



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

February 26, 2019

SUBJECT: FAI Route 55 (I-55)
Project NHPP-S5N9 (987)
Section 2018-049-B
Will County
Contract No. 62G98
Item No. 25, March 8, 2019 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Revised the Schedule of Prices
2. Revised page iii of the Table of Contents of the Special Provisions
3. Revised pages 89-92 of the Special Provisions
4. Added pages 186-189 to the Special Provisions
5. Revised sheets 1,2,4-6,83,105B,106,108,109,113,115-118,120-126, 128, 130-132,134-136,139,141,143 & 148 of the Plans.
6. Added sheets 105E, 112A & 154B to the Plans

Prime contractors must utilize the enclosed material when preparing their bid and must include any changes to the Schedule of Prices in their bid.

Very truly yours,

Jack A. Elston, P.E.
Bureau Chief, Design and Environment

A handwritten signature in cursive script, reading "Ted B. Walschleger P.E.".

By: Ted B. Walschleger, P. E.
Engineer of Project Management

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Damage caused by the Contractor's operations shall be repaired at no additional cost to the Contract.

Operation of Lighting

The lighting shall be operational every night, dusk to dawn. Duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously. Lighting systems shall not be kept in operation during long daytime periods.

Method of Measurement

The contractor shall demonstrate to the satisfaction of the Engineer that the lighting system is fully operational prior to submitting a pay request. Failure to do so will be grounds for denying the pay request. Months in which the lighting systems are not maintained and not operational will not be paid. Payment shall not be made retroactively for months in which lighting systems were not operational.

Basis of Payment. Maintenance of lighting systems shall be paid for at the contract unit price per calendar month for **MAINTENANCE OF LIGHTING SYSTEM.**

SMART TRAFFIC MONITORING SYSTEM

Description: This Work shall consist of furnishing, installing, maintaining, removing, and programming various components of an automated Smart Traffic Monitoring (STM) System. The STM System shall cover IDOT Contract 62G98, I-55 Expressway over BNSF Railroad and Grant Creek. This work shall be done according to Section 701 of the Standard Specifications, described herein, and as directed by the Engineer.

Lane Closures: The STM System shall display messages from the System for lane closures in place on I-55 Expressway over BNSF Railroad and Grant Creek on the following Contract:

FAI Route 55 (Interstate I-55)
Section 2018-049-B
Will County
Bridge New Deck

Schedule: the STM System shall be 100% operable prior to lane closures going in place on I-55 in March 2019. The STM System shall be in operation 24 hours a day and 7 days per week until Contract 62G98 is complete.

Function: The components include Smart Traffic Monitoring Devices (SMD), portable changeable message signs (PCMS), control software, and communications system.

The main purpose of the STM System is to collect real time vehicle travel data at strategic locations prior to and within work zones to provide drivers with advance information about travel time and delay through the work zone and stopped traffic ahead. The real time vehicle travel data shall be automatically transmitted and processed by control software which remotely commands PCMS to display programmed messages based on the travel data.

Revised 2/26/19

The messages shall be in real time and dynamically based on the data collected by SMD. In addition, the STM System shall also have the capability to inform the District Office of traffic delays via the Internet or through the District's Operations and Communications Center.

The STM System shall calculate and notify drivers via PCMS of the actual traffic backup delay time for the entire work zone. The calculation method of the backup delay time shall be submitted to the Engineer for approval. The STM System shall notify drivers of multiple levels of travel time delay based on user-definable speed thresholds (e.g., speeds less than 30 mph) and shall be capable of displaying the distance to slow or stopped traffic with an accuracy of a