

POTENTIAL AREAS OF INUNDATION FROM A HYPOTHETICAL SUDDEN FAILURE OF AUBURN DAM

PLATE 6
2-13-79

Figure 1. Potential areas of inundation if a 2.3 million acre-foot dam at Auburn suddenly failed. This figure is taken from USBR Supplement (1980), Plate 6.

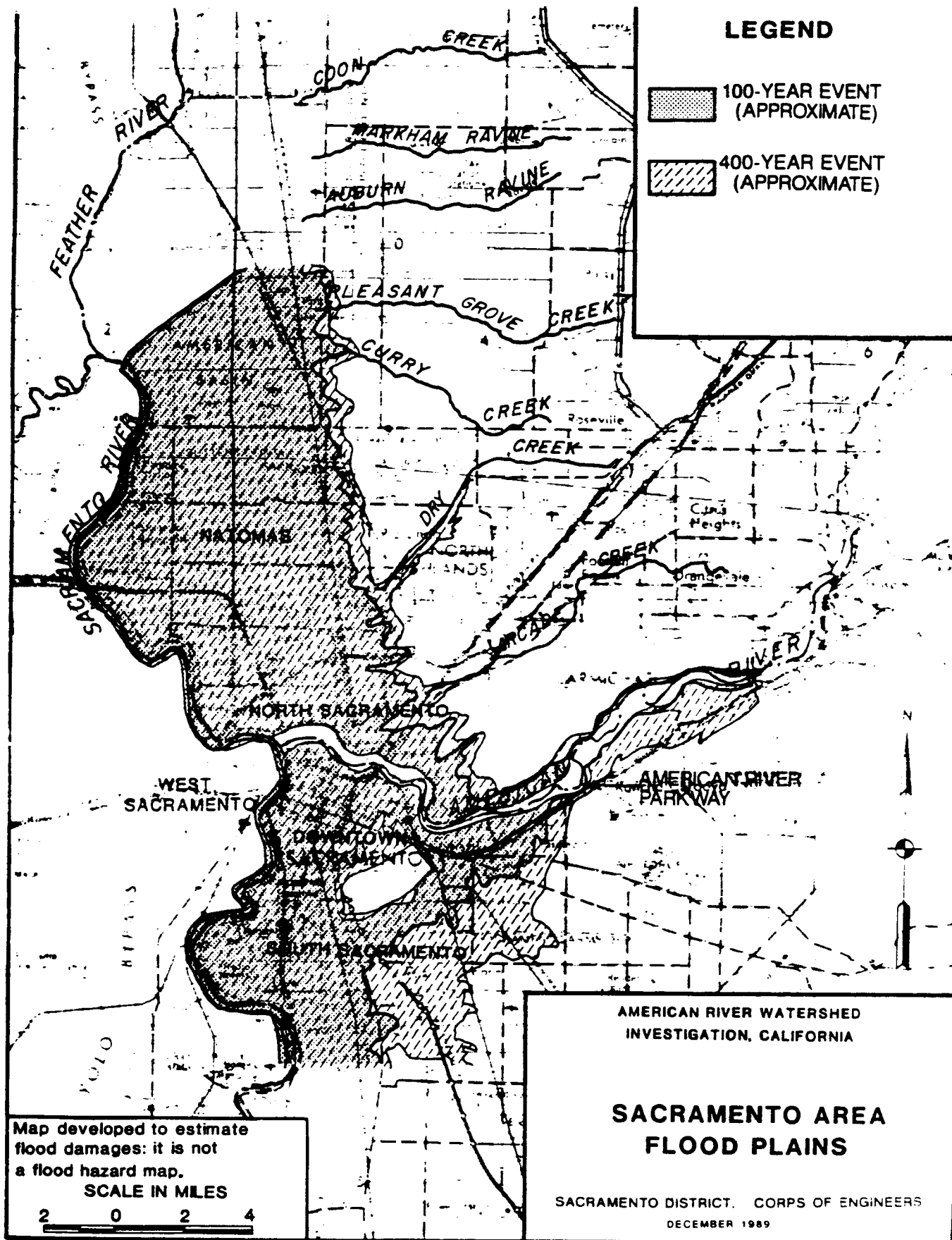


Figure 2. Potential areas of inundation for a 100-year storm flood and a 400-year storm flood. This figure is taken from Army Corps (1989), Plate 4.

