

Brighter Space with High Efficacy, 95+ CRI T8 Lamps

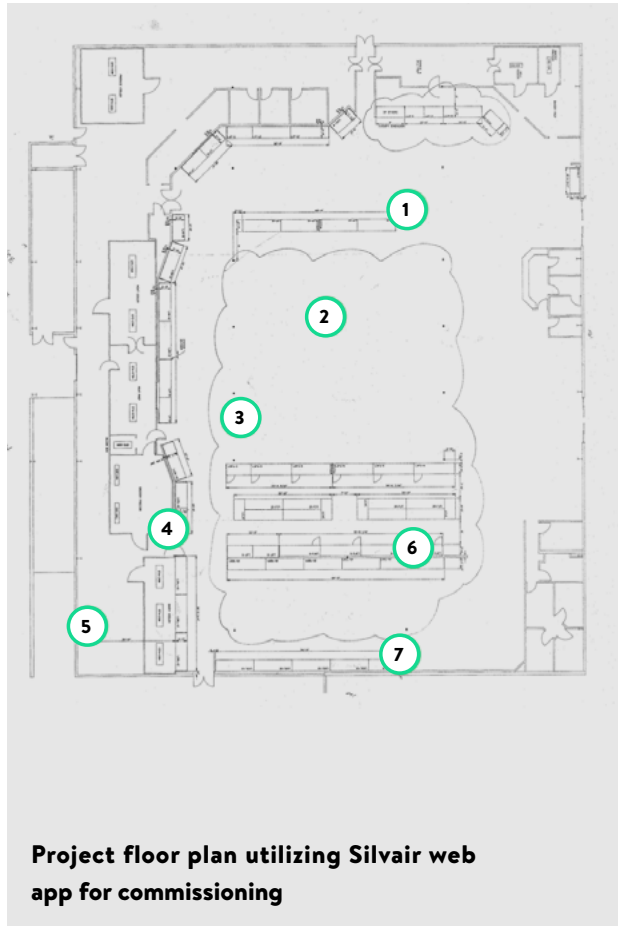
# Energy and Cost Savings at Pioneer Markets in Mariposa and Waterford, California.

Pioneer market is a family owned grocery business operating in Mariposa, California and Waterford, California. Their mission is “Providing the Best for Our Community” and delivers on that by providing quality and cost savings for their customers. When it came time to upgrade their lighting systems their foremost goal was to improve the customer experience with higher natural light levels.

They turned to LED GreenLight International LLC, a manufacturer of advanced LED lighting products for their expertise. LED GreenLight International recommended retrofitting the existing T8 lamps with their innovative Type C LED retrofit kit consisting of 95+ CRI LED tubes and LED driver with integrated Bluetooth Mesh for advanced lighting control features. This new LED lighting recently won the prestigious Million LED Challenge, phase 2 for the State of California by meeting and exceeding the new California voluntary standard.

The high 95+ CRI LED tubes replaced the faded and dull appearance of produce and merchandise with a dramatic improvement in color rendering and contrast (i.e. the effect of light and dark areas, are equally important and can lead to a 10% sales boost\* in retail).

\* <https://www.ledsmagazine.com/architectural-lighting/retail-hospitality/article/16696816/zumbel-validates-limbic-theory-with-led-lighting-at-retailer-gerry-weber>



Project floor plan utilizing Silvair web app for commissioning

**DETAILS**

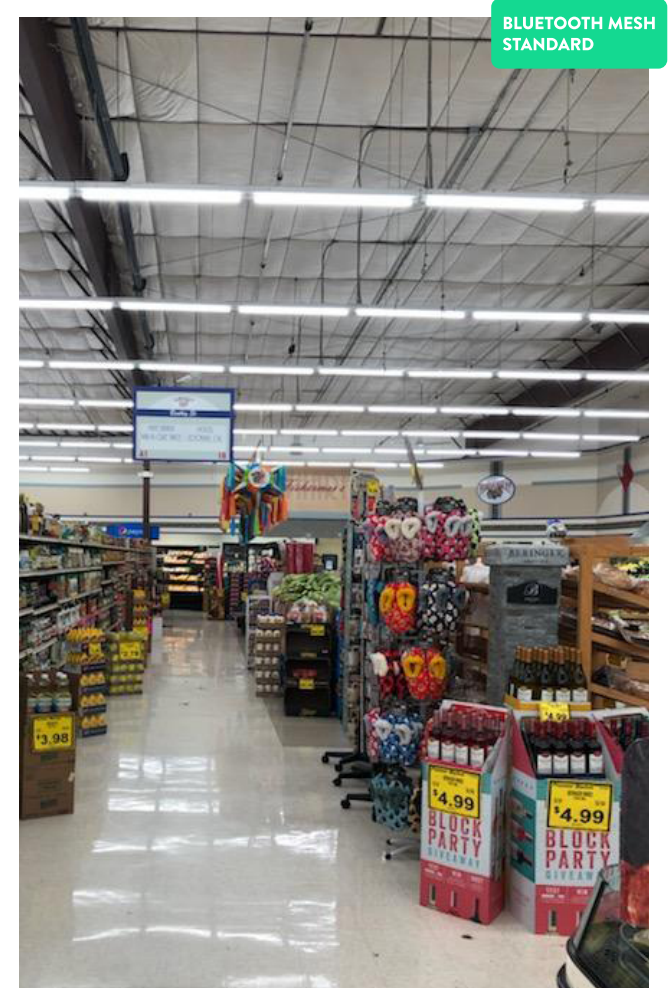
Category: **Retail**

Technology: **ERP Power drivers, Silvair app**

Strategies: **Scheduling**

Location: **Mariposa, CA & Waterford, CA**

Year: **2020**



**PARTNERS:**



Technology Partner  
**SILVAIR**

The LED Drivers, integrated with wireless Bluetooth mesh, provide the granular control capabilities to implement advanced network lighting control strategies. These lighting scheduling control strategies deployed during the commissioning process, not only increase energy efficiency, and lowered electrical lighting costs while designed to meet California Title 24 code requirements.

