Figure 4-13. Cross Section A-A'

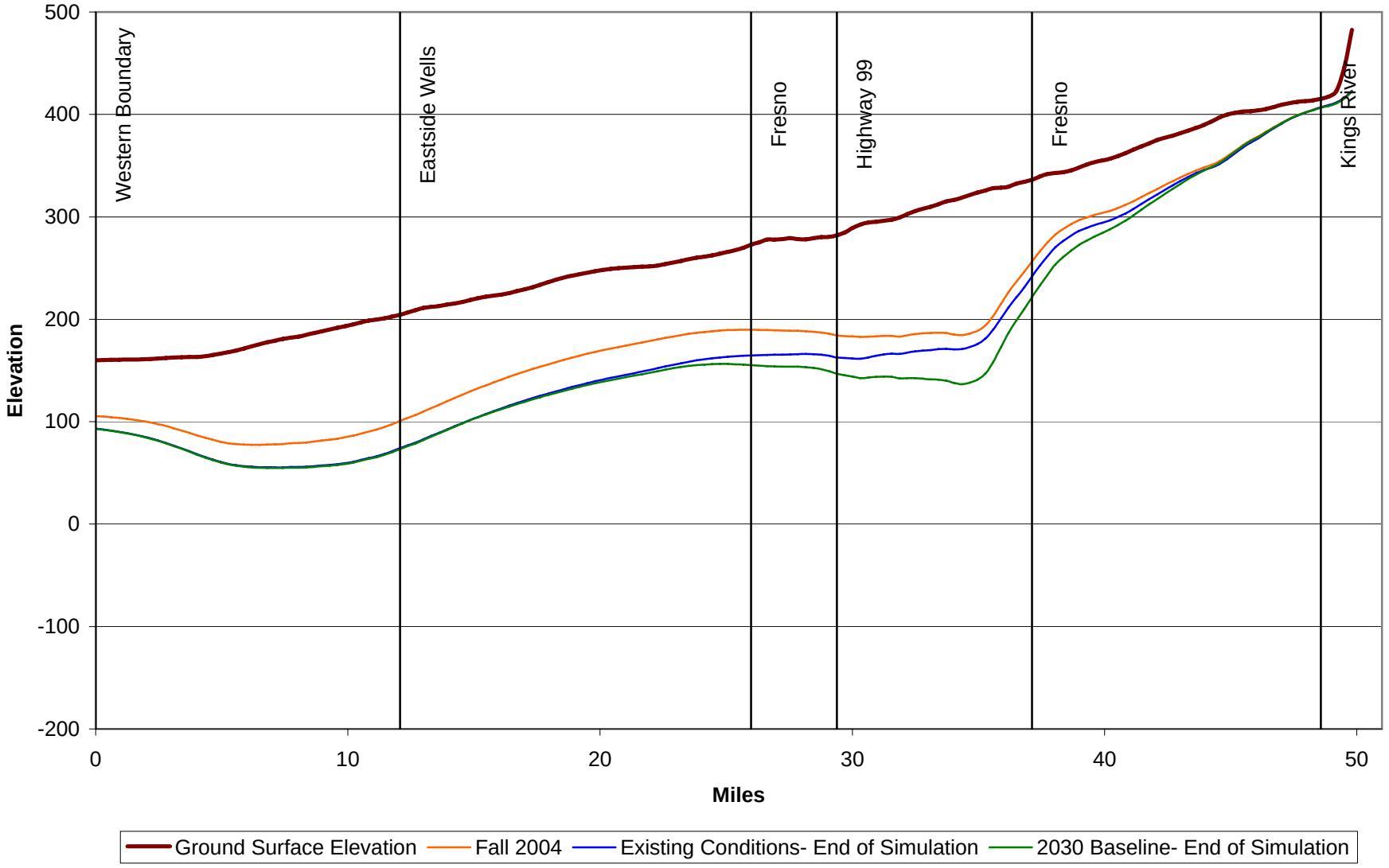


Figure 4-14. Cross Section B-B'