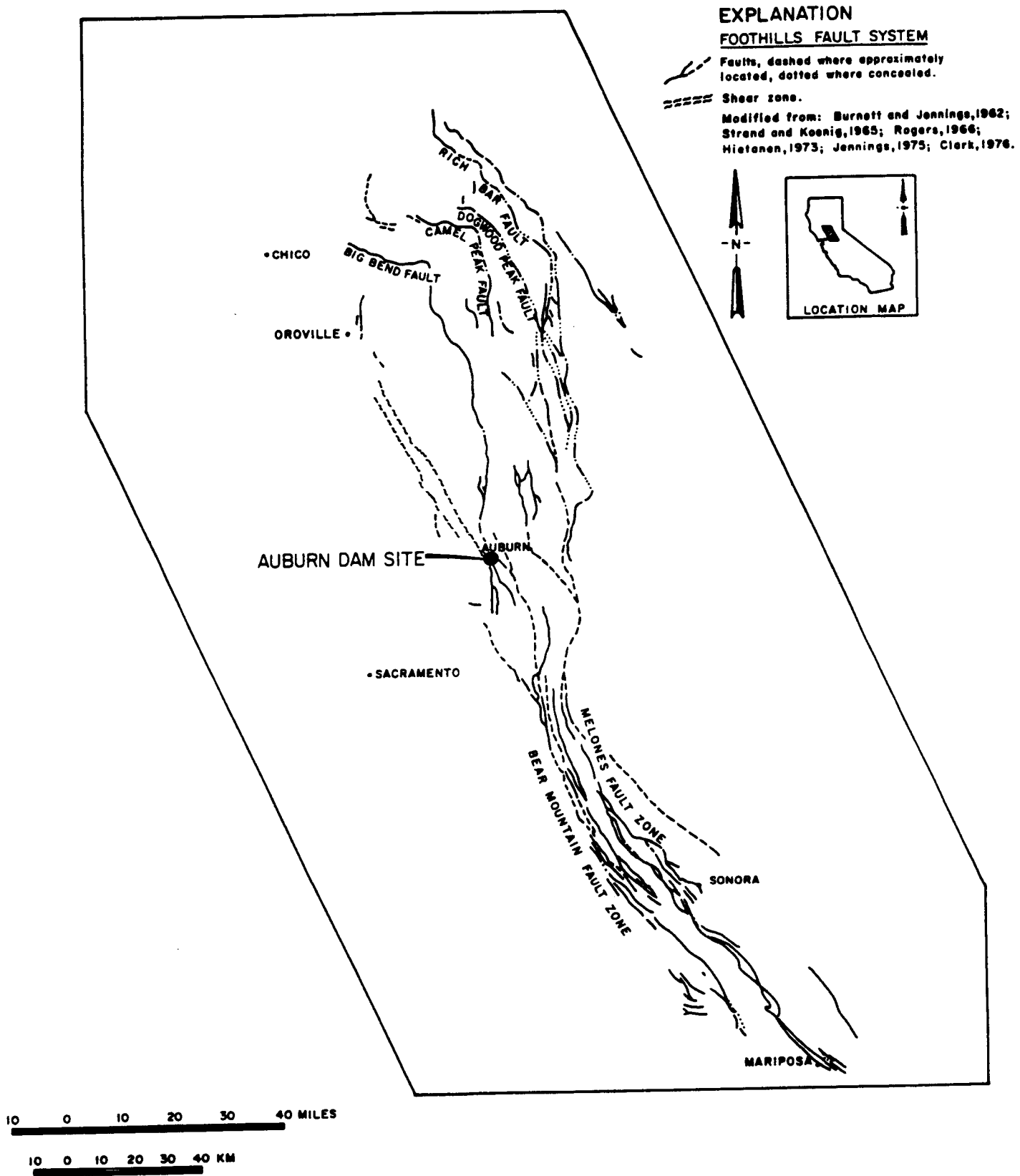


Figure 3. A map showing elements of the Foothills faults system. This figure is taken from CDMG (1979), p. 3, Figure 1).

