

Special Specification 6098

Solar Powered LED Warning Sign



1. DESCRIPTION

Fabricate, furnish and install solar powered light emitting diode (LED), embedded warning signs consisting of embedded LED lights, and solar panels and batteries for each sign. This solar LED embedded warning sign function is to warn motorists of a low clearance railroad crossing to flash sequentially.

2. MATERIALS

Furnish and construct materials in accordance with the following:

- Item 636, "Signs," and
- Item 644, "Small Roadside Sign Supports and Assemblies."

Provide signs that meet TMUTCD. Provide sign substrate that meets Department Material Specification DMS-7110. Provide reflective sheeting on warning sign that meets AASHTO Type D or ASTM Type XI sheeting with anti-graffiti overlay. Provide sign with embedded LED lights. Provide high powered 1 W LEDs wired in a manner that all LEDs continue to flash in the event of failure of an individual LED. Sign must output 550 candelas at daytime peak ensuring sign is daylight visible. Provide LEDs that have dimming capabilities and automatically adjust flash brightness to varying light conditions. Provide solar panels and batteries sized to allow system to work as needed 24 hr. per day based on the 20 yr. projected traffic count of the location. Unless otherwise noted, system must be provided with solar panels by the manufacturer. Unless otherwise noted, batteries must be provided by the manufacturer, and should be installed in a box mounted on a pole underneath the solar panel.

3. CONSTRUCTION

Install sign posts in accordance to Item 644, "Small Roadside Sign Assemblies."

Install each warning sign as shown on the plans and in accordance with SMD (GEN)-08 and SMD (SLIP-2)-08.

4. WARRANTY

The system as a whole will have a minimum 5 yr. warranty from the time of installation and acceptance of the system. Batteries must have a 5 yr. lifespan while operating 24 hr. per day. LED will be rated to operate at least 100,000 hr. Manufacturer will ship replacement parts at no cost as required during 5 yr. warranty period, except when installation has been damaged by outside forces.

5. MEASUREMENT

This Item will be measured by each solar powered LED warning sign.

6. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Solar Powered LED Warning Sign."

This price is full compensation for furnishing and installing complete solar powered LED warning signs including sign connections and all hardware; attaching warning signs to the supports; washing and cleaning the warning signs; testing of the LED warning sign and making adjustments as needed; installing solar panels to ensure optimal recharging of batteries and solar powered batteries to the satisfaction of the Engineer; and all equipment, materials, labor, tools, and incidentals.

Installation of sign post and foundations will be paid for under Item 644, "Small Roadside Sign Assemblies."