.

There is another change regarding the distribution system both below and above the San Luis Canal. This change is that the placement of laterals heading from the canal has been changed from 2-mile intervals to 1-mile intervals. The more frequent lateral placement requires a corresponding increase in the number of canal turnouts and, for lands above the canal, more relift pumping plants. However, such placement accommodates 160 acre parcel deliveries, and detailed design studies showed this to be the most economical pattern.

The San Luis Interceptor Drain has been substantially changed from that contemplated in the original Feasibility Report. The first change consisted of the drain being constructed as a concrete lined canal as opposed to an earth section channel. This change of course would result in greater costs. The second major change is the addition of the Kesterson Reservoir. Neither the Feasibility Report nor the authorizing Act made mention of a regulating reservoir in conjunction with the drain. The addition of this reservoir resulted in the acquisition of thousands of acres of land and the expenditure of substantial sums of money in constructing the dikes and works in the reservoir. The third and final change of the San Luis Drain occurred in increasing the size of the lower reach of the drain and providing service capability to lands outside the San Luis Unit. Even though the Act did provide that service could be provided from the drain to other lands, there is no indication that there has been a finding that the size of the drain was increased to serve land whose drainage problems could be directly attributable to the San Luis Unit water application.

Even though the integration of ground water has always been an aspect of the total plan, no significant integration has occurred to date. The distribution system has been sized to accommodate this function, but no ground water has been placed into the system.<sup>37</sup>

<sup>37</sup> Though no actual integration has occurred certain steps have been taken to realize this goal. These include studies by the Westlands Water District concerning placement of wells and utilization of certain pre-existing wells, modifying the original plans to accommodate the great