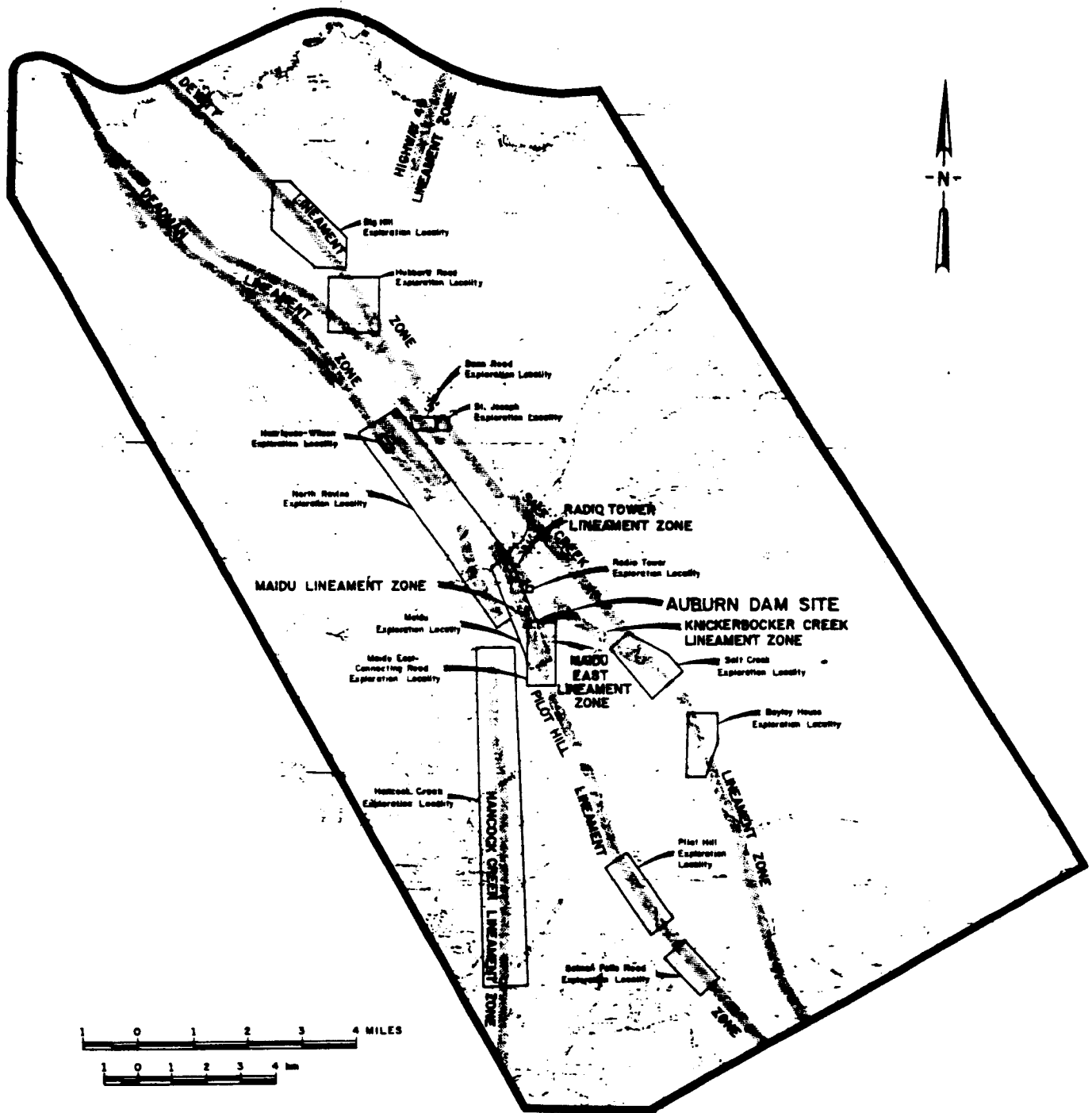


Figure 4. Lineament zones associated with the Bear Mountain fault system in the vicinity of the Auburn damsite. This figure is taken from CDMG (1979), p. 11, Figure 5.

