

## 03000 - SIGNALIZATION

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(New 11/07/11)

### SELECTED LINKS TO SECTIONS WITHIN THIS SPECIFICATION

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### [PART 1 – GENERAL](#)

The Contractor shall furnish all labor, materials, tools, and equipment to perform all work and services necessary for or incidental to the completion of all signals as shown on the drawings and as specified in the Contract Documents.

Contractor shall be responsible for coordination of work of all other trades.

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this specification.
- B. Section 01000 – GENERAL REQUIREMENTS.
- C. [Section 02720](#) – TRENCHING AND BACKFILLING.
- D. [Section 02730](#) – CURB AND GUTTER.
- E. [Section 02500](#) – BASE COURSE AND PAVING.
- F. [Section 02200](#) – EARTHWORK.
- G. Any specifications or details not covered herein shall be per Virginia Department of Transportation (VDOT), *Road and Bridge Specifications*, latest revision and the Virginia Department of Transportation (VDOT), *Road and Bridge Standards*, latest revision.

#### 1.2 SUMMARY

This section includes all equipment, labor, material, and services required for complete installation of traffic signalization systems.

#### 1.3 DEFINITIONS

For the purposes of this specification, the following definitions refer to traffic signal equipment that come under the authority of the City of Lynchburg, Virginia as specified within this section and other sections of this manual.

- A. **Public Road System:** Roadway, streets, and their appurtenances required for the conveyance of the motoring public that are maintained by either the City of Lynchburg or VDOT.

## 1.4 SUBMITTALS

- A. Submit product data for and a sample of the following in accordance with Section 01000, *General Requirements*. Fully document each with specific location or stationing information, date and other pertinent information.
- 1) Controller (Ethernet capable)
  - 2) Controller Cabinet
  - 3) Conflict Monitor
  - 4) Conductors
  - 5) Conduit
  - 6) LED Vehicular Heads (all components of the signal heads, i.e. visors, lens, housings)
  - 7) Pedestrian Signal Heads (all components of the signal heads, i.e. visors, lens, housings)
  - 8) Junction Boxes
  - 9) Electrical Service Equipment
  - 10) Foundations
  - 11) Uninterruptible Power Supplies (UPS) and Cabinet
  - 12) Mast Arm Assemblies
  - 13) Video Detection Equipment and in Cabinet Monitor
  - 14) Inductive Loop Detectors
  - 15) Pedestrian Pushbutton Detectors
  - 16) Emergency Vehicle Detector System for Preemption
  - 17) Pavement Marking Material
  - 18) Fabrication Details and Materials for Contractor Supplied Signs
  - 19) Interconnect Hardware and Equipment
  - 20) Broadband Communications System
  - 21) Adaptive Traffic Signal Control System
  - 22) Signal Head Bracket Systems
- B. Contractor shall submit the Maintenance of Traffic Plan (MOT) to the City Traffic Engineer no less than 7 working days prior to commencing work. Design of the

MOT shall be in accordance with VDOT Work Area Protection Manual (VWAPM) and the MUTCD. All flaggers shall be certified. Submit certification credentials to the City Traffic Engineer as part of the MOT plan.

## 1.5 QUALITY ASSURANCE

- A. Comply with all codes, laws, ordinances, and regulations of governmental authorities having jurisdiction over this part of the work.
- B. The Contractor shall comply with the Virginia Work Area Protection Manual (VWAPM) as adopted by City Council.
- C. The Contractor shall comply with the Federal Highways Manual on Uniform Control Devices (MUTCD), latest edition.
- D. The Contractor shall comply with the latest revision of the Virginia Occupational Safety and Health Standards (OSHA) for the Construction Industry as adopted by the Safety and Health Codes Commission of Virginia.
- E. The Contractor shall comply with Virginia Department of Conservation and Recreation (DCR), Division of Soil and Water Conservation, "Virginia Erosion and Sedimentation Control Handbook," latest revision.

## 1.6 STANDARD ABBREVIATIONS

<b>AASHTO</b>	American Association of State Highway Transportation Officials
<b>ANSI</b>	American National Standards Institute
<b>ASTM</b>	American Society for Testing and Materials
<b>FHWA</b>	Federal Highways Administration
<b>IMSA</b>	International Municipal Signal Association
<b>MOT</b>	Maintenance of Traffic (Plan)
<b>MSDS</b>	Material Safety Data Sheets
<b>MUTCD</b>	FHWA Manual on Uniform Control Devices
<b>NEC</b>	National Electric Code
<b>NEMA</b>	National Electrical Manufacturers Association
<b>NESC</b>	National Electric Safety Code
<b>NTSC</b>	National Television Standards Committee
<b>OHSA</b>	Occupational Safety and Health Administration
<b>VDOT</b>	Virginia Department of Transportation

**VWAPM**

## Virginia Work Area Protection Manual

**1.7 Product Deliver, Storage And Handling**

Inspect materials thoroughly upon arrival. Examine materials for damage. Remove damaged or rejected materials from site.

All material shall be protected during handling and installation to prevent any damage. Remove damaged or rejected materials immediately.

Observe manufacturer's directions for delivery and storage of materials and accessories.

**1.8 PROJECT CONDITIONS**

- A. **Demolition:** Demolish and completely remove from the site existing underground utilities indicated on the plans to be removed.
- B. **Environmental:** Before crossing or entering into any jurisdictional wetlands, Contractor shall verify whether or not a wetlands permit has been obtained for the encroachment and whether special restrictions have been imposed. Care shall be taken to prevent draining or otherwise destroying non-permitted wetlands. Restore as stated on either the project drawings, the contract documents, and/or as noted in the permit.

**1.9 COORDINATION**

- A. Contractor shall notify the City no less than 72 hours prior to commencing work within an intersection.
- B. When traffic signals or their appurtenances are likely to be damaged or interfered with as a result of the construction, coordinate temporary operation with the City of Lynchburg Traffic Engineer. Provide a minimum of 48 hours notice prior to anticipated disturbance or interruption.
- C. Coordinate any and all removal/replacement/modification of existing signalization equipment and installation of new signalization equipment, with the City Traffic Engineer.

**PART 2 – PRODUCTS****2.1 GENERAL**

Unless superseded by City of Lynchburg Specifications, all products shall conform to Sections 700 through 705, *Traffic Control Devices and Traffic Signals*, of the VDOT, *Road and Bridge Specifications*, latest revision and the VDOT, *Road and Bridge Standards*, latest revision.

## **PART 3 – EXECUTION**

### **3.1 GENERAL**

Execution shall conform to Section 700, *Traffic Control Devices*, of the VDOT, *Road and Bridge Specifications*, latest revision and the VDOT, *Road and Bridge Standards*, latest revision.

**End of Section 03000**

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