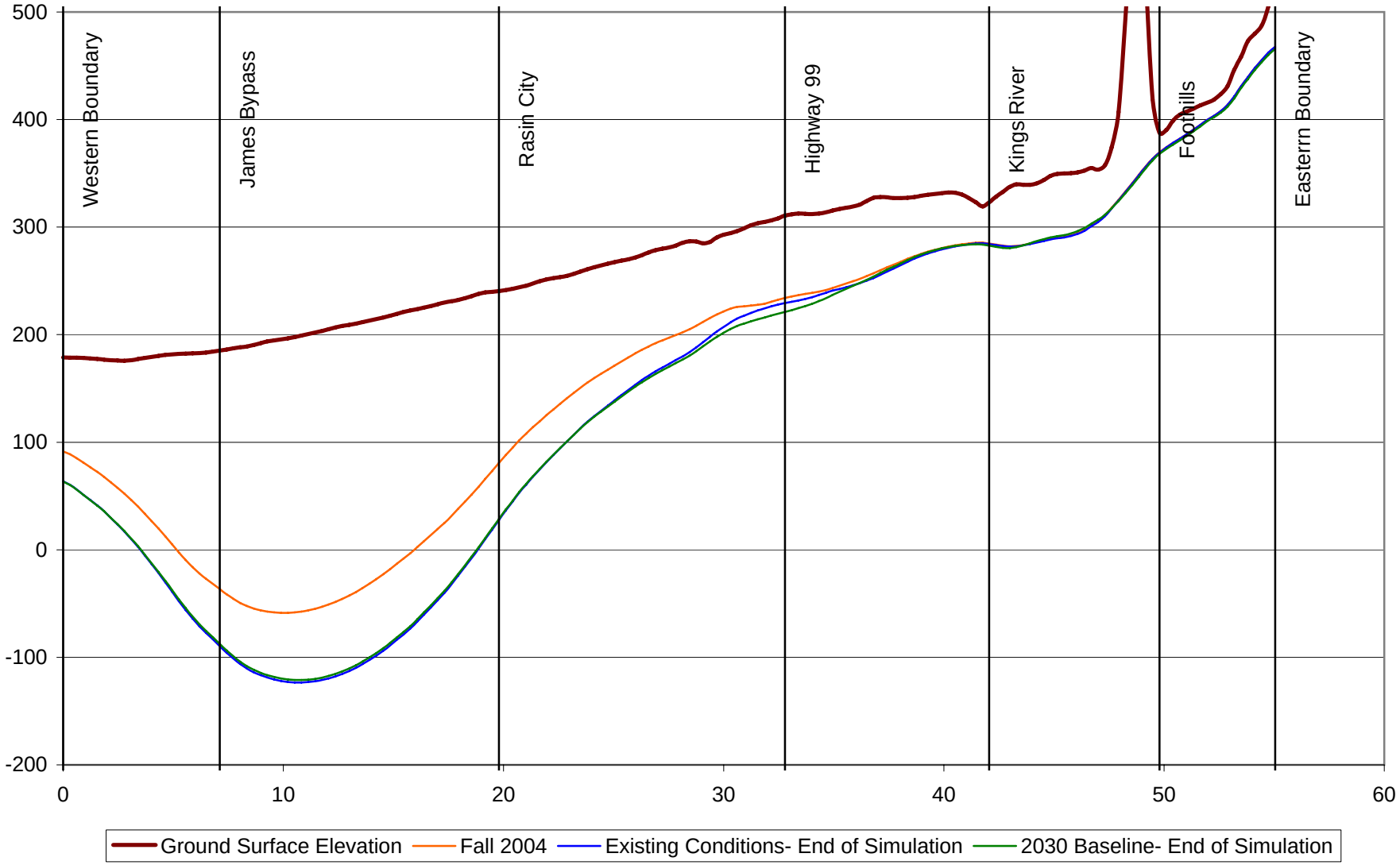


Figure 4-15. Cross Section C-C'