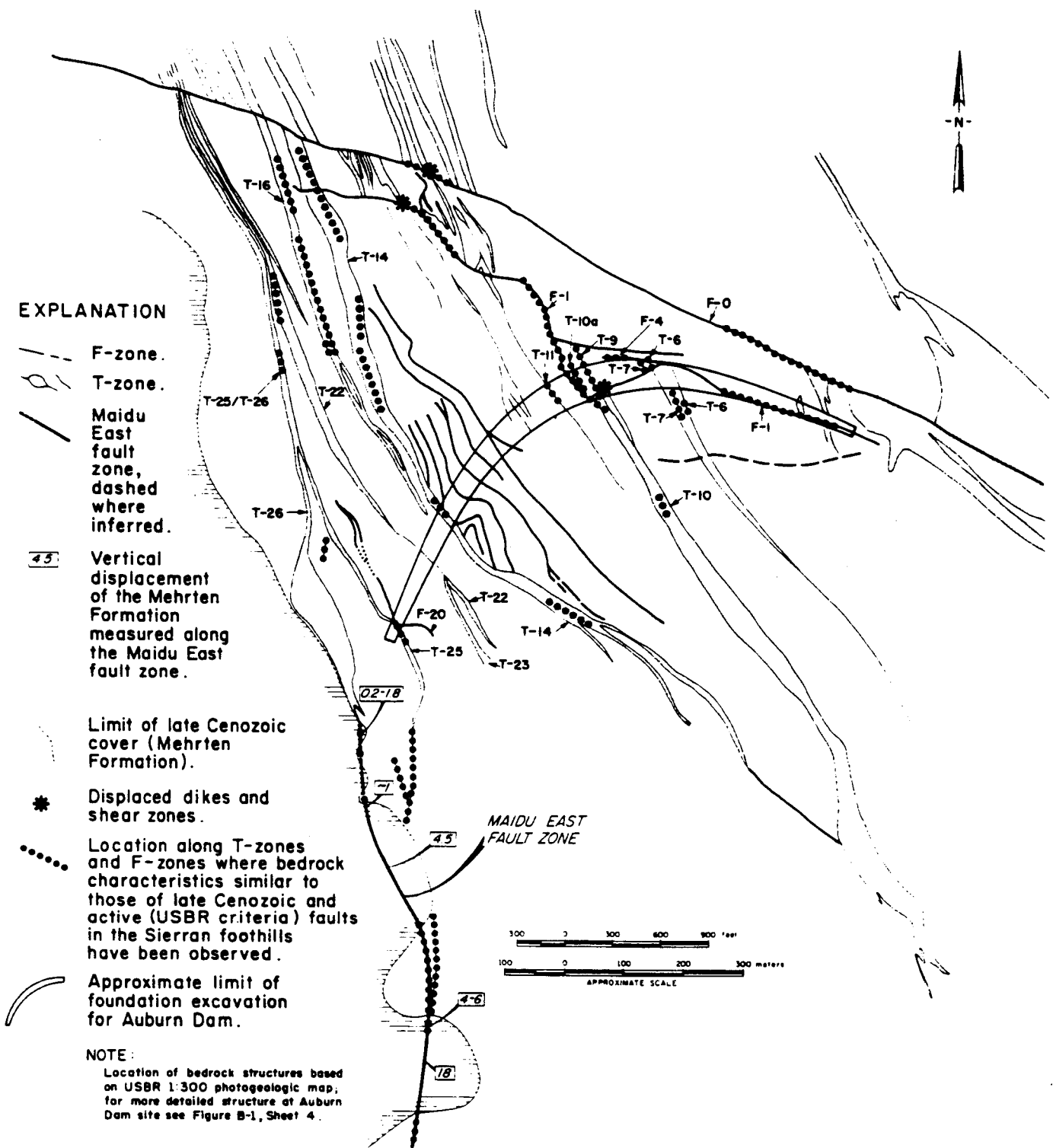


Figure 5. T-zones, T-zone faults, and F-zone faults in the immediate vicinity of the Auburn damsite. Portions of faults that show surface features identical to those seen on active faults elsewhere in the Foothills fault system are indicated by heavy dots. This figure was taken from WCC (1977), v. 2, p. 121, Figure 54.

