

City of Douglas -Well 14 Water Treatment Project

Summary of Proposals Received for Supply of Well #14 Arsenic Treatment System

Proposals Received by email to City Purchasing Manager:

22-Apr-22

Stantec Review Date:

4-May-22

Notes:

- 1 City to determine the taxes to be paid by the Vendor
- 2 Bid Form Line 4-Assumed to be an operation and maintenance
- 3 Bid Capital Cost = Grand Total minus Bid Form Line 4.
- 3 AI: Limited City raw water quality data on possible interfering water parameters. ADEC

Summary of Proposals Received

Submittal			
	Work Description	Quantity	Unit
1	Prepare and submit shop drawings and modify as requested for final approval by City of Douglas	1	LS
2	Furnish and install the arsenic treatment system including associated piping, valves, flow meters, pressure gauges, media and miscellaneous accessories	1	LS
3	Assist contractor with installation, testing, and commissioning the arsenic treatment system	1	LS
4	Perform the first media changeout of both vessels, including supplying and replacing new media and removal and disposal of the previous media, as well as any operational changes between the two vessels for lead-lag configuration (2)	1	LS
			Grand Total

			Subtotal Capital Cost (Not including Line 4 - Operation and maintenance costs))
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Proposed System	Layne	DeNora
Proposed System	PES-96.100	SORB E33
Design Flow Rate, GPM	800	800
Total Vessels	Two (2)	Two (2)
Media per Vessel, ft3	250	727 for two vessels, 363 ft3 per one vessel (Confirmed May 3, 2022)
Empty Bed Contact Time (per vessel)	2.34 min. (Call with Lane May 4, 2022. ADEQ will accept 2 minutes).	6.8 min for two vessels or 3.4 minutes per vessel (Confirmed May 3, 2022)
Vessel Diameter, in.	96	12 ft
Vessel Shell Height, in.	84	About 13 feet (Confirmed May 3, 2022)
Vessel Pressure Rating, PSIG	100	100
Backwash	Does not require backwash	Requires periodic backwash
Media Information and Performance	Layne	DeNora
Media Provided	LayneRT	Bayoxide E33
Media Volume (ft3)/adsorbed vessel	250	363.5
EBCT per tank (minutes)	2.34	3.4
Number of bed volumes before media changeout	82,600 to 97,600	89,625
Days in operation until changeout assuming 24-hr operation at 800gpm	134 to 160 days (Call May 4, 2022- range reflects Well 14 City historic arsenic	422
Cost of Media changeout, including removal and disposal	\$20,260.00	\$160,000
Cost per cubic foot to purchase the media FOB Well 14	\$485.00	\$182
	Layne	DeNora

American Made Steel or Iron Certification	Yes	Yes
Certificate of Insurability	Yes	Yes
Preliminary Design Drawing Provided	Yes	Yes
Delivery Time	Layne: submittal package 2-3 weeks after City PO, Shipping 8-10 weeks after receipt of approved drawings. Based on stock vessels completed February 11, 2022. Use of alternatives vessels will be delivery of 16-20 weeks.	DeNora: submittal of mech drawings for approval 4 weeks after acceptance of purchase order, submittal of EIC drawings for approval within 6 weeks after acceptance of purchase order (pg. 9 of proposal). Delivery 19 - 21 weeks after drawing approval.
References for previous Work	Yes, 4 references received Metro Water District Diablo Well Site City of Buckeye Airport Facility Forest Lakes Snow Well Facility SUEZ Water New York	Yes, 5 references received Valley Farms Coolidge, AZ Sedona, AZ Supai Village Coconino, AZ Harmony Hills Sedona, AZ Montezuma Haven Sedona, AZ
Design Basis (3)	Layne	DeNora
Iron* (mg/L)	<0.05ppm	10 ppb
Manganese*, mg/L	<0.02ppm	10 ppb
Arsenic total, ug/L	33.2	35 ppb

Arsenic (V), ug/L	33.2	-
Arsenic (III), ug/L	<1.0	N/A ppb
Silica, mg/L	<30	20 ppm
Vanadium, mg/L	0 (assumed)	2.0 ppb
Phosphate, mg/L	0 (assumed)	0.05 ppm
Sulfate, mg/L	22	-
Alkalinity (CaCo3), mg/L	80	144 ppm
pH	7.5	7.28
Water Temperature, F	70	75

2 New Source Approval water quality data will be available after Well 14 Rehabilitation. Mid June 2022.

Layne		DeNora		Comments
Equipment Price or Unit Price	Total Installed Price Including Tax (Note 1)	Equipment Price or Unit Price	Total Installed Price Including Tax (Note 1)	
\$16,500.00	\$17,506.50	\$10,400	-	City of Douglas will have to established the applicable taxes to be paid by the vendor.
\$550,825.00	\$582,824.08	\$613,300	-	DeNora did not specify installation. NSF 60/61?
\$6,950.00	\$7,373.95	\$15,800	-	DeNora specified 8 days, 2 trips
\$282,520.00	\$299,753.72	\$160,000	-	Call with Layne May 4, 2022. Layne can supply virgin or regeneration media. Regeneration is at Puralite plant in Philadelphia. For NSF reasons want the same media back. Chain of Custody. Usually 4-6 weeks.
\$856,795.00	\$907,458.25	\$799,500	-	

\$574,275.00	\$607,704.53	\$639,500	-	Capital Cost. Line 15=Line 14- Line 4. Line 4 is assumed to be operation and maintenance not capital cost.
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DeNora proposal says 75 psi
Appendix provides additional information per vessel for changeout including removal and disposal plus applicable taxes plus applicable taxes

Recommend that the City arrange for tour of a utility using the same arsenic removal system.

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Comments

*No data provided. Shown values are the recommended maximums.
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On last page of submittal, Layne provides number of bed volumes for 35 ppb.

Not Provided
Not Provided

Not Provided