

ITEM 687

FLASHER ASSEMBLY INSTALLATION

687.1 Description. This Item shall govern for the furnishing of all labor, materials, tools, equipment, tests, adjustments and all other incidentals necessary to install school zone flasher assemblies and warning flasher assemblies.

687.2 General. All bidders shall visit the job site prior to bidding, only if drawings are made available, in order to acquaint themselves with all jobsite conditions and problems, if any, and all other factors that may affect the bid. Any discrepancy between drawings and specifications shall be resolved prior to bidding.

The Contractor shall clean the job site of all debris, loose excess excavated material, etc. accumulated as a result of work performed under this contract. The Contractor shall exercise care in working around the area not to infringe on or mutilate property. The Contractor shall be responsible for any such infringement or mutilation. It is the Contractor's responsibility to restore the construction area to its original condition prior to final acceptance and payment. The Contractor shall remove any excess excavated material from the jobsite.

All trades are to work in cooperation with one another, and all trades, when necessary and/or as standard procedure, shall construct preliminary grounds for work to be performed by succeeding trades. It is the General Contractor's responsibility to see that all work is properly coordinated and executed.

Any Contractor having any questions concerning this project should contact Harris County (713) 881-3210.

687.3 Materials and Equipment. All materials and equipment furnished for installation under this contract shall be **new and unused, unless otherwise specified**. The Contractor shall install all school zone flashing signals in accordance with this Item, any and all applicable special specifications or special provisions associated with this project, and in accordance with referenced Harris County specifications and details as indicated below.

- A. Solar School Zone Flasher Systems. Reference Harris County Specifications, Items 624, 649, 683, 688, 689, and 690 (Polycarbonate).
- B. AC School Zone Flasher Systems. Reference Harris County Specifications, Items 624, 649, 677, 679, 683, 688, 689, and 690 (Polycarbonate).

All control equipment shall conform to appropriate ITE and NEMA Specifications and shall be furnished and installed in accordance with the drawings and specifications.

687.4 Permits, Codes, Etc. The Contractor shall be responsible for obtaining permits and inspections by regulatory bodies and shall work with Harris County in obtaining power to the system from the local power utility company and notify Harris County 48 hours prior to connecting the system to the local power utility company lines.

All required meter service assemblies shall be installed by the Contractor as required by the local power utility company at the Contractor's expense, unless otherwise specified and/or shown on the construction drawings.

All wiring throughout this system shall be in strict accordance with the National Electrical Code, all local applicable codes and shall also comply with all requirements of CenterPoint Energy, in order that service may be obtained from them. All costs for code compliance are to be included in the bid for this contract.

All construction will be in accordance with the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways", (TMUTCD), and in accordance with the specifications and drawings.

687.5 All items installed under this Item, having a manufacturer's guarantee shall be installed by or under the direction of the manufacturer or his certified agent. The Contractor shall follow the manufacturer's installation procedures for all equipment furnished by Harris County Public Infrastructure Department. It is the Contractor's responsibility to procure the installation procedures before bidding the project.

687.6 Barricades and Construction Signs. The Contractor shall furnish and install permanent and/or portable construction signs on all approaches to the project as shown on the drawings and as required by TMUTCD and Harris County Specification Items 670 and 671. All required construction signs shall be installed and in place when the Contractor is on the jobsite.

Closing of lanes for construction shall be done in strict accordance with the TMUTCD and as shown on the drawings. Prior to closing any section of roadway to traffic, the Contractor shall furnish and install barricades and warning signs in accordance with the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways", (TMUTCD), and in accordance with Harris County Specification Items 670 and 671.

All of the above does not preclude the requirements of Item 4.04 "Barricades, Warning Lights, and Signs on Projects Involving Public Roads" of the "Harris County General Conditions for Roads, Bridges and Related Work".

687.7 Responsibility for Damage or Claims. (Also see Paragraphs 3.01 "Indemnification" and 4.01 "Laws to be Observed" of "Harris County General Conditions for Roads, Bridges and Related Work".)

The Contractor shall hold harmless the County and its representatives from all suits, actions, or claims of any character filed as a result of injuries or damages sustained by any person or property due to neglect in safeguarding the work, the use of unacceptable materials in the execution of the contract, or any act of omission by the Contractor or his Sub-Contractors. The Contractor shall not be released from responsibility until the contract has been completed and all work accepted. Money due the Contractor under and by virtue of his contract may be retained by the County or his surety may be held until such claims have been settled and suitable evidence to that effect furnished to the County.

Unless otherwise set forth in these Standard Specifications, the Contractor shall receive no direct compensation for furnishing, erecting, and maintaining the necessary barricades, lights, flares, signs, or for any other incidentals necessary for the good and proper safety, convenience, and direction of traffic during the period prior to final inspection and acceptance by the County.

687.8 Operation and Maintenance Responsibilities. The Contractor shall accept responsibility for operation and maintenance of the flasher system beginning on the date work commences on the project through the date of final acceptance and payment of the project. Operation and maintenance responsibilities shall include, as a minimum, initiating emergency response for evaluation and, if necessary, for emergency repair operations, on the job site a maximum of 4 hours after notification by Harris County of a reported system failure or malfunction. The Contractor shall pursue emergency response and repair operations with all haste in order that flashers down time will be kept to absolute minimum. In the event the Contractor fails to respond within 4 hours, Harris County reserves the right to pursue the repair operations and forward all associated bills for providing this service to the Contractor for reimbursement. Harris County will also inform the Contractor's bonding company of these incidents.

