

IWVGA Imported Water Pipeline Project—Preliminary Cost Estimate

SEPTEMBER 13, 2023

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Key points to consider

- ▶ This is a Class 3 cost estimate (AACE), typically prepared to support funding requests (10% to 40% design).
- ▶ Class 3 estimates have an expected accuracy range of -10% to -20% on the low range and +10% to +30% on the high range.
- ▶ The national economy at the time of bidding will play a large role in the cost of the project.
- ▶ It is difficult to project what material costs (especially steel, PVC, and diesel) will be 2-3 years from now. We used current costs from recent bids.
- ▶ Geotechnical report will be critical for contractors submitting bids.
- ▶ Construction in a remote area will likely result in higher costs for labor (per diems), construction water, backfill material, and logistics (getting equipment to the construction site).

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Mobilization

- ▶ Cost to the contractor to move his equipment to the site, set up offices, obtain utilities (power and water), get needed permits, etc.
 - ▶ Typically 5% of construction cost
 - ▶ We used 6.5% to account for per diem, remote location, and mostly SWPPP development and implementation
- ▶ For this project, this amounts to just over \$10 million.

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Pipe

- ▶ Cost per linear foot (LF) based on cost of pipe, plus installation, which includes labor and equipment.
- ▶ For 24-inch PVC, \$340 per LF basic (92% of length is basic), \$410 in areas with seismic risk (restrained joints), \$440 where rocky conditions are probable.
- ▶ For steel, \$475 per LF basic, \$570 with seismic risk, \$575 where rocky conditions are probable (52% of length).
- ▶ Trenchless construction included for RR, road, and wash crossings (more expensive per LF)
- ▶ Total pipe cost (installed) is approximately \$128 million—well over 75% of the total cost.

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Pump Stations

- ▶ Cost includes site grading, building, pumps (for all phases), piping (including yard piping), surge tanks, valves and flowmeters, variable frequency drives, forebay tanks (for two of them) electrical, motor control centers, lighting, HVAC, SCADA radio.
- ▶ The three pump stations average about \$5.6 million each, for a total of just under \$17 million.
- ▶ A lump sum cost of \$10 million was added to bring SCE power to the two pump stations located where there is no current power, bringing the cost of the pump stations to \$27 million.

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Pipeline Facilities and Tanks

- ▶ Three PRV stations identified for a total of \$450,000.
- ▶ One flow control station identified for a total of \$100,000.
- ▶ AVEK turnout, designed to AVEK standards--\$200,000
- ▶ 242,000-gallon regulating tank at high point--\$500,000.
- ▶ One MG Terminal tank to protect IWVWD system--\$2.1 million
- ▶ Total facilities and tanks--\$3.35 million

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Summary of Costs

Component	Cost (millions)	Percent of construction cost
Transmission pipeline	\$128.3	81%
Pump stations	\$26.8	17%
Facilities and tanks	\$3.4	2%
Subtotal	\$158.5	100%
Mobilization (6.5%)	\$10.3	
20% Contingency	\$31.7	
Total	\$200.5	

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Not included

- ▶ Land and right of way costs.
- ▶ Cost to purchase water rights.
- ▶ Any potential wheeling costs from AVEK.
- ▶ Environmental mitigation costs.
- ▶ Post design services, including inspection, soils testing, construction management, etc.

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Assumptions

- ▶ All costs are in 2023 dollars.
- ▶ A construction crew of seven people can lay 300 LF per day.
- ▶ Material, crew, and equipment costs include a 22% labor burden, 10% overhead, 5% profit, 1.5% bond, and 1.25% liability.
- ▶ No more than ten miles of new transmission lines from SCE.

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Project Schedule

- ▶ CEQA certification – October 2024
- ▶ Final design completed—March 2025
- ▶ Advertise for construction—Mid to late 2025
- ▶ Construction—2026-2028
- ▶ Water deliveries—2029

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