MEMORANDUM

State of Alaska

Department of Transportation and Public Facilities

To: Joel G. St. Aubin, P.E,
Central Region Construction Engineer

Date: August 31, 2021

Thru: Sharon L. Smith, P.E.,
Chief of Contracts

Telephone No: 269-0646

From: Scott Thomas, P.E SCT
Central Region Traffic & Safety Engineer

Subject: GE-LightGrid
Brand Name Spec

Determination:

In accordance with P & P 10.02.050 and Alaska Administrative Code 2 AAC 12.100, this Determination supports the continued specification of brand specific items for state and federally funded construction contracts advertised in Central Region for a period not to exceed three (3) years, beginning on the date this Determination is fully executed by the Central Region Construction Engineer who serves as the Contracting Officer for those construction contracts.

Items to be specified by brand name:

GE LightGrid outdoor wireless lighting control system assemblies, equipment, and web software services. . The cost per fixture is about $25/year/fixture. Within Anchorage, GE LightGrid has already been funded and selected by the Contractor under a major retrofit contract that has begun the construction phase for nearly 90 percent of existing lighting on state roads within the Anchorage "Bowl". This past project advanced to Construction in 2020 under the authority of the previous Public Interest Finding dated June 17th 2019. This brand name specification is to update this finding and continue to authorize the use of GE LightGrid as the highway lighting controls system for the rest of the Central Region and future projects as they occur in the next few years.

Justification:

Our Maintenance and Operations (M&O) Department is moving away from using controls restricted to dusk-to-dawn photoelectric lighting controls to also enable remote programmable, wireless lighting control.

The GE LightGrid system enables the Department to more efficiently maintain customary street lighting levels, and adds the capability to remotely monitor energy usage and the location of each fixture. It can accurately notify of downed poles or other maintenance problems without a field trip. The remote programming feature allows for accurate on/off/dimming control specific to each fixture as traffic levels change.

LightGrid enables the Department to reduce energy consumption through selective luminaire deactivation or dimming while still provide lighting for areas with safety concerns, such as intersections. The past method required energizing an entire lighting corridor subject to one photocell control only. The LightGrid wireless system includes a node installed on each fixture. This can be an independent cellular node, or operated through a gateway able to communicate with 500 nearby nodes, a cellular modem, a wireless mesh network and a central management server with remote access. The communication method is selected to best optimize the lighting network in the area.

Installation of the GE LightGrid outdoor wireless lighting control system would build on the benefits of the initial change to LED lighting and provide the Department the additional means to directly monitor the system for reduced maintenance costs, future energy consumption analysis and possible cost reductions in other areas such as curfew lighting or dimming. Additionally, by adding the lighting control system at the time luminaires are installed or converted from HPS to LED, there is an initial savings in the installation when the nodes are assembled with the luminaires/electroliers. This saves the Department mobilization, installation labor, and equipment costs.

The GE LightGrid system offers benefits other systems do not including: "constant light output" (CLO) (which reduces the initial output to that required to meet lighting needs, saving electricity and prolonging LED life), network self-connecting nodes, email fault notifications, utilizes web map location services for easy operator interfacing, software updates are automatic, the nodes store up to four days of data ensuring continuity even during an outage, the central management system has in-house or web-based hosting options, and the nodes are remote programmable.

The long term plan is to integrate with local governments for the coordinated management of roadway lighting. These agencies are the MOA including MLP/Chugach Electric, MatSu and Kenai Peninsula Boroughs, cities of Palmer, Wasilla, Kenai, Soldotna and Homer, and other local governments that may operate or come to operate roadway lighting. At the present time the DOT&PF will manage the roadway lighting on State owned roadways. By Agreement, within the MOA, MOA Traffic Engineering and MOA Street Lighting Divisions manage intersection roadway lighting at State-owned signalized intersections. DOT&PF and MOA will jointly monitor system performance as the owner and maintainer, respectively, using LightGrid for remote access.

DOT&PF has previously installed LightGrid under competitive bid for O'Malley Road. Continued use allows DOTPF to maintain and run one system.

At the present time no vendor has been able to demonstrate their products are wholly interchangeable. Standardizing on GE LightGrid facilitates the integration of management, operation, and maintenance, reduces the demand on staff training and redundancy, minimizes the needs for multiple parts inventories, and increases the reliability of both systems.

Please approve this request for a Brand Name Spec.

Submitted by: Scott Thomas Digitally signed by Scott Thomas Date: 2021.08.31 10:35:57 -08'00'

Scott Thomas, P.E.
Central Region Traffic & Safety Engineer

Date

Recommended by: for Sharon L. Smith, P.E.
Chief of Contracts

8/31/2021
Date

Approved by:

Joel G. St Aubin, P.E.
Central Region Construction Engineer,
and Contracting Officer

8/31/2021
Date

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