687.9 Guarantee. Excluding lamps, the Contractor's acceptance of this contract guarantees all workmanship performed and/or materials and/or equipment furnished and installed shall be warranted for a period of two year from date of final acceptance and payment for the project. All LED lamps furnished and installed by the Contractor shall be guaranteed for workmanship and performance for a period of no less than five years from the date of final acceptance and payment for the project. All incandescent lamps furnished and installed by the Contractor shall be guaranteed for workmanship and performance for a period of no less than 180 days from the date of final acceptance and payment for the project, excluding lamps. When warranty repairs are required, the Contractor shall initiate emergency repair service operations on the job site a maximum of 4 hours after notification by Harris County of system failure or malfunction. The Contractor shall pursue repair operations with all haste in order that signal down time will be kept to absolute minimum. In the event the Contractor fails to respond to a request for warranty repairs within 4 hours, Harris County will pursue the repair operations and forward the bills to the

Contractor for reimbursement and inform his bonding company. Vandal damage and damage due to automobile accidents or acts of nature shall not be included under Contractor's guarantee. The Contractor shall sign the inspection sheet on all warranty calls.

- 687.10 Substitute Materials. Set forth in these Standard Specifications are definite models, materials, etc.; however, items of equal appearance, durability, performance and design will be accepted upon approval of Harris County. The successful bidder is required to submit to the Harris County Public Infrastructure Department, Traffic Signal Maintenance, engineering brochures and information on all materials he desires to furnish and install which are of different manufacturer or model number than specified herein. The submittal is for approval or disapproval by the Engineer. In the event approval is not obtained, the specified items shall not be furnished and installed. The submittals shall be furnished not later than 2 days after bid opening.

It is the Contractor's responsibility to verify these locations prior to commencing work and to insure that these locations do not result in conflicts with and/or damage to existing utilities. To this end, the Contractor shall, as a minimum, contact the Lone Star Notification Center at (713) 223-4567 in Houston and 1-800-669-8344 outside of Houston and Texas One Call at 1-800-245-4545 a minimum of 72 hours before commencing any work in the construction area. It is the Contractor's responsibility to physically locate any electrical, communications, sewer, water, gas, of other utilities and to adjust the location of any foundations(s) as necessary to avoid damage to any existing utilities.

- 687.11 Field Test. All flasher assemblies installed by the Contractor shall be field tested. The contract shall not be considered complete until all the flasher assemblies have been field tested for 10 consecutive days without failure and/or malfunction, and to the satisfaction of Harris County. Should a failure and/or malfunction occur within the 10 day test period, the test period shall be extended until the flasher assemblies have operated successfully for 10 consecutive days.

- 687.12 Special Notes.

- A. A pre-construction meeting shall be scheduled by the County after award of contract, and prior to commencement of construction. The Contractor or his authorized representative will be required to attend.
- B. All work in this contract shall be performed between the hours of 8:30 a.m. and 4:30 p.m., Monday through Friday, unless prior authorization has been obtained from the Engineer.
- C. Contractor shall notify Harris County at (713) 881-3210 a minimum of 24 hours prior to commencement of work so that an inspector may be assigned.

- D. The "Service Outlet Location and Data Statement" for these flashers will be supplied to the Contractor upon receipt from local power utility company.
- E. All flashing beacon heads shall be wrapped with burlap or an approved equal cover so that signal faces cannot be seen from the time of installation until placed into operation.
- F. The Contractor shall inform the Harris County at (713-881-3210) a minimum of 48 hours prior to placing a flasher into operation. Turns shall be scheduled for Monday through Thursday during off-peak traffic periods only.

687.13

Miscellaneous.

- A. Submittals. Harris County Public Infrastructure Department, Traffic Signal Maintenance Section will supply the Contractor with the drawings of the proposed improvements. Upon receipt of the drawings, the Contractor shall within two calendar days furnish the County with a copy of purchase orders, invoices, etc., with the estimated date of delivery.
- B. Time for Installation. The Contractor will have five calendar days to install flashers from the time they receive their materials.
- C. Contract Duration. This contract shall be completed when the maximum expenditure is met. It is anticipated that this will occur within the designated period from the date of the purchase order.
- D. Units Assemblage. The Contractor shall be required to assemble the items that are supplied to manufacture's specifications or inspector's satisfaction.
- E. Lane Closure(s). Lane Closure(s) shall be addressed with lane closure details, which will be provided to the declared winning bid.
- F. Sign Removal. Sign removal is incidental to the installation of flashers and new signs.
- G. Pedestal Pole. Poles shall be installed in accordance with drawings and Item 683 "Traffic Signal Supports Pedestal Poles".

687.14

Measurement and Payment. The measurement and payment shall be by the lump sum bid or unit price bid as they appear on the bid sheets for the completed contract, which bids shall be for full compensation for all costs of labor, materials, tools, equipment, test, adjustments, and all other incidentals necessary to construct the complete traffic signal system, excluding all other items shown in the bid sheets in accordance with the specifications and drawings and to the satisfaction of the Engineer.

There are line code(s), description(s), and unit(s) for this Item.

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

NOTE: This Item requires other Standard Specifications

Item 624 "Aluminum Signs"

Item 649 "Wide Angle Prismatic Retroreflective Sheeting for Traffic Control Signs (Diamond Grade)"

Item 670 "Barricades"

Item 671 "Traffic Control"

Item 677 "Electrical Conduits for Traffic Signal Installation"

Item 679 "Insulated Jacketed Traffic Signal Cable"

Item 683 "Traffic Signal Supports – Pedestal Poles"

Item 688 "Flasher Assemblies"

Item 689 "Twelve Inch LED Traffic Signal Lamp Unit"

Item 690 "Traffic Signal Heads"

END OF ITEM 687