

Appendix D-3: Table 4
Applied Crop Water Duties and Irrigation Efficiency Values
(DU = 80%)

Antelope Valley Area of Adjudication

Crop	ET _c ¹ (in)	P _e ² (in)	ET _{AW} ³ (in)	DU ⁴ (%)	AW _c ⁵ (in)	AW _{er} ⁶ (in)	AW _{pr} ⁷ (in)	AW _T ⁸ (in)	K _f ⁹ (ft)	E _r ⁹ (%)
Alfalfa	62.10	1.77	60.33	80	75.42	0	2.0	77.42	6.5	81
Carrots	27.47	0.00	27.47	80	34.33	6	6.5	46.83	3.9	85
Grain	22.94	1.42	21.52	80	26.90	0	4.0	30.90	2.6	83
Melons/Squash	23.91	0.00	23.91	80	29.88	0	4.0	33.88	2.8	82
Onions	37.57	0.00	37.57	80	46.96	3	4.0	53.96	4.5	83
Orchard (Deciduous)	47.38	0.00	47.38	80	59.22	0	0.0	59.22	4.9	80
Pasture	66.19	1.77	64.42	80	80.53	0	0.0	80.53	6.7	80
Potatoes	24.02	0.00	24.02	80	30.03	0	4.0	34.03	2.8	82
Silage	27.31	0.00	27.31	80	34.14	0	4.0	38.14	3.2	82
Sugar Beets	40.55	0.00	40.55	80	50.68	0	4.0	54.68	4.6	81
Vineyard (Grapes)	35.33	0.00	35.33	80	44.16	0	0.0	44.16	3.7	80

¹ ET_c = K_c * ET_a where ET_a = average ET_a for specified periods, based on data from Victorville CIMIS Station, 1984-2003; K_f values from Univ. California Cooperative Extension

² P_e = effective precipitation offsetting ET_a up to 1/2 of the average precipitation, in Dec. - Feb., inclusive

³ ET_{AW} = evapotranspiration of applied water = ET_a - P_e

⁴ DU = Irrigation distribution uniformity

⁵ AW_c = applied water for crop requirement = ET_{AW} + DU

⁶ AW_{er} = applied water for erosion control

⁷ AW_{pr} = applied water for field preparation and pre-irrigation

⁸ AW_T = applied crop water duty = AW_c + AW_{er} + AW_{pr}

⁹ E_r = overall irrigation efficiency for beneficial uses = (ET_{AW} + AW_{er} + AW_{pr}) / AW_T

