

## Grant Well Variable Frequency Drive Management Plan



### **Project Concept:**

Variable Frequency Drives (VFDs) are motor control systems that attach to electric motors and control the frequency and voltage that is supplied to the motor. Once installed, they drive down the amount of energy used by the electric motor and reduce energy costs.

Our Grant Well Pump Station pumps water up the West bench, filling the tank that the residents on the West bench get their water from. The new VFD will be able to communicate with the motor and start up the pumping process more slowly, thereby reducing our monthly energy spike and saving the City money.

### **Location:**

Grant Well Pump Station  
713 Grant Avenue South  
Red Lodge, Montana

### **Installed Items:**

1 Square D Altivar Speed Drive

### **Installer Information:**

Red Lodge Electric Company, Mark Brown  
25 Shadow Drive  
Red Lodge, MT 59068  
(406) 446-1882, redlodgeelectric@gmail.com

### **Funding:**

The City purchased and installed the Variable Frequency Drive for a total of \$8,232.00. A rebate from Northwestern Energy was received, which reduced the City's project costs by \$2,500.

### **Monitoring Usage:**

NorthWestern Energy Account Number: 713535-3

The Pump Station where the VFD was installed is on the meter that is listed above. A monitoring spreadsheet has been developed that will allow the City to track the energy and cost savings accrued due to this investment.

The monitoring spreadsheet is available online via Google Sheets and can be found at the link below:

<https://docs.google.com/spreadsheets/d/1342nkQYOYPhSUY7gNaaa2TSiL9orJtCG8kDwO2EXgTs/edit?usp=sharing>

**Community Impact:**

The City will see significant monetary savings from this project, as the VFD will decrease the energy spike that our Grant Well Pump station produces each month. The VFD will also decrease the amount of energy used and lessen the amount of greenhouse gases that our facility emits.

**Maintenance Plan:**

The Public Works Department will be in charge of maintaining the VFD. At present, we have a Water Manager who monitors the pump station each day, and he will be able to track and address any maintenance needs.