For lighting control, the physical space of each store was divided into multiple zones consisting of more than 500 luminaires and 250 Bluetooth mesh devices in total per store. The existing lighting luminaires and the grocery aisles ran perpendicular to one another which would usually represent a difficult commissioning application.

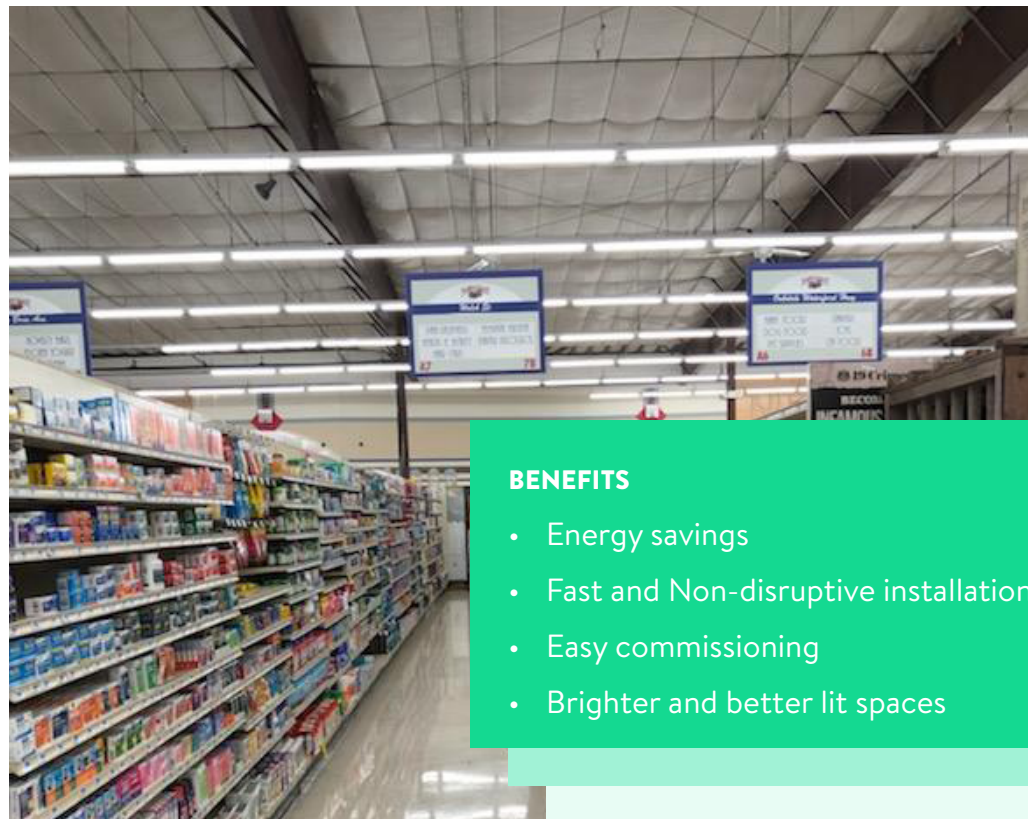
However, the Silvair web app and commissioning tool allow for designing and configuring spaces that simplify the entire process. The ease in which devices are identified in space and then added to zones made for an efficient commissioning process. The fact the stores operate 24/7 was crucial in terms of installation and commissioning process. The whole installation went smooth. Thanks to pre commissioning using Silvair web app the actual onsite commissioning is reduced greatly.

The control scenario used in both projects was “multiple scenes” which are scenes that are recalled to a particular schedule for each zone depending on the weekday and time. These scenes were set to “ALL ON - 100% light level”, “NIGHTTIME - 30% light level”, and “CLEANING - 30% light level”. They were recalled by schedule and were implemented on certain days and times across all or a subset of zones.

Many customers made positive comments after the LED lights, with 159 lumens per watt, were installed about how much better the light levels appeared and the product colors in the meat, fruits and vegetables departments made the food look much fresher. The storeowner, Jason Dubberke, said that “the new brighter lighting levels were exactly what I was hoping for when I agreed to do the project”.

Not only did the completed result exceed the intended goal of improving the customer experience, the combination of LED lighting and advanced networked lighting controls generated significant energy savings as well. Just one example of the potential energy savings with networked lighting controls, is how the nighttime lights were controlled.

For security reasons the store lights are never turned off but the configuration capabilities of networked lighting controls allows the store to drastically reduce the light during non-operational hours. The lights were dimmed down from 10pm to 5am from 10W per LED lamp to 3W per LED lamp. This provides a cost savings of approximately \$390 per month or \$4,672 per year. The kWh savings is 64 per day and 23,360 per year. In addition dimming the lights had no detrimental influence on the light quality especially important for stockers and cleaning service at night.



#### BENEFITS

- Energy savings
- Fast and Non-disruptive installation
- Easy commissioning
- Brighter and better lit spaces