ROTH PROFESSIONAL SOLUTIONS

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PROJECT UPDATE MEMO
LIFT STATION #2 GENERATOR ADDITION

To: Village of Kronenwetter

From: Robert J. Roth, PE

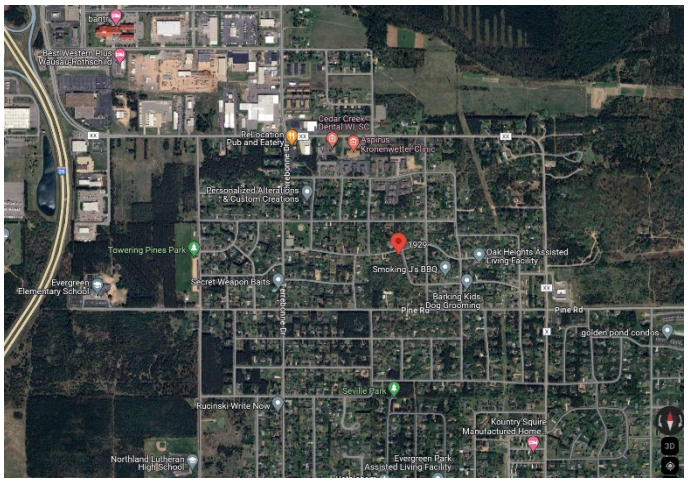
Re: Lift Station 2 Generator Addition

Date: June 25, 2024

BACKGROUND. The Village of Kronenwetter has commissioned the upgrade of LS2 to include a generator system. The station is currently a single phase electrical service with a VFD converter system. LS2 serves a mainly residential area and discharges directly to LS1 via the Pine Road & Tower Road Interceptors. All lift stations have high importance, however, this station is of very importance due to its collection of other lift stations and overall flow responsibility.

The upgrade will center around the addition of an automated generator system located onsite. There is the potential to upgrade the electrical service to 3-phase power.

LOCATION. LS2 is located at 1929 Kimberly Road at the intersection with Rollingwood Road. It is part of the eastside sewer service area in the Village.



BUDGET. Project costs for the LS2 project will come from the 2024 "Generator" item at $150,000.

SCOPE. The following key design elements are included in this lift station project:

1. Main objective to provide for a gas-powered generator of sufficient size to handle emergency flows in a loss of power event
2. Include an ATS (automatic transfer switch), eliminating a man-powered onsite access situation for this particular station
3. Pursue 480V or 208V 3-phase power based on WPS estimate, however, need to confirm location and cost
4. If 208V 3-phase is available, existing VFD phase converter can be utilized

5. If 480V 3-phase is available, a knock-down transformer will be required
6. Install a natural gas generator system with feed and meter
7. Provide a 5x10 pad adjacent to the control panel
8. Power isolation is available at the station, so no temporary power outages are anticipated in the area
9. Dedicated phone line for comm's/alarm notifications will remain for now
10. SCADA slot(s) and panel space will be allocated (see below)
11. Panel configuration to remain, with main panel opening to drive side

OPTIONS. There are two options as the station upgrade is considered:

A. 3-Phase Power Extension. 3-phase power service was originally based on the WPS estimate for extending 3-phase power to the LS2 site at $5,000, as it was believed the 3-phase power was adjacent to the site. However, in viewing the site, we did not see this 3-phase service potential adjacent to the site. We went back and reviewed the WPS estimate and it appears that information for LS1 and LS2 is switched based on the addresses provided. We have contacted WPS to confirm the information. They report that the site requires an extension of 3,000 LF at $18/LF ($54,000) but did not confirm if poles were included. We await confirmation on that information.

B. SCADA Interoperability. SCADA allows more efficient system communications, data recovery and future supported technology. It would effectively replace the existing dialer system and utilize wireless components. The long-term plan is to include SCADA, but due to the planning required to implement a full SCADA system across all lift stations, and the lack of importance for this station, it is deemed not essential at this time. A SCADA upgrade would be likely linked to other lift stations and would involve radio improvements in a centralized location. Thus, this option would be a likely budgeted item on its own.

COSTS. A preliminary estimate for the generator, pad and ATS is $85,000 without 3-phase power. The cost of ancillary scope items as described above are not expected to be more than $35,000. Engineering is $22,100 and the total of all scope items including engineering would fit below the budgeted amounts.

If 3-phase power is opted for, a budget amendment would be most likely required, but we are confirming the cost of 3-phase power from WPS at this time.

CURRENT STATUS. Utility locates and site surveying have both been completed. We recently met onsite with Mark Mackey and B&M Technical Services to review the scope in full and this memo reflects the summary of project details.

NEXT STEPS. We will provide 50% bid documents for review with the Village as the next major step, along with confirmation of 3-phase power costs. This will include sizing of the generator

and specifications for the project for the purpose of obtaining bids and a construction contract. The next step will be to go to 90% bid documents and pursue finalization of the construction bid package.

Please contact me with any questions or if additional information is needed.

Sincerely,

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Robert J. Roth, PE
Project Engineer

Village of Kronenwetter Lift Station Data

Lift Station #	Address	Existing Site Voltage	WPS Location #	Electric Meter #	Distance From 3 PH	Overhead Estimated Cost for 3 Ph	Underground Estimated Cost for 3 Ph	Notes
1	1929 Kimberly Road, Mosinee, WI	120/240 (1 ph)	2707 1E79	5132198	2500 ft (underground)	-	$300,000	
2	2201 Tower Road, Kronenwetter, WI	120/240 (1 ph)	2707 2R12	6009159	0 ft	-	$5,000	3 Phase already borders property
3	2361 Tower Road, Kronenwetter, WI	120/240 (1 ph)	2707 2E16	6001239	1820 ft (Overhead)	$98,935	-	
4	899 Nelson Road, Mosinee, WI	120/208 (3 ph)	2707 15L285STR	6011393	N/A		-	Already has three phase power
5	1100 Cedar Road Mosinee, WI	120/240 (3 ph -delta)	2707 10L60	6011391	100 ft (Overhead)	$5,436	-	
6	2100 River Forest Lane	120/240 (1 ph)	2707 3L44	5122810	1860 ft (Underground)	-	$223,200	
7	2302 Old Highway 51, Kronenwetter, WI	120/240 (1 ph)	2707 2L8	6011390	270 ft (Overhead)	$14,677	-	
8	1210 Kronenwetter Drive, Mosinee, WI	120/240 (1 ph)	2707 22W20	6011438	530 ft (Underground)	-	$64,000	
9	2099 West Road, Mosinee, WI	120/240 (1 ph)	2707 12E18	5057181	4250 ft (Overhead)	$231,030	-	
10	Sussex Place, Mosinee, WI	120/240 (1 ph)	2708 5W40	5056583	1070 ft (underground)	-	$128,400	
11	Glade Court Mosinee, WI	120/240 (1 ph)	2707 21R50	5117443	1320 ft (underground)	-	$158,400	