



AGENDA ITEM EXECUTIVE SUMMARY

Agenda Item:	Well #8 Chemical Rehabilitation		
Presenter & Title:	Bob Van Gyseghem, Superintendent of Water & Wastewater		
Date:	November 21, 2022		
Please Check Appropriate Box:			
<input checked="" type="checkbox"/>	Committee of the Whole Meeting	<input type="checkbox"/>	Special Committee of the Whole Meeting
<input checked="" type="checkbox"/>	City Council Meeting	<input type="checkbox"/>	Special City Council Meeting
<input type="checkbox"/>	Public Hearing	<input type="checkbox"/>	Other -
Associated Strategic Plan Goal/Objective: EMSII, ESII			
Estimated Cost: \$31,990.00	Budgeted?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Other Funding? <input type="checkbox"/> Yes <input type="checkbox"/> No
Executive Summary:			
<p>Well #8 is a shallow well located at 597 S. Peck Rd. For the past several months staff has noticed a decline in the pumping level of the well. In consultation with Dan Watson of Rempe-Sharpe Engineers, chemical rehabilitation is recommended. Chemical treatment is a common method of correcting the problem staff is noticing with the well level by breaking up iron bacterial and other minerals that are clogging the gravel pack at the base of the well. Staff was not aware of the problem at Well #8 when the project for Well #6 was advertised for bids. Municipal Well & Pump, Waupun, Wisconsin will be mobilizing for the rehabilitation for Well #6 and has provided a quote for the chemical treatment of Well #8. Staff is recommending approval the quote for the chemical rehabilitation of Well #8 by Municipal Well & Pump due to the reduced cost of mobilization since they will be in town. Staff understands if the City Council would like to formally bid the chemical treatment of Well #8 but wanted to present the quote as an option. The cost to rehabilitate will be paid for within the existing budget and be reflected in a future budget amendment if necessary.</p>			
Attachments: <i>(please list)</i>			
<ul style="list-style-type: none"> • Resolution • Quote 			
Voting Requirements:			
<p><i>This motion requires 7 affirmative votes for passage.</i></p> <p><i>The Mayor may vote on three occasions: (a) when the vote of the aldermen or trustees has resulted in a tie; (b) when one half of the aldermen or trustees elected have voted in favor of an ordinance, resolution, or motion even though there is no tie vote; or (c) when a vote greater than a majority of the corporate authorities is required by state statute or local ordinance to adopt an ordinance, resolution, or motion.</i></p>			
Recommendation / Suggested Action: <i>(how the item should be listed on agenda)</i>			
<p>Recommend approval of a Resolution No. 2022 - xx waiving competitive bidding and authorizing the City Administrator to execute a contract with Municipal Well & Pump for the chemical treatment of Well #8 at a cost not-to-exceed \$31,990.00.</p>			

RESOLUTION NO. 2022-98
RESOLUTION AUTHORIZING EXECUTION OF
Contract for Well #8 Chemical Rehabilitation

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GENEVA, KANE COUNTY, ILLINOIS, as follows:

SECTION 1: That the City Administrator is hereby authorized to execute, on behalf of the City of Geneva, a contract with Municipal Well & Pump, for chemical rehabilitation of Well #8.

SECTION 2: This Resolution shall become effective from and after its passage as in accordance with law.

PASSED by the City Council of the City of Geneva, Kane County, Illinois, this ____ day of _____, 2022

AYES: __ NAYS: __ ABSENT: __ ABSTAINING: __ HOLDING OFFICE: __

Approved by me this ____ day of _____, 2022.

Mayor

ATTEST:

City Clerk



October 25, 2022

City of Geneva
 Attn: Mike Andersen
 22 South First Street
 Geneva, IL 60134

RE: Well #8 Chemical Rehabilitation

Mike,

Municipal Well & Pump (MWP) would like to thank you for the opportunity to provide this proposal for the above referenced project. The details of the chemical rehab are as follows:

Mobilization/Demobilization - I took into consideration your request about back to back projects. We would still have to move a rig and equipment which takes time however it did reduce that cost.

