

AGENDA ITEM
October 18, 2022

Subject: Deep Well #3 and #4 Rehabilitation

Department: Water Treatment

Deep well #4 located at Cleveland and Adams Street is suffering from performance issues in loss of pressure and gallons per minute flow to the Water Treatment Plant.

The City of Nevada have service contracts with Flynn Drilling and Layne Christensen Company for Deep Well repairs. Layne Christensen Company was chosen because they have performed these service on our deep well in the past.

This is an emergency situation. The Water Treatment Plant may not be able to utilize well #4 because of the pressure loss. The Plant won't run properly under low pressure. We are also experiencing a loss of 100-120 gallons per minute (GPM).

On top of the pressure loss and reduced GPM we are also experiencing biofouling at the 5-micon filters. We are replacing the filters monthly when under normal operations we replace them every 3-6 months.

These services on Well #3 and Well #4 may not completely solve the issues but will help us determine other steps to correct the pressure and GPM losses.

RESOLUTION 1671

A RESOLUTION OF THE CITY OF NEVADA, MISSOURI ACCEPTING THE BID AND AUTHORIZING THE CITY MANAGER TO EXECUTE PAYMENT TO LAYNE CHRISTENSEN COMPANY, KANSAS CITY, KANSAS, FOR DEEP WELL #3 AND #4 REHABILITATION

WHEREAS, Deep well #4 located at Cleveland and Adams street has developed reduced performance resulting in loss of pressure and gallons per minute flow to the Water Treatment Plant, and;

WHEREAS, the City Manager has determined emergency corrective action is needed to troubleshoot the loss of pressure and water flow reduction from Deep Well #4, and;

WHEREAS, the City of Nevada have service contracts with Flynn Drilling and Layne Christensen Company for Deep Well repairs; and;

WHEREAS, the City Manager invoked Section 26-18 procurement exception due to the public health and safety and has scheduled Layne Christian Company to provide cleaning and inspection services for Deep Well #3 and #4; and;

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Nevada, Missouri authorizes the City Manager to make payment to **LAYNE CHRISTENSEN COMPANY, KANSAS CITY, KANSAS** in the amount not to exceed \$50,000.00 for rehabilitation of Deep well #3 and #4.

PASSED, APPROVED AND ADOPTED, by the City Council of the City of Nevada, Missouri, this 18th day of October 2022.

GEORGE C. KNOX, MAYOR

(seal)

ATTEST:

CYNTHIA DYE, INTERIM CITY CLERK



October 12, 2022

City of Nevada, MO
ATTN: Joe Tipper
1300 W. Cherry
Nevada, MO 64772

Regarding: Wells 3 and 4 Rehabilitation Proposal

Dear Joe,

Layne Christensen Company (Layne) is pleased to present our proposal for rehabilitation services for the water supply wells 3 and 4. We have a history of success with our strategies and are excited to continue the process. We have a robust treatment process that exceeds the level of effort and quality of rehabilitation techniques provided by other well contractors. Additionally, Layne follows the highest safety standards, and as such, will be following proper industry protocol for confined space entry, chemical handling/usage, overhead power, and lifting/hoisting.

Layne proposes to conduct the following treatment strategies to clean and rehabilitate each well, along with a budgetary estimate to complete the work:

1) **Mobilize and Pull Pumping Equipment:**

Mobilize pump crew, pull existing pump and bring back to Layne shop for inspection.

2) **Pumping Equipment Inspection**

Layne will provide and pump inspection report and estimate of repairs for approval before beginning any repair work, should they be required. The cost of any needed repairs and parts would be outlined in a repair report after the inspection. Therefore, these costs are not included in this proposal.

3) **TV/Survey**

Crews will then conduct a downhole TV/survey to inspect the condition of the well casing and screen.

4) **Well Rehabilitation:**

Crews will then run a nylon brush into the well to loosen bacterial deposits and encrustation in the immediate vicinity of the bore hole, following by bailout bacterial deposits from the bottom of the well. The process would then involve installing a tremie pipe at or near the bottom of the well and introducing the solution at four different depth intervals. The solution will consist of liquid sodium hypochlorite solution along with Layne Oximate chlorine enhancer.

5) **Re-Install Repaired Pumping Equipment**

At a later date Layne will mobilize a pump service crew and equipment to re-install repaired pumping equipment. The equipment will be flow tested to determine proper function.

WATER RESOURCES

620 South 38th Street, Kansas City, Kansas 66106 | Office: 913.321.5000 | Fax: 913.321.5012 | layne.com



Item	Description	Unit	Est. Qty	Unit Price	Total Est. Price
EA	COMPLETE WELL REHABILITATION – PUMP PULL/REMOVAL, TV SURVEY, SHOP INSPECTION, REHABILITATION, REINSTALLATION AND TESTING	LS	2	\$23,294.00	\$46,588.00
TOTAL:					\$46,588.00

Based on our experience, we estimate to remove and reinstall each pump to take 1 day each. The disinfection, brushing, bailing and TV survey should take 5 days per well. Therefore, the estimated total for the scope of work outlined above should range will an estimated seven (7) days per well. The estimated cost for the work to be completed within the timeframe is shown above. Additional days onsite or any downtime with crew on-site waiting for approvals or on-site services will be charged at \$365/hr.

The pricing is budgetary and subject to change. Pricing does not include any repairs, taxes, bonds, specialized insurance (such as OCP) and is subject to Layne’s standard terms and conditions attached. **Repairs to permanent pumping equipment not included until pump has been inspected.**

Should you have questions or comments regarding our proposal, please do not hesitate to contact me. Thank you again for the opportunity to be of assistance in helping you meet your water supply needs.

Respectfully submitted,

Scott Bush

Scott Bush
Account Manager
Layne Christensen Company

WATER RESOURCES