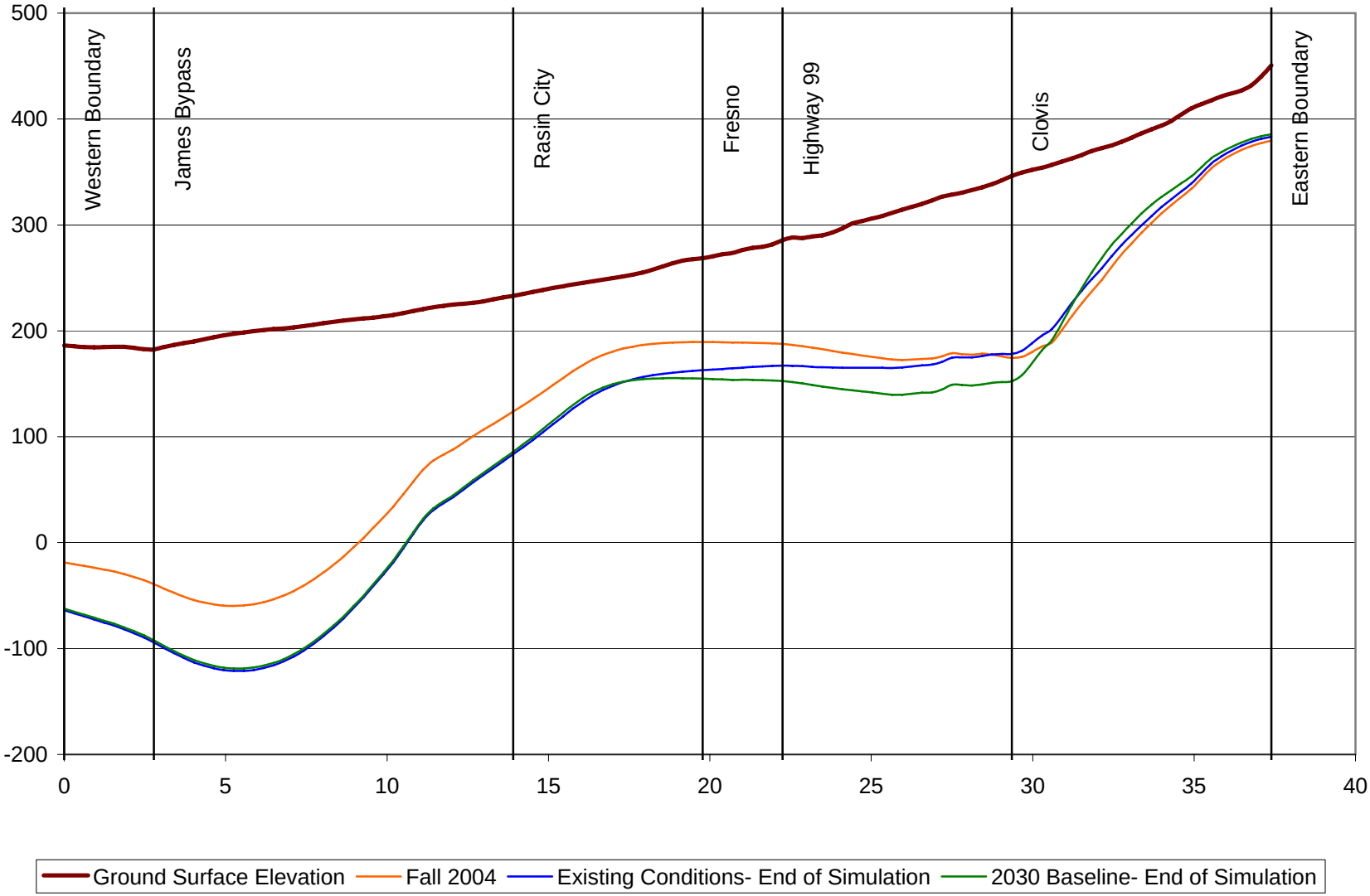
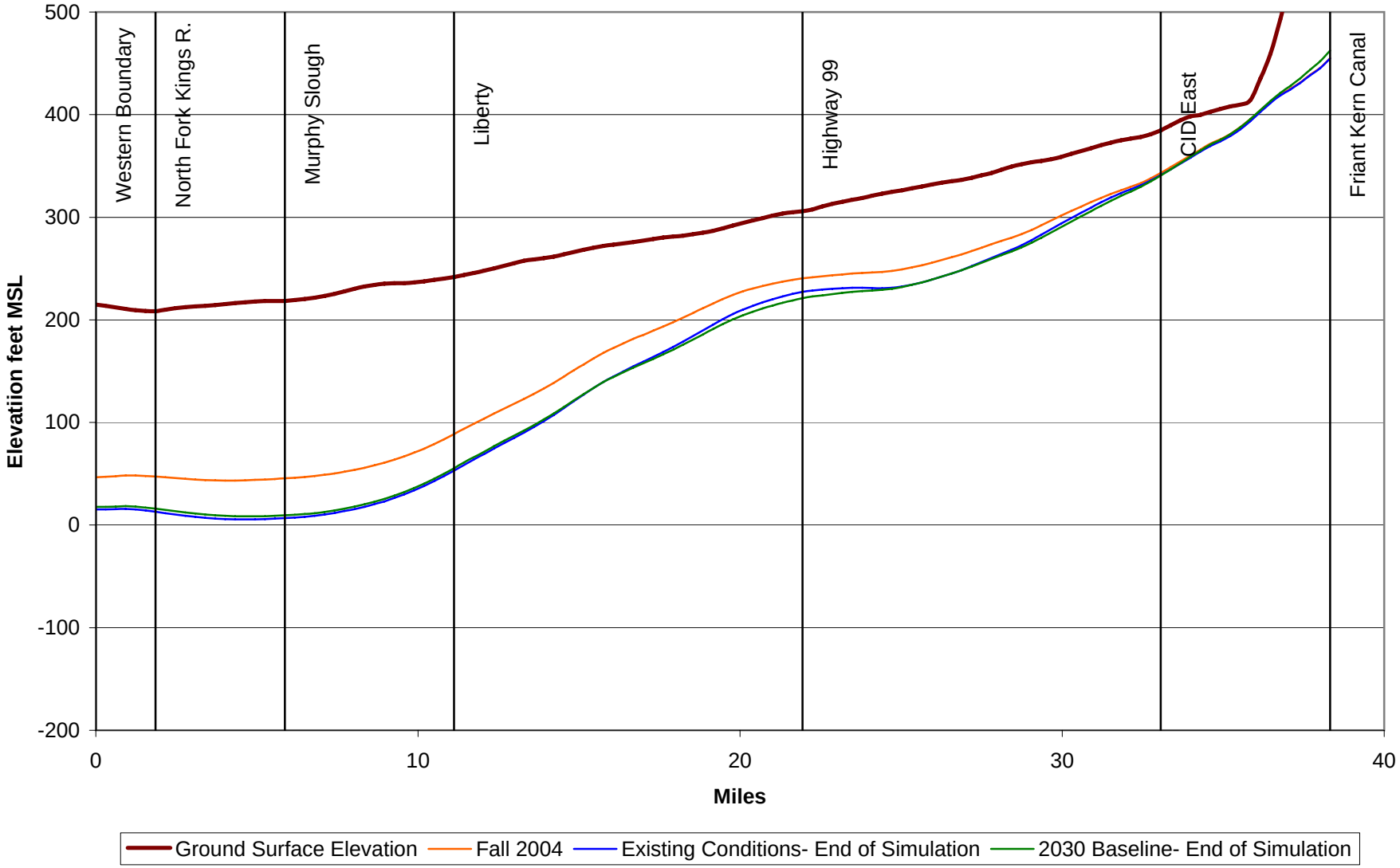


