EAGLE WELL DRILLING & PUMP SERVICES

CA License #768952
P.O. Box 358, Newberry Springs, CA 92365
Phone: (760) 257-3553 | (760) 248-3344

NEW WELL CONSTRUCTION PROPOSAL

Prepared for: Crestline Water District
Date: May 20, 2026
Quote Valid: 30 Days

PROJECT OVERVIEW

Eagle Well Drilling & Pump Services proposes to drill, case, gravel pack, and develop one (1) new production well for Crestline Water District. The well will be constructed to San Bernardino County Department of Public Health standards with NSF-certified materials throughout.

WELL SPECIFICATIONS

Parameter	Specification
Total Depth	600 feet
Surface Bore (0-100 ft)	17-1/2 inch diameter
Surface Casing	10-inch steel, cemented
Sanitary Seal	50 feet (San Bernardino County requirement)
Production Bore (100-600 ft)	10-inch diameter, air-rotary method
Production Casing	6.9-inch SDR21 Certa-Lok (flush thread)
Casing Length	640 ft total (320 ft solid + 320 ft screen)
Gravel Pack	NSF-certified filter pack, full annulus
Drilling Method	Air-rotary (surface: mud-rotary)

Note: Casing total is 640 ft (vs. 600 ft hole depth) to account for material loss during the cut-and-thread process. Each joint loses a small amount when flush-threaded to specification.

COST BREAKDOWN

Description	Rate/Unit	Total
Drilling - Surface Bore (17-1/2", 0-100 ft)	$325/ft	$32,500.00
Drilling - Production Bore (10" Air, 100-600 ft)	$275/ft	$137,500.00
Production Casing - 6.9" SDR21 Certa-Lok Flush Thread	640 ft	$21,631.97
Casing Installation Labor	Lump Sum	$7,500.00
NSF Certified Gravel Pack (12 super sacks, delivered)	12 tons	$21,800.00
10" Steel Surface Casing + 50 ft Sanitary Seal (cement)	Lump Sum	$18,000.00
Well Development (air lift, surge, chlorination)	Lump Sum	$12,000.00
Mobilization / Demobilization	Lump Sum	$18,000.00
Drilling Supplies (bits, stabilizers, consumables)	Lump Sum	$15,000.00
Crew Per Diem (2 weeks, 6 days/week)	$750/day	$9,000.00
	TOTAL:	**$292,931.97**

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PROJECT DISCUSSION POINTS

Well Design Rationale:

- The 17-1/2" surface bore with 10" steel casing provides a stable, cemented conductor for the upper 100 ft, isolating shallow formations and meeting county seal requirements.

- The 50 ft sanitary seal exceeds minimum requirements and ensures complete protection of the aquifer from surface contamination.

- Air-rotary drilling for the production zone (10" bore) is ideal for this formation. Air drilling provides real-time water detection, better penetration rates in hard rock, and does not introduce drilling fluids that can damage the aquifer.

- The 6.9" Certa-Lok SDR21 casing (flush thread) was selected for its:
  - Corrosion resistance (PVC, no rust)
  - NSF/ANSI 61 certification for potable water contact
  - Flush-thread connections (no couplings) for maximum annular space for gravel pack
  - Proven performance in municipal water supply wells

- Casing total is 640 ft vs. 600 ft hole depth. The additional 40 ft accounts for material lost during the cut-and-thread process. Each joint loses a small amount when flush-threaded to specification. This is standard practice.

Gravel Pack:

- All gravel is NSF-certified filter media, delivered in super sacks to maintain chain-of-custody and material integrity.

- 12 super sacks (approximately 12 tons) are required to fill the annular space between the 6.9" casing and the 10" borehole wall for the full 600 ft production zone.

- Additional gravel volume (30% over calculated) is included to account for potential washout zones and lost circulation areas common in air-drilled holes.

Cost Considerations:

- Material costs have increased approximately 15% over the past year across all categories (steel, PVC, cement, gravel, drilling supplies).

- Fuel costs have roughly doubled. The drill rig and air compressor combined burn approximately 50 gallons per hour during active drilling operations. This is a significant factor in per-foot drilling costs.

- NSF-certified materials carry a premium over standard well construction materials but are required for public water supply wells.

- This quote reflects current 2026 pricing. Costs are subject to change if project start is delayed beyond 30 days.

Key Risks to Discuss:

- Lost circulation zones: Common in fractured rock. If encountered, additional materials and time will be needed. This is billed at cost plus markup per the conditions.

- Second compressor: At depth (400+ ft), the primary compressor may not provide

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CONDITIONS & EXCLUSIONS

1. LOST CIRCULATION: In the event lost circulation zones are encountered during drilling, additional materials (bentonite, cement, lost circulation material) and associated rig time to remediate will be billed at cost plus markup. Lost circulation is common in fractured formations and cannot be predicted prior to drilling.

2. SECOND COMPRESSOR: If a second air compressor is required to finish the hole at depth (due to formation conditions, water inflow, or depth limitations of the primary compressor), the rental and operation of the second compressor will be at the expense of Crestline Water District. Customer is also responsible for all cuttings haul-off and fluid management rental. Second compressor is estimated at $5,000 per week.

3. WELL YIELD: Well yield (GPM) cannot be guaranteed prior to drilling. Yield is dependent on formation characteristics and aquifer conditions at the drill site.

4. DEPTH VARIANCE: If conditions require drilling deeper than 600 ft to reach adequate water-bearing formations, additional footage will be billed at the applicable per-foot rate.

5. PERMITS: Well permit fees and any required inspections by San Bernardino County Department of Public Health are the responsibility of the owner/district.

6. ACCESS: Adequate site access for drill rig, support trucks, compressor, and water truck must be provided by the district prior to mobilization.

7. WATER SUPPLY: A water source for drilling operations (surface hole) must be available on site or within reasonable distance.