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- LED Streetlight Conversion
- Linscott Road/Route 9 Intersection

Special Town Meeting
Tuesday, July 30, 2019 – 6:30 pm
North Berwick Community Center



NORTH BERWICK LED STREETLIGHT CONVERSION PROJECT

Since January, the town has been exploring the possibility of converting the Town's 179 streetlights from the current High Pressure Sodium (HPS) lights to Light Emitting Diodes (LED) lights. The Town entered into discussions with Affinity LED Lighting to see if the cost savings along with the energy and emissions savings would be beneficial for the town.

Affinity LED Lighting is a local company founded in 2012 in Portsmouth, NH and currently headquartered in downtown Dover, NH. They utilize the best combination of industry branded components and materials and are assembled by U.S. Veterans in their manufacturing facility in Dover. Over the past few years, Affinity has become an industry leader and has been the leading manufacturer and installer of LED streetlights in the Northeast. Recent projects include the streetlight conversion in Eliot, Kittery, and Augusta Maine along with 32 communities in New Hampshire including Dover, Portsmouth, Somersworth, and Rochester.

After much review, the Board of Selectmen has determined that the cost savings along with the energy and emissions savings is a deal that just cannot be ignored and decided to hold a Special Town Meeting this summer rather than wait until next year to start reaping the savings. By purchasing the existing lights and replacing them with new, town-owned & maintained state of the art LED fixtures, it is projected that monthly costs can be reduced by as much as 90%, saving the Town nearly \$26,000.00 per year. The Budget Committee also voted unanimously to recommend proceeding with this project. The decision to proceed was pretty much a "no-brainer". Below are answers to some of the more frequently asked questions that we hope shed some light (pun intended) on this exciting project, which will be completed in the fall of 2019 should the voters of the Town approve the project at the Special Town Meeting on July 30, 2019.

Frequently Asked Questions

Why hasn't North Berwick performed the Conversion sooner?

In 2013, the Maine Legislature passed legislation that would allow municipalities to own and operate the streetlights in their communities. Prior to this legislation, the only way a Town could have streetlights was to enter into a 20 year contract with their local utility, in our case that would be Central Maine Power. The towns have to pay a monthly lease cost for the streetlights along with the regular electricity, transmission and distribution costs.

Although legislation was approved in 2013, from 2014 – 2017 the Maine PUC had to approve orders consistent with the legislation that would allow municipalities to buy out the streetlight contracts and install LED streetlights within their communities. In September 2016, the town of Falmouth became the first municipality to enter into a contract to have LED streetlights installed. The first communities that converted their streetlights faced significant hurdles getting their projects approved and installed. Most of these issues have been addressed and in the past two years, a wave of towns throughout Maine have taken advantage of the law to convert their streetlights to energy-conserving LED fixtures.

What kind of streetlights does North Berwick currently use?

The majority of streetlights currently in use are HPS lights. While HPS is one of the most common streetlight technologies across the country, it has several drawbacks. HPS streetlights are not very energy efficient, cast an orange light under which it is difficult to see color, and tend to produce light that is not optimal quality.

What are LED streetlights?

LED technology has been used in solid state lighting for decades. More recently, LED technology has advanced to streetlight applications. LED streetlights are extremely energy efficient, have long life spans, and produce a better color and quality of light than typical HPS streetlights.

What color of light are LED streetlight fixtures and are they dimmer than HPS?

Contrary to the orange light that HPS fixtures produce, LED streetlight fixtures are a cooler, white light under which it is easier to see true colors. HPS lights have a color temperature of 2,200 Kelvin while the new LED lights will have a color temperature of 3,000 Kelvin (similar to a soft white light bulb in your home). Although the new LED fixtures produce a different looking light than the HPS fixtures they replaced, they are not actually dimmer. HPS fixtures tend to produce a bright spot directly underneath the fixture, whereas LEDs create a more even pool of light across the ground or roadway.

How long is LED Streetlight lifespan:

The Affinity S800 Series Roadway Luminaire selected are warrantied for 10 years with an expected lifespan of 20 years. Should a streetlight fail after the warranty period, the Town would need to contract for the replacement of the streetlight. This cost is estimated at \$300-\$500.00 per fixture installed. The town will include maintenance funds in the annual budget.