Figure 4-16. Cross Section D-D'



4.7.2 CHANGE IN GROUNDWATER STORAGE AND CONTINUED OVERDRAFT CONDITIONS

Changes in groundwater elevation are directly proportionate to the changes in groundwater storage. Figures 4-17 and 4-18 show the cumulative change in groundwater storage in the IRWMP area and Kings Basin, respectively. Summary of the long-term average change in groundwater storage for the Existing Conditions and 2030 Conditions is provided in Table 4-6. For purposes of comparison, the table includes the "1964-2004 Historical" data. The 1964 to 2004 period included changing urban growth over time. Between 1964 and 2004; 78 TAF/yr and 161 TAF/yr were removed from storage in IRWMP Area and Kings Basin, respectively.

Table 4-6. Change in Groundwater Storage at the End of 41-Year Hydrologic Period

Area	Change in Groundwater Storage	1964-2004 Historical	Existing Conditions	2030 Conditions
IRWMP Area	**Cumulative Change in Groundwater Storage at the End of 41-Year Period (TAF)**	-3,200	-1,900	-2,200
	Average Annual Change in Groundwater Storage (TAF/yr)	-78	-46	-54
Kings Basin	**Cumulative Change in Groundwater Storage at the End of 41-Year Period (TAF)**	-6,600	-4000	-4300
	Average Annual Change in Groundwater Storage (TAF/yr)	-161	-98	-105

The model indicates that if the 2005 existing land use conditions were to occur over the next 41 year modeling period, 46 TAF/yr would be removed from groundwater storage in IRWMP area. For the 2030 conditions, 54 TAF/yr would be removed from groundwater storage in IRWMP area. The increase in 2030 Conditions depletion of groundwater storage are associated with the increased urban development and the increased urban reliance on groundwater. The loss of groundwater from storage in the Kings Basin will be 98 TAF/yr and 105 TAF/yr for 2005 Existing Conditions and 2030 Conditions, respectively. Additional loss of storage is due to groundwater pumping for agricultural use in lower Kings Basin.

