

TEN EXISTING WOOD POLES, AS DESIGNATED ON THE PLAN, SHALL BE REMOVED IN THEIR ENTIRETY AND STORED. ALSO, THE LUMINAIRES AND ARMS ON SEVEN OF THESE POLES ARE TO BE REMOVED AND STORED.

625 CONDUIT, JACKED UNDER PAVEMENT

An estimated quantity of 40 linear feet of 3-inch conduit jacked under pavement is provided in the general summary for use if directed by the Engineer. None of the materials shall be ordered by the Contractor until requested by the Engineer.

632 SIGNAL STRAIN POLE COMBINATION, TYPE 81.10, BY DESIGN, AS PER PLAN

The Contractor shall provide and install combination strain-light poles in accordance with Supplemental Specification 713.01 and Standard Construction Drawings HL-8 and TC 81.10. The Bracket Arm supplied under a different pay item shall be 15 feet long, Style II (HL-8). A wire inlet shall be provided on the lower bracket arm 6 inches from the bracket arm plate.

All luminaires and luminaire wiring will be provided and installed or relocated by the Cleveland Electric Illuminating Company.

Payment for Item 632, "Signal Strain Pole Combination, Type 81.10, By Design, As Per Plan", will be made at the contract bid price per each including anchor bolts and conduit ells furnished for foundations and the required anchor bolt covers or cover bases.

632 POWER SERVICE, AS PER PLAN

This item shall be as detailed in Specification 632.23, except the electrical service shall be unmetered.

Disconnect switch enclosures shall include a padlock equal to Master No. 4B KA or Wilson Bohannon 660 with lock body of bronze or brass. All padlocks shall use the same key and four keys shall be given to the Engineer.

Payment for Item 632, "Power Service, As Per Plan", will be made at the contract unit bid price for each installation, complete and including all incidental items.

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

Traffic signal installations, including signal heads, cables, messenger wire, cabinet, controller, wooden strain poles, guy wires, and other incidental items required by the Engineer, shall be removed and stored or disposed of by the Contractor. Items designated to be stored shall be carefully removed and suitably stored and protected on the project for salvage by the City of Eastlake. In accordance with 614.03, signals shall not be removed until a new signal system or a temporary traffic control method approved by the Engineer is in operation.

Items to be stored: all vehicular signal heads, pedestrian signal heads, controllers, cabinets, luminaires, wooden strain poles and arms.

Items to be disposed of: all wires and cables being a part of the existing signal installations.

The Contractor shall coordinate with the Cleveland Electric Illuminating Company in the relocation of cable for roadway lighting. Guy wires shall be removed to 1 Foot below ground level.

632 LOOP DETECTOR AMPLIFIER, AS PER PLAN

In addition to the requirements of Supplemental Specifications 730.09, 732.08, and 732.09, loop detector amplifiers shall have the following features. Where conflicting features are described, the features herein shall govern.

General

The intent of this specification is to describe a high performance electronic unit for detecting the passage or presence of small to large vehicles when connected to a wire loop embedded in the roadway surface. Two types of electronic units are described. One type contains a built-in delay of output. The other is a conventional type without delay.

Functional Requirements - General

1. Insulated #12 or #14 wire shall be usable for the roadway loop. Lead-in cable between the roadway loop and detector unit may be the same wire as used for the loop, if twisted one turn per foot, or any #14 gauge or heavier, nonmetallic sheathed twisted or equally-spaced pair.
2. The detector unit shall be capable of self-tuning to an inductance range from 10 microhenries or lower to 2,000 microhenries or higher.
3. Interconnect runs of up to 1,000 feet shall be usable for all classes of vehicles (bicycles to tractor-trailer combinations) depending on size of the roadway loop.
4. Single-lane detection accuracy of the detector shall be within plus or minus 4 percent of the actual count.

5. Detection shall be positive for all classes of vehicles passing through the loop at speeds up to 80 miles per hour.
6. The detector shall provide positive indication for changes of 8 nanohenries or less for loop circuits with up to 600 microhenries in inductance.
7. A minimum of two modes of output relay operations - "pulse" and "presence" - shall be provided. Selection of the operational mode shall be by means of a switch or other device on the front panel of the detector unit and shall not require any circuit changes, substitutions, modifications, or additions.
 - 7a. In the "pulse" mode of operation, the detector shall produce an impulse of 100+ 25 milliseconds for each vehicle entering the loop. If a vehicle stops in the loop, subsequent vehicles entering the unoccupied portion of the loop 2 seconds after the first vehicle shall be detected also.
 - 7b. In the long term "presence" mode of operation, the detector unit shall produce an actuation proportional in duration to the loop size, speed, and length of the passing vehicle. If a vehicle stops and remains within the loop, the detection signal shall persist up to a time period of approximately 4 minutes for small vehicles, and 60 minutes for standard automobiles. After termination of vehicle presence, further vehicles passing over the unoccupied portion of the loop will be detected within 1 second. Vehicle movement over the loop shall restart presence time.
8. Self-tuning of the detector unit to the roadway embedded loop is required. Tuning shall not require an external meter and shall not require any circuit changes, substitutions, modifications, or additions to the detector unit.
9. Sensitivity adjustment shall not require any circuit changes, substitutions, modifications, or additions to the detector unit. Sensitivity adjustment range shall be adequate to provide positive detection of all classes of vehicles with loops installed on reinforced roadways.
10. A front panel indicator light or meter shall serve as an operation indicator as each vehicle actuation occurs.