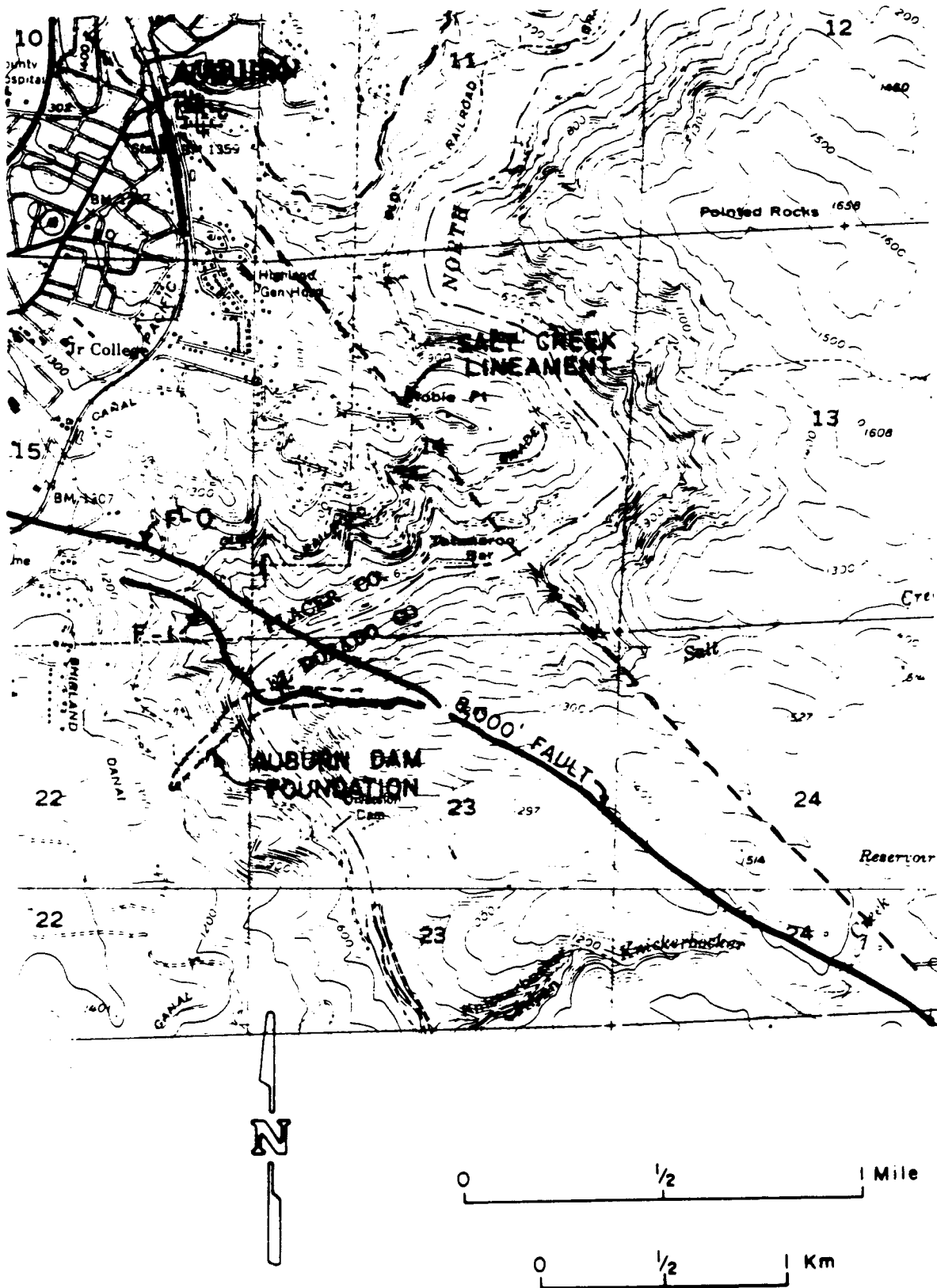


Figure 6. A map showing major F-zone faults in the vicinity of the Auburn damsite, and their extension to the southeast. This figure was taken from CDMG (1976), p. 9, Figure 4B.

