

## **LED Streetlight Retrofit Management Plan**

### **Location:**

14 decorative streetlights, located between 3<sup>rd</sup> and 8<sup>th</sup> streets on Broadway Avenue are retrofitted to LED bulbs. The 14 streetlights are owned and must be maintained by the City.

### **Installed Items:**

42 LED bulbs were purchased to complete the retrofit of the 14 streetlights. 30W bulbs have been installed at 3 per streetlight for 90W per streetlight. 30W LED bulbs replaced 70W metal halides bulbs.

### **LED Streetlights**

Bright Lights LED Technology Inc.  
George Beaudet  
863 Lazy M St.  
Red Lodge, MT 59068  
PH: 1-800-858-8973  
PH: 971-563-1427  
Email: [georgebeaudet@gmail.com](mailto:georgebeaudet@gmail.com)

### **Installer Information**

Sgrigs Electric LLC- Dan Sgrigs  
1120 Park Ave  
Red Lodge, MT 59068  
Email: [sgrigselectric@hotmail.com](mailto:sgrigselectric@hotmail.com)  
PH: 406-446-1443

### **Funding:**

The City purchased 144 LED bulbs from Bright Lights LED Technology. Each bulb was \$48 dollars, equating to a \$2,016 dollar purchase. Sgrigs installed the streetlights at \$1,800. Total investment was \$3,816 for the project. Estimated payback is 2.5 years based on the expected energy savings of around 70%.

### **Warranty:**

Bright Lights LED Technology has a 3-year warranty on the bulbs from the date of install, July 10<sup>th</sup>, 2016. Bright Lights will test dysfunctional light bulbs before being replaced. There is no warranty on the streetlights themselves. Electrical repairs are the City's responsibility.

### **Monitoring Usage**

NorthWestern Energy Account Number: 3253669-0

The decorative streetlights have their own meter and Northwestern Energy Account Number. This provides the City with a monthly electricity use for the streetlights. Monitoring mechanisms will be put in place to monitor its usage and determine carbon

emission savings as well. This will be available for City personnel to regularly update to monitor costs and carbon savings.

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

<https://docs.google.com/spreadsheets/d/1WfOPu5Yt5EXQR337qf7P1RG4K7r0zK8FZoeIthtoifl/edit?usp=sharing>

Please note, if the above link does not work then copy and paste directly into a new window.

### **Community Impact:**

The City will see significant monetary savings for several reasons. First, the Department of Transportation gave ownership of this set of streetlights to the City, which removes the ownership, operation, and maintenance charges. The City pays those fees on the streetlights they do not own as part of NorthWestern Energy's 'Utility Owned Streetlight Tariff'. By owning the streetlights, those fees are eliminated and thus are under the 'Customer Owned Streetlight Tariff'. This allows us the opportunity to test LED technology in our community. The City will save money on maintenance as LEDs typically last much longer than High Pressure Sodium or Metal Halide bulbs. This combination of savings reduces this return on investment significantly and will save the City approximately \$1,200 dollars a year.

There is stipulation on whether or not LEDs are beneficial. Some cities have had issues with the LEDs they install. This is, in large part, due to the Kelvin rating of the bulbs they purchase. Bulbs with a higher Kelvin have a bright-white/blue appearance and are harsh for some eyes. The LEDs purchased for this retrofit have a much lower Kelvin rating at 3,500 and have light similar to typical streetlights with an orange tint. This low Kelvin rating also reduces light pollution compared to the Metal Halides that were originally installed. The low Kelvin rating reduces the amount of glare making it safe for drivers and walkers at night.

### **Maintenance Plan:**

Given the life expectancy of LEDs, the maintenance of the streetlights should be minimal. With an estimated 50,000-hour lifespan, it is hoped the lights will last 3-5 years. Streetlights will need to be checked for outages on a regular basis. Damages to the poles or lights are a City responsibility.