ITEM 694

LED SIGN LIGHTS FOR TRAFFIC SIGNALS

694.1 Description. This Item shall govern for the minimum requirements for a traffic signal sign and sign light and mounting brackets to be used with horizontal and vertical traffic signals.

694.2 Horizontal Sign Light Housing. The housing of the sign light shall be of 1/16 inch aluminum rolled and crimped on the backside under edge of the housing, crimped and bent upward on the forward edge to allow a drip drain. This crimp is to be approximately 45 degrees with the front portion of the housing. Approximately 3 inches from the top, the housing shall be crimped forward so as to give the proper reflector surface to throw light passing forward from the lamp back onto the sign hanging below.

The end plates of the structures shall be 1/8 inch or larger sheet aluminum for rigidity. These end plates shall be drilled or knockouts placed in them for 1/2 inch grommet type connectors.

At each end of the housing there shall be a bracket for mounting the lamp sockets so as to place the center of the lamp socket approximately 3-3/4 inch below the top of the housing. The exact positioning of the lamp socket shall depend on the front angle of the housing for the proper reflective angles to place the maximum amount of light on the sign hanging below. These brackets shall be so constructed that the wiring from the signal cable to the sign may be made up on a terminal block.

694.3 Finish. The outside of the sign light shall be finished with two coats of Federal Yellow gloss and the inside with two coats of white gloss.

694.4 Sign Light Dimensions. The horizontal sign light shall be approximately 48 inches long so as to mount under a three section 12 inch signal without extending beyond the mounting hardware of the signal assembly.

Four holes shall be drilled in the rear wall of the housing approximately 26 inches apart, plus or minus 1/4 of an inch in the horizontal dimension and 3-1/2 inches apart in the vertical dimension. This will allow it to be used with an 8 or 12 inch signal type assembly. These holes shall be of sufficient size to accommodate 1/4 inch bolts.

The vertical sign light shall be approximately 12 inches long so as to mount on top of the proposed sign.
Brackets. Each horizontal sign light shall come equipped with two brackets of 1/8 inch aluminum stock, 1-1/4 inch wide, 24 inches long, with a pipe bend on one end for a 1-1/2 inch pipe so that the bracket may be placed around the pipe and a 1/4 inch bolt and nut placed through corresponding holes and tightened down so as to give a tight fit. Besides the two holes for tightening to the assembly, there shall be the two holes for mounting a 12 inch maximum dimension sign.

The holes shall be located at the following dimensions from the bottom of the bracket: 1-1/4, 10-1/4 inches, 12 inches and the remaining hole depending on the holes drilled in the rear of the sign light, but approximately 3-3/4 inches from the third hole. These brackets shall be furnished with two coats of Federal Yellow gloss. The purpose of the brackets will be to hang from the top crossbar of the horizontal signal down the back of the signal and thus place the sign light approximately underneath the signal when it is mounted on the brackets. These brackets shall be malleable enough to allow bending around any manufacturer's signal.

Electrical Requirements for a Traffic Signal LED Sign Lamp. The LED Sign Lamp shall meet the same requirements as the 60 Watt Fluorescent Lamp (F48T12-High Output).

A. Average Rated Life - 12000 Hours
B. Initial Lumens at 25C – 4050
C. Mean Lumens at 25C – 3281
D. Approximate Length – 48 inches
E. Base – Recessed Double Contact
F. Diameter – 1.59 inches

"ONE WAY" sign shall be according to Texas Manual on Uniform Traffic Control Devices (TMUTCD) R6-1, and shall be a white arrow, (right or left as specified), on a black horizontal rectangle with the words "ONE WAY" centered in the arrow, made out of reflective material conforming to Item 649 “Wide Angle Prismatic Retroreflective Sheeting For Traffic Control Signs (Diamond Grade)".

Horizontal “LEFT TURN SIGNAL” sign shall be a 48 inch x 12 inch sign, and shall be white with black letters with the words “LEFT TURN SIGNAL” as shown in drawings, made out of reflective material conforming to Item
649 “Wide Angle Prismatic Retroreflective Sheeting for Traffic Control Signs (Diamond Grade)”.

Vertical “LEFT TURN SIGNAL” sign shall be a 24 inch x 30 inch sign, and shall be white with black letters with the words “LEFT TURN SIGNAL” as shown in drawings, made out of reflective material conforming to Item 649 “Wide Angle Prismatic Retroreflective Sheeting for Traffic Control Signs (Diamond Grade)”.

694.8 Photoelectric Control. All sign lights shall be connected to one photoelectric cell. Location of the photoelectric cell shall be on the electrical service pole or as shown on drawings.

694.9 Guarantee. It is normal trade practice for the manufacturer to furnish a guarantee for the work provided herein. The Contractor shall turn this guarantee over to the Engineer for potential dealing with the guarantor. The extent of such guarantee will not be a factor in selecting the successful bidder.

694.10 Measurement and Payment. Sign lights shall not be paid for directly, but shall be included in the bid item for Item 690 “Traffic Signal Heads” or Item 691 “Twelve Inch Signal Head with Programmable Visibility of Signal Faces” except when included in an equipment procurement contract by the County.

There are line code(s), description(s), and unit(s) for this Item (for equipment procurement contracts only).

NOTE: This Item requires drawings that shall be incorporated into the contract documents.

NOTE: This Item requires other Standard Specifications

Item 690 “Traffic Signal Heads"
Item 691 “Twelve Inch Signal Head with Programmable Visibility of Signal Faces”

END OF ITEM 694