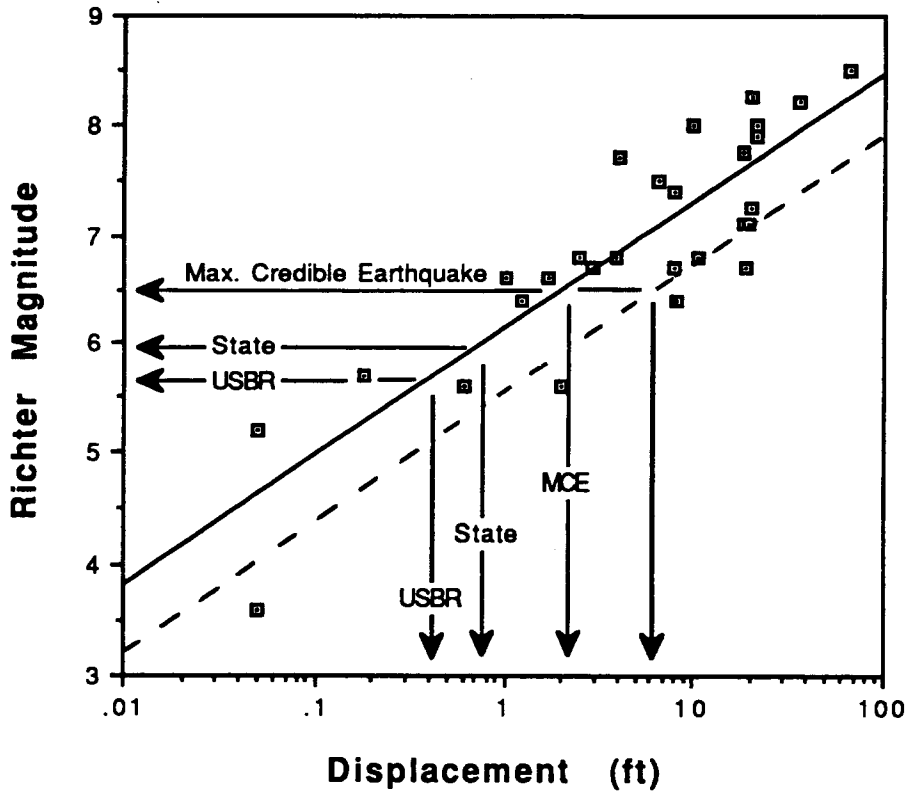


Figure 7. A plot of maximum surface fault displacements observed after earthquakes of various magnitudes. Notice that the displacement scale is logarithmic. The data are for normal faults and normal-oblique faults, as listed by Slemmons (1977). The inclined solid line is the "best fit" to the data, drawn so that 50 percent of the surface displacements observed for earthquakes of any particular magnitude plot at higher values. The dashed line is drawn so that 33 percent of the observed surface displacements plot at higher values. The horizontal line labeled "Max. Credible Earthquake" is located at M 6.5, the MCE for the Auburn dams site. The vertical line labeled "MCE" shows that 50 percent of the M 6.5 earthquakes would cause displacements of 2 feet or higher. The unlabeled line shows that 33 percent of M 6.5 earthquakes would cause displacements greater than 6 feet. The lines labeled "USBR" indicate that the 5-inch displacement specification corresponds, on the average, to a M 5.6 earthquake. The lines labeled "State" show that the 9-inch displacement specification corresponds, on the average, to a M 6.0 earthquake.