4.8 FINDINGS

Review of the model results indicate:

- Continued Overdraft Conditions and Decline of Groundwater Levels – Current trend of water level declines will continue into the future. Water level declines are more significant in the groundwater depression area in RCWD and major urban areas in Fresno and Clovis.

Figure 4-17. Cumulative Change in GW Storage in IRWMP Area

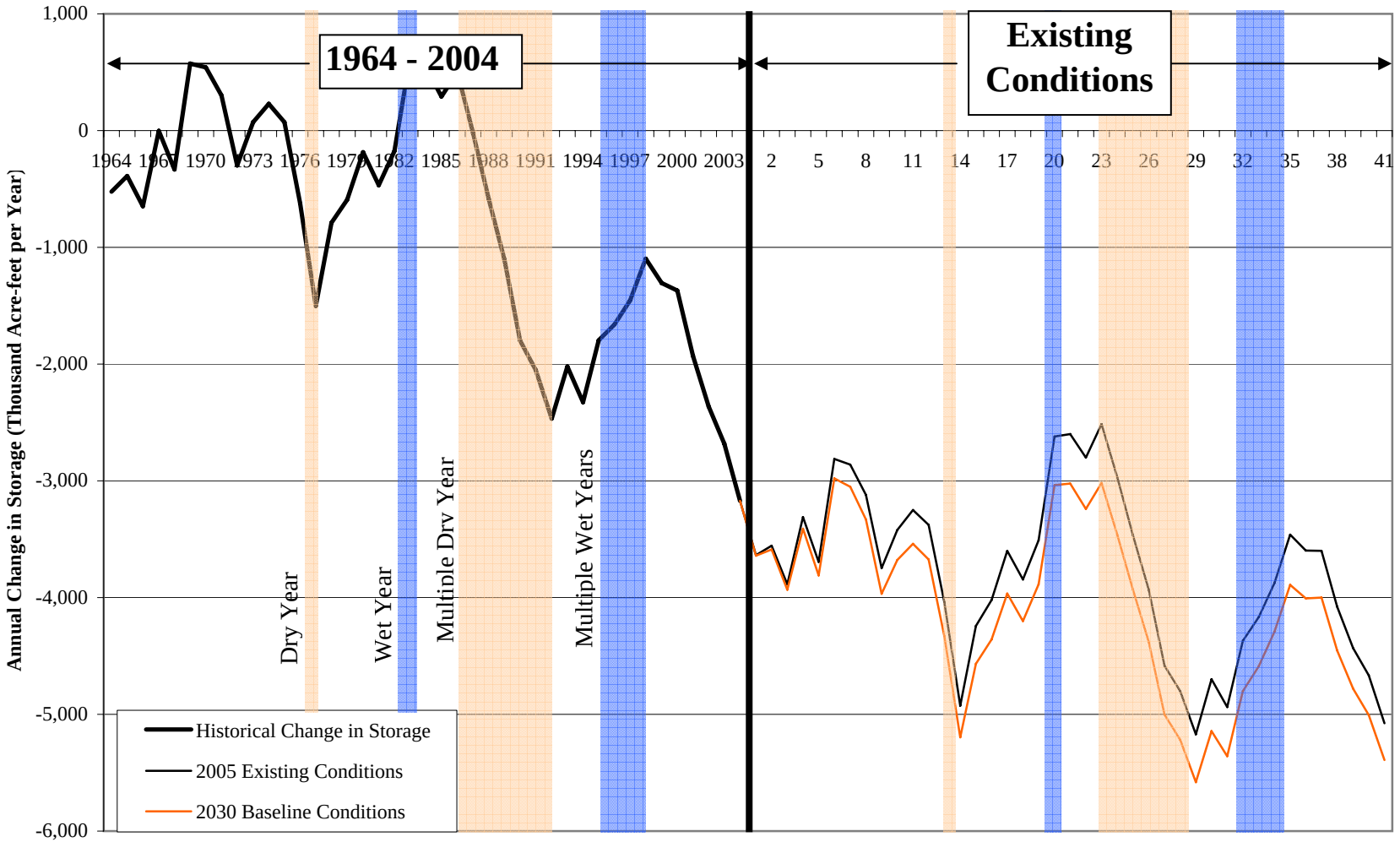
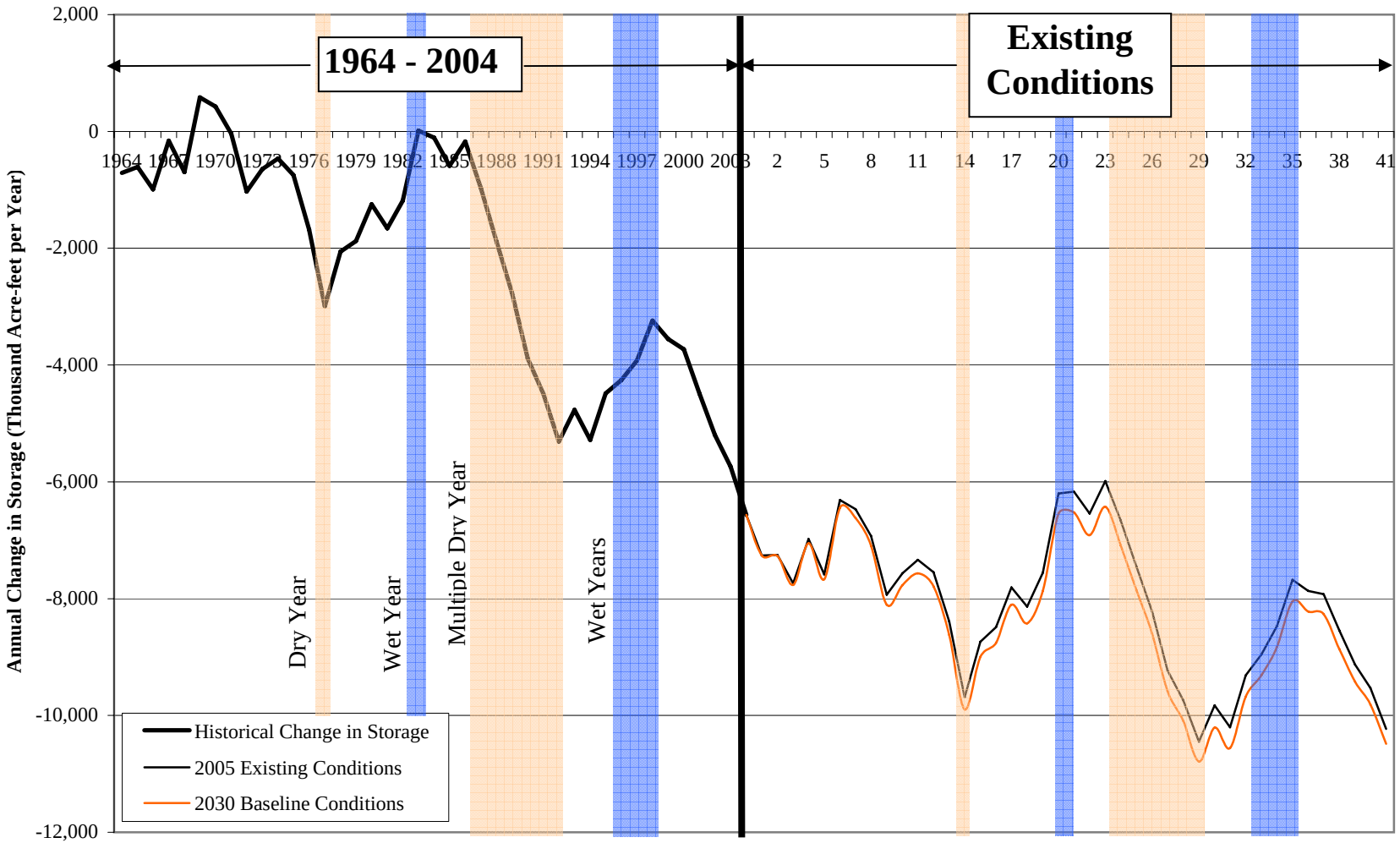


Figure 4-18. Cumulative Change in GW Storage in Kings Basin



- Increased Impact in Urban Areas – Additional urban demands of 2030 Conditions result in lower groundwater levels when compared to Existing Conditions. The groundwater levels in Fresno for 2030 Conditions is approximately 25 to 30 feet lower than Existing Conditions while water levels in urban areas of CID show 5 to 10 feet of difference. Since agriculture relies mostly on surface water, the difference between groundwater levels of Existing Conditions and 2030 Conditions is not significant where land use remains predominantly agricultural.
- Beneficial Impact of Projects – Projects that include reduction in groundwater pumping and increase in surface water use, similar to surface water use by City of Clovis, could reduce the rate of decline of groundwater levels and, if provided in sufficient quantities it would reverse the decline.