Why is North Berwick proposing an LED streetlight conversion project?

North Berwick is interested in reducing its energy consumption and maintenance costs associated with street lighting. Installing LED streetlight fixtures will save energy, require less maintenance, and will provide citizens with better light quality on streets and roadways.

How many streetlights is North Berwick replacing with the LED streetlight conversion project?

This project will replace 179 streetlights, most of which are standard streetlights (called “cobra heads”).

How much will North Berwick likely save when it upgrades to LED streetlight fixtures?

The project is expected to save approximately 66,000 kilowatt hours and approximately \$26,000.00 in operating costs in the first year after the project is implemented.

How long will the project last?

The installation would begin in late summer/early fall and take approximately 2-3 weeks

What are the benefits of the LED streetlight fixture project?

The benefits of this project in North Berwick include:

- ✓ Reduced energy consumption resulting in energy cost savings and decreased greenhouse gas emissions.
- ✓ Reduced annual maintenance and operating costs.
- ✓ Better visible light for North Berwick’s citizens.

What will North Berwick receive as part of the project?

- ✓ Affinity LED Lighting will provide 179 streetlights along with installation and the required CMP fusing requirements.
- ✓ Affinity will properly recycle the 179 removed HPS streetlights in accordance with all federal and state environmental guidelines.
- ✓ Affinity will also supply North Berwick with a complete GIS database of the streetlights that will be integrated with the Town’s current GIS system.

NORTH BERWICK LED STREETLIGHT CONVERSION - THE NUMBERS

Annual Costs:

Current Annual Cost of the Town's Streetlights:	\$ 29,707.00
Estimated Annual Cost of LED Streetlights:	<u>\$ 3,810.00</u>
Annual Cost Savings:	\$ 25,898.00

Cost to Convert Streetlights:

LED Purchase and Installation	\$ 62,475.00
Buyout of CMP Streetlight Contract (NBV):	<u>\$ 38,978.00</u>
Total Project Cost	\$ 101,453.00
Estimated Payoff of Capital Costs:	3.92 years or 47 months



Long Term Savings: (Based on Town's current energy contract of \$0.0448 per KWH, which expires in December 2020.)

5 years:	\$ 28,038.00
10 years: (Warranty Period)	\$ 157,526.00
20 years: (Estimated Lifespan of LED streetlight)	\$ 416,503.00

Energy Savings: In Kilowatt Hours (KWH)

Current Annual Energy Consumption:	95,232 KWH
Estimated Annual LED Consumption:	29,241 KWH
Annual Savings	65,991 KWH

CO2 Emissions Reduction:

Annual CO2 reduction:	102,274 lbs. (54.1 tons)
5 years:	541,370 lbs. (270.7 tons)
10 years:	1,082,739 lbs. (541.4 tons)
20 years:	2,185,478 lbs. (1,082.7 tons)

LINSCOTT ROAD/ROUTE 9 INTERSECTION



The Town of North Berwick has been working with the Maine Department of Transportation on the intersection of Linscott Road and Route 9 (Wells Street). Most people are aware that the current configuration of the intersection does not provide adequate visibility for vehicular traffic looking towards the village when exiting Linscott Road. The visibility is impaired by the bridge over the railroad tracks due to the change in elevation and the guardrail system on the bridge. Recent crash data indicates that there have been numerous accidents in the location of the intersection over the past 4 years. In exploring available remedies to make the intersection safer, the Town would have to enter into a partnership with the MDOT to hire engineers to look at various options such as speed limit changes, intersection warning systems, realignment of the intersection and/or

signalization of the intersection with smart signals to name a few. Since the Town would be responsible for a share of the engineering costs, the Board of Selectmen is proposing to appropriate \$20,000.00 to assist in this project. It is anticipated that any required study in partnership with the MDOT will take approximately a year to complete. This would allow the Town to budget for our share of the capital costs to make the intersection safer.

**SPECIAL TOWN MEETING – TUESDAY, JULY 30, 2019
6:30 PM
NORTH BERWICK COMMUNITY CENTER**

Town of North Berwick
21 Main Street
P.O. Box 422
North Berwick, Maine 03906

www.townofnorthberwick.com

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