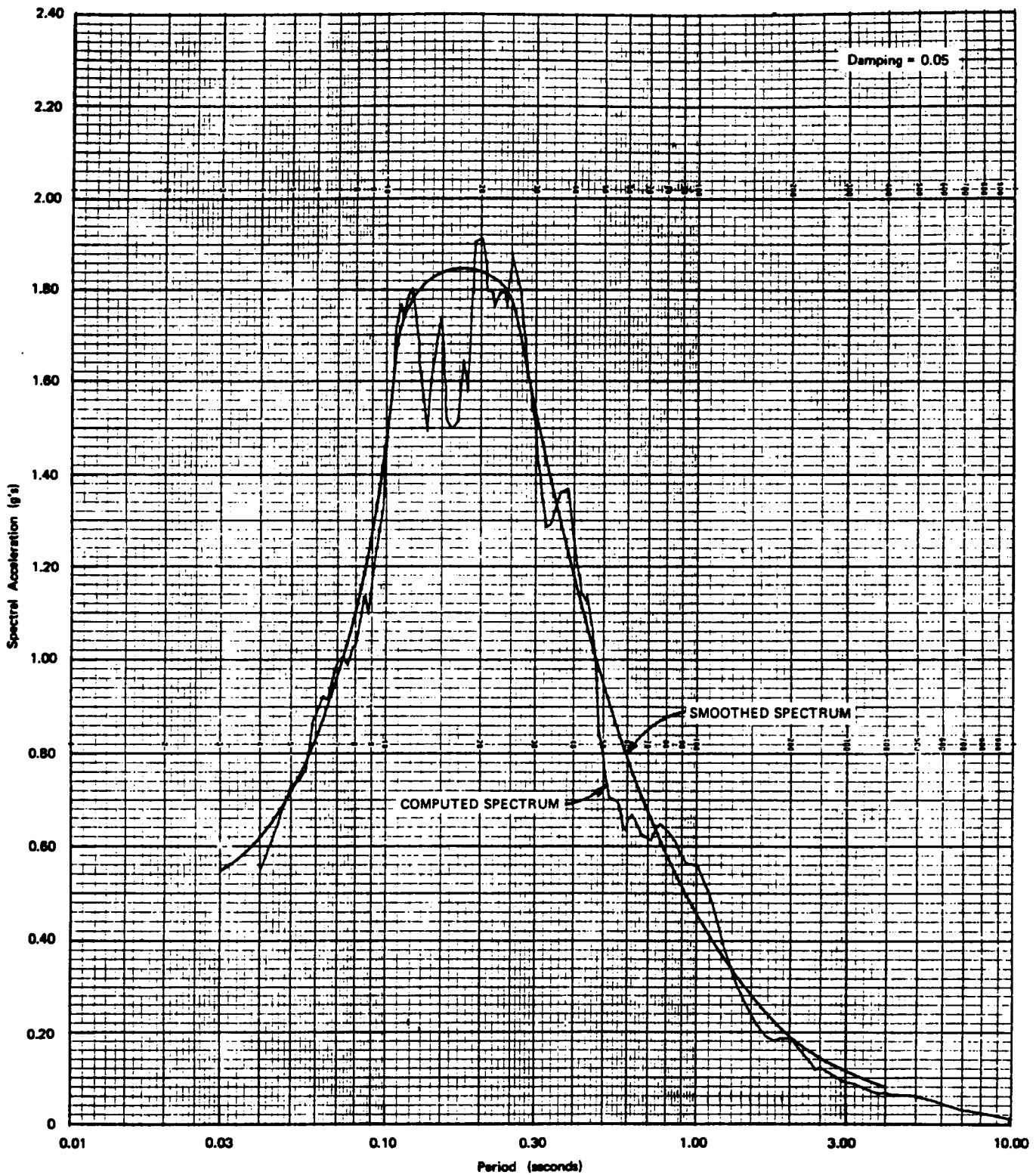


Figure 8. Response spectrum for the ground motions at the Auburn damsite. These are the 84th percentile spectra determined by Woodward-Clyde Consultants (1977, v. 8, p. 19, Figure 4). The jagged curve was computed directly from response spectra recorded for several earthquakes. The smooth curve was drawn to eliminate the jaggedness.

