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## CITY OF LEBANON TRAFFIC SIGNAL SPECIFICATIONS

- **Controller Equipment Cabinet:** Controller equipment cabinets shall be NEMA TS-2 Type 1 8-phase, weatherproof aluminum and shall be installed in accordance with the TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.26 and TDOT Standard Drawing T-SG-5. The traffic signal controller cabinet shall be complete with all incidental and auxiliary equipment necessary for installation and operation required to fully operate the traffic signal as shown on the plans. Vehicle detectors shall be two channel rack mount or one channel shelf mount. The concrete pad shall be utilized for maintenance and servicing of the cabinets and components. Cabinets shall be concrete pad mounted. An additional concrete pad is required to be placed in front of the cabinet doors which shall be a minimum 64 inches wide by 36 inches long and a minimum thickness of 6 inches.
- **Cantilever Signal Supports:** Cantilever signal supports shall be installed in accordance with the TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.32 and TDOT Standard Drawing T-SG-10. All signal poles at intersections shall be mast arm installations and galvanized steel. Span wire installations shall not be permitted unless written approval is obtained from the COL. The mast arm length shall be calculated in five (5) feet increments (i.e. 20', 25', 30', etc.).
- **Signal Controllers:** Signal controllers are required to be Econolite Cobalt C with 16 channel Reno MMU capable of providing fully actuated operation, containing an Ethernet port for communications to the city network and complete with all software, firmware, and cabinet connections to allow the signal to operation in the City of Lebanon network. Ethernet switches shall be Cisco IE2000 for communication with City network.
- **Vehicle Detection:** Vehicle detection shall be microwave Wavetronix Smartsensor Matrix for stop bar detection and Wavetronix Smartsensor Advance for advanced detection. Inductive loops in the pavement or video detection shall not be permitted unless written approval is obtained from the COL.
- **Signal Heads:** Signal heads shall be yellow aluminum with L.E.D. signal modules, installed in accordance with TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.24 and current ITE specifications. Backplates shall be aluminum louvered dull non-reflective black finish with yellow raised retroreflective stripe per TDOT Standard Drawing T-SG-9A.
- **Pedestrian Signals:** Pedestrian signals shall be countdown pedestrian signals installed in accordance with TDOT Standard Drawing T-SG-6. The mounting hardware shall be aluminum. If attached to a signal pole, all pedestrian signal heads shall be mounted utilizing “clamshell” type hardware.

- **Pedestrian Pushbuttons:** Pedestrian pushbuttons shall be ADA compliant. The pedestrian pushbutton locations shall meet the minimum requirements contained in the latest version of the MUTCD (Chapter 4E) for location and accessibility. A pedestrian actuation sign shall supplement the pushbuttons to indicate the crosswalk direction of each pushbutton.
- **Coordination Equipment:** Coordination equipment is required to have full connectivity with Econolite Centrac software. Fiber optics cable shall be utilized for all interconnects.
- **Pull Boxes:** Pull boxes shall be TDOT Type B with traffic rated lids and shall be installed in accordance with TDOT Standard Drawing T-SG-2.
- **Wiring:** Wiring shall be 14 gauge or larger and installed in accordance with TDOT Standard Specifications for Road and Bridge Construction Manual January 1, 2021, Section 730.17. All signal cables shall be clearly identified and labeled in the controller cabinet.