

## SECTION 680 SYSTEM CONTROL EQUIPMENT

### **680-1 Description.**

Furnish and install system control equipment as shown in the Plans. Meet the requirements of Section 603.

### **680-2 Materials.**

**680-2.1 General:** Use system control equipment and components that meet the requirements of these Specifications and are listed on the Department's Approved Product List (APL).

**680-2.2 Adaptive Signal Control System:** Adaptive signal control systems external to the traffic controller place detector calls to the traffic signal controller to adjust signalization timing based on measured traffic conditions independently of the traffic signal controller's preconfigured timings.

The system must interface with the traffic controller using either the Synchronous Data Link Control (SDLC) Port 1 interface and protocol or 24 V<sub>DC</sub> inputs/outputs available in the traffic controller cabinet. Dynamically modifying controller configuration settings through serial communications is not allowed.

The system must include a user interface that allows the configuration of subcomponents, such as detectors and cameras, and includes remote monitoring and reporting.

The system must include the option of incorporating existing vehicle detection in addition to the primary detection used by the adaptive signal control system.

The system must not affect the normal operation of the traffic signal controller upon any failure of communication, detection, or system component.

Ensure adaptive signal control system hardware is permanently marked with manufacturer name or trademark as well as part number and serial number. Ensure that the markings are visible after installation.

**680-2.3 Environmental Requirements:** Ensure system control equipment performs all required functions during and after being subjected to the transients, temperature, voltage, humidity, vibration, and shock tests described in NEMA TS2, 2.2.7, 2.2.8, and 2.2.9.

### **680-3 Installation.**

Install all system control equipment in accordance with the manufacturer's recommendations. Terminate wires on the appropriate terminal strips in the controller cabinet with insulated terminal lugs. Neatly bundle, secure, and identify all wiring and cables.

### **680-4 Warranty.**

Ensure system control equipment has a manufacturer's warranty covering defects for a minimum of three years. The warranty must include provisions for providing replacements within 10 calendar days of notification for defective parts and equipment during the warranty period at no cost to the Department or the maintaining agency.

### **680-5 Method of Measurement.**

The Contract unit price for system control equipment, furnished and installed, will include all materials, equipment, hardware labor and miscellaneous materials necessary for a complete and accepted installation.

**680-6 Basis of Payment.**

Price and payment will be full compensation for all work specified in this Section.

Payment will be made under:

Item No. 680 -1      System Control Equipment - each.