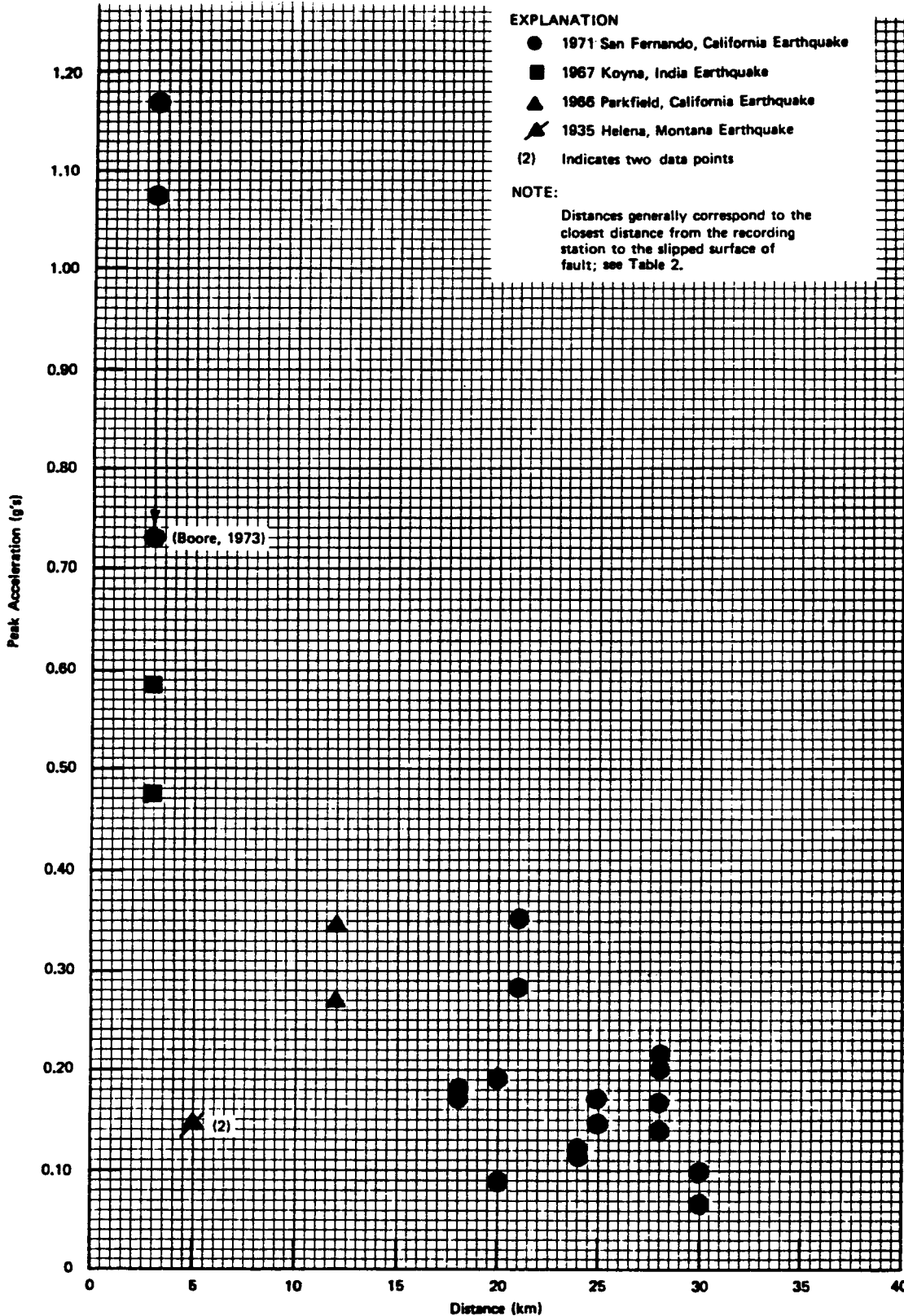


Figure 9. The correlation of peak ground acceleration with distance of the measuring station from the earthquake, from Woodward-Clyde Consultants (1977, v. 8, p. 15, Figure 1). The disputed data points, from the Pacoima Dam record of the 1971 San Fernando earthquake, are the solid dots that plot between 1.00 and 1.20 g at the left side of the diagram. The point labeled "(Boore, 1973)" is the Pacoima Dam acceleration value after correction for amplification caused by local topography.

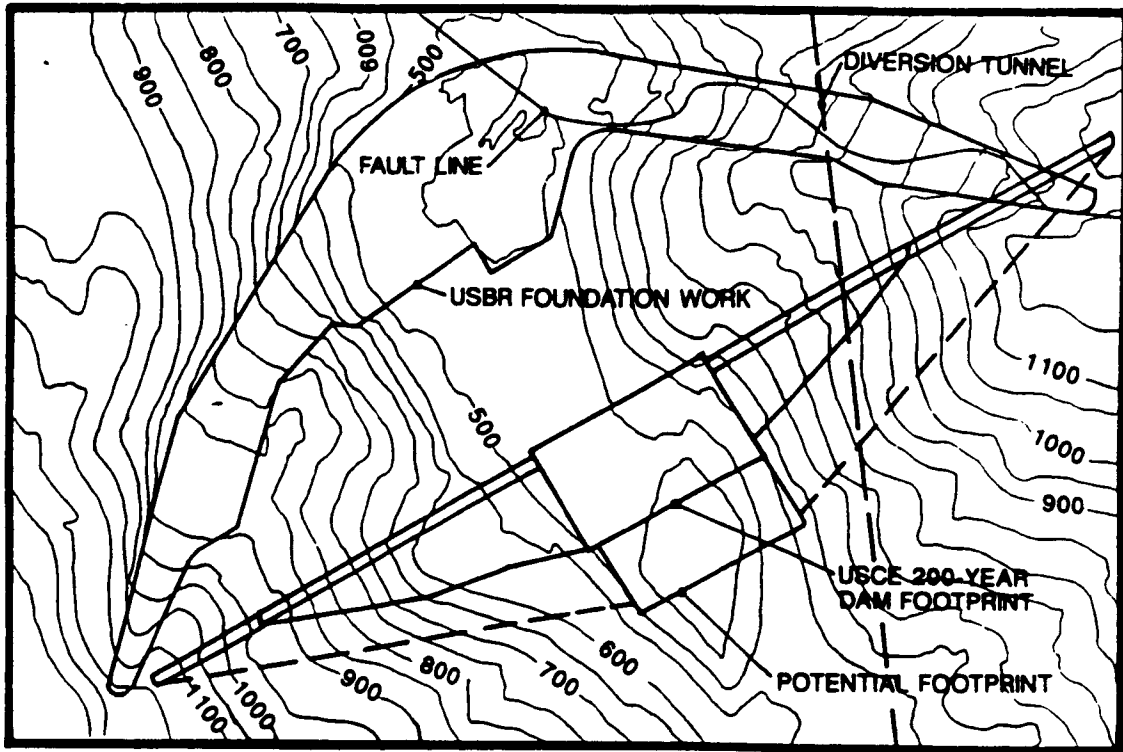


Figure 10. Plan view of foundation locations for different versions of the proposed Auburn dam. This figure is taken from Army Corps (1989), Plate 9.