
Appendix D



CHINO BASIN DYY PROGRAM EXPANSION PROJECT
"EQUIVALENT RECHARGE BASIN" COST ESTIMATE
PRELIMINARY

Recharge Basin Facility

Engineering Assumptions

Recharge capacity	10,000	AFY
Delivery reliability	7	months per year
Percolation rate	1.5	feet per day
Basin aspect ratio (length:width)	1.5	:1
Basin wall slope (H:V)	2.0	:1
Basin depth	8	feet
Perimeter access strip width	15	feet
Depth requiring fine grading	1	feet
Distance from channel	1	miles
Recharge basin dimensions:		
Required bottom area	1,382,857	SF
Bottom length	1,440	feet
Bottom width	960	feet
Top length	1,472	feet
Top width	992	feet
Basin excavation	421,267	CY
Total basin area	34	acres
Recharge facility dimensions:		
Site length	1,502	feet
Site width	1,022	feet
Total site area	35	acres
Channel-to-basin pipeline flow	15.3	mgd
Channel-to-basin pipeline diameter	30	inches

Cost Assumptions

Contingency	20%
Engineering/administration	10%
Land	\$500,000 /acre
Mass excavation	\$10 /CY
Fine grading/earthwork	\$15 /CY
Pipelines	\$15 /in-dia/LF
Perimeter fence	\$35 /LF
Instrumentation	\$100,000 lump sum

Cost Summary

Land	\$17,625,000
Excavation	4,213,000
Fine grading/earthwork	811,000
Interconnecting pipeline	2,376,000
Perimeter fence	177,000
Instrumentation	100,000

Total Construction Cost 25,302,000

Contingency 5,060,000
Engineering/administration 2,530,000

Total Capital Cost \$32,892,000

Recharge basin unit capital cost \$3,289,200 /1,000 AFY recharge capacity

Injection Well Facility

Engineering Assumptions

Injection capacity	10,000	AFY
Delivery reliability	7	months per year
Injection well capacity	1,000	gpm
Land requirement, per well		
Length	100	feet
Width	50	feet
Area	0.11	acres
Total injection flow	10,629	gpm
No. of injection wells required	11	

Cost Assumptions

Contingency	20%
Engineering/administration	10%
Land	\$500,000 /acre
Drilling/casing/cap	\$900,000 lump sum
Equipping/sitework/elec./mech.	\$200,000 lump sum
Building/enclosure	\$250,000 lump sum
Perimeter fence	\$35 /LF

Cost Summary

Land	\$631,000
Drilling/casing/cap	9,900,000
Equipping/sitework/elec./mech.	2,200,000
Building/enclosure	2,750,000
Perimeter fence	11,000

Total Construction Cost 15,492,000

Contingency 3,098,000
Engineering/administration 1,549,000

Total Capital Cost \$20,139,000

Injection well unit capital cost \$2,013,900 /1,000 AFY recharge capacity