

**SAN CLEMENTE RESERVOIR
DREDGING FEASIBILITY STUDY
CARMEL VALLEY, CALIFORNIA**

Prepared For

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Summary

- Dredging of practically all accumulated reservoir sediment is technically feasible;
- Adequate off-site disposal areas are available, as identified in Section 5;
- Key issue related to hydraulic pipeline operations is the water availability (need 850 to 1200 acre-feet of water per year for pumping);
- Key issue related to truck off-haul operations is the potential environmental impact on existing conditions;
- A potential market value for the excavated sediments exists, and should be explored in more detail including partnering efforts with construction companies and miners;
- Removing and disposing about 1 million cubic yards of sediment is estimated to cost between \$8 and \$30 per cubic yard, over a time period of 1 to 15 years, depending on the alternative(s) selected;
- Removing and disposing about 2 million cubic yards of sediment is estimated to cost between \$12 and \$17 per cubic yard, over a time period of 5 to 30 years, depending on the alternative(s) selected;
- All alternatives would facilitate maintenance dredging of incoming sediment load on an annual or similar recurrence. Also, the sediment bypassing concept (see Section 5.4.7) is promising and should be evaluated.

TABLE 7.1 : SUMMARY OF ALTERNATIVES EVALUATION

Alternative	Disposal Site	Description	Unit Rate (\$/CY for following dredge volumes)*			Duration of Operations (for 1,000,000 CY)	Comments
			1,000,000 CY	2,000,000 CY	2,000,000 CY (1,000,000 CY confined disposal at filter plant)		
I	Filter Plant (confined disposal)	Confined disposal at Filter Plant, via mech. dredging & conveyor	\$9.40	--	--	1 - 2 years	Potential floodplain impacts, limited by capacity
IB	Filter Plant + Others (confined disposal + processing)	Confined disposal + processing at Filter Plant, via mech. dredging, conveyor, and truck off-haul (20 mi distance)	\$17.20 (515,000 CY disposed on-site)	\$17.00 (515,000 CY disposed on-site)	\$14.50	8 - 9 years	Potential floodplain impacts, limited by capacity and off-haul rates (60,000 CY/yr)
IC	Filter Plant (confined disposal)	Confined disposal at Filter Plant, via hydraulic dredging & slurry pipeline	\$8.00	--	--	3 - 4 years	Potential floodplain impacts, limited by capacity and water for slurry (850 to 1200 AF/yr)
II	Various (processing at Garland Ranch)	Mech. dredging, conveyor to Filter Plant, slurry pipeline to Garland Ranch and truck off-haul (20 mi distance)	\$29.20	\$23.80	\$16.80	6 - 7 years	Limited by site area, off-haul rates (150,000 CY/yr), and water for slurry (850 to 1200 AF/yr)
IIB	Various (processing at Garland Ranch)	Hydraulic dredging, slurry pipeline to Garland Ranch and truck off-haul (20 mi distance)	\$24.10	\$20.45	\$15.75	6 - 7 years	Limited by site area, off-haul rates (150,000 CY/yr), and water for slurry (850 to 1200 AF/yr)
III	Tularcitos Valley sites (confined disposal)	Mechanical dredging, conveyor to Filter Plant & truck off-haul to Tularcitos Valley sites	\$19.00	\$15.35	\$12.30	5 - 6 years	Capacity related to land availability. Off-haul rate assumed to be 200,000 CY/yr.
IV	Various (pipeline to Carmel beaches)	Hydraulic dredging, slurry pipeline to Carmel beaches and barge off-haul (60 mi distance)	\$26.60	\$20.85	\$16.40	3 - 4 years	Unlimited disposal capacity. Limited by water for slurry (850 to 1200 AF/yr)
V	Fort Ord sites (confined disposal)	Truck off-haul to Fort Ord sites from processing site - from Filter Plant - from Garland Ranch	\$24.30 \$24.80	\$21.45 \$20.90	\$14.20 \$14.65	15 - 16 years 6 - 7 years	Unlimited disposal capacity. Limited by water for slurry (850 to 1200 AF/yr), and/or off-haul rate (60,000 CY/yr from Filter Plant; 150,000 CY/yr from Garland)

* Unit rates rounded to nearest 10 cents