Pull and Re-Install Existing Equipment 107' x 10" pipe – The rehab cannot be done with the equipment in the well unfortunately. The pitless could be lifted out of the way to inject chemicals, but one would never want your permanent equipment to be used for chemical introduction and surging. Motor manufactures highly recommend these units are not exposed to these levels of acid and chorine. We have dedicated test pumps and motors specifically for this application. MWP would bring a backup motor and pump on site as we have had instances of motor failure due to extreme conditions from chemicals.

Televis the Well 20" x 150' – We have recent data on screen condition, but it is always a really good idea to get a current snapshot of the well screen and casing. I would hate to not be aware of something additional in the well that could be contributing to the diminished PWL.

Furnish, Install, Remove Test Pump for surging – This would be the cost to furnish, install and remove the dedicated pump and motor in the well for surging and pumping off for all chemistry we feel necessary.

Airshock well with Nitrogen - 2-3 passes and bail fill if needed

Based on the visual of the screen during the TV event and what we feel is plugging the screen determines if we use this approach or not. Our rehabs typically will include an Airshock event when a well has not had any rehab for an extended period. This will knock out scale/mineral/iron deposits in the screen and gravel pack that chemicals may not be effective on. There are 3 distinct size guns that can be set to different PSI discharge pressures. The test pump would also be in the well, set slightly above the screen to evacuate the materials we liberate. It

also allows us to monitor the progress in well production to determine if we need to do another pass on the screen. Under NO circumstances would Airshock be initiated with any chemicals in the well. It is not good for our equipment, and it would push materials that come dislodged out into the gravel pack. Airshock is designed to loosen debris while evacuating it at the same time with a pump.

Mix Chemistry - HCL/WD3100/PFD - Inject/Surge/Pump Off

Mix Chemistry -12.5% Chlorine - Inject/Surge/Pump Off

The volume of the water in the well plus the volume of the tank we surge with determines the amount of acid and enhancers we will mix up for injection. At a minimum, a 1.5 – 2x the borehole volume is injected to allow chemicals to get out past the screen into the gravel pack and beyond. A 2-3 % acid mixture of Inhibited 20 degree HCL at 33% plus WD3100 as an enhancer and PFD Aqua Clear as a suspension additive is what I would propose. The mixture is mixed and surged between the well and our tank and let sit overnight. The following day we would either add more acid or pump off and neutralize based on ph. The Chlorine treatment is done in the same way but oxidizes and reacts with more of the iron or organic based compounds that could be plugging up the screen and the gravel pack that acid may not take care of 100%.

Set up & Perform 1 HR Test of Well/Recovery Data

This is a standard protocol for a rehab on a well.

Municipal Well and Pump Appreciates the opportunity to provide this proposal. I look forward to your decision. Please feel free to contact us with any questions or for any additional information.

Respectfully,

MUNICIPAL WELL & PUMP

Mark Mueller

Mark Mueller
Project Manager
815-988-0644



Project Proposal

Re: Geneva Well 8

Item #	Item Description	Quantity	Units	Unit Price	Extended Price
1	Mobilization/Demobilization	1	LSUM	\$ 2,400.00	\$ 2,400.00
2	Pull and Re-Install Existing Equipment 107' x 10" pipe	1	LSUM	5,010.00	5,010.00
3	Televis the Well 20" x 150'	1	LSUM	2,610.00	2,610.00
4	Furnish, Install, Remove Test Pump for surging	1	LSUM	4,160.00	4,160.00
5	Airshock well Nitrogen - 2-3 passes and bail fill if needed	1	LSUM	5,890.00	5,890.00
6	Mix Chemistry - HCL/WD3100/PFD - Inject/Surge/Pump Off	1	LSUM	7,530.00	7,530.00
7	Mix Chemistry -12.5% Chlorine - Inject - Surge - Pump Off	1	LSUM	3,600.00	3,600.00
8	Set up & Perform 1 HR Test of Well/Recovery Data	2	HRS	395.00	790.00
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Total Project Proposal					\$ 31,990.00

Dated: October 26, 2022

By:

Mark Mueller

Mark Mueller
Project Manager
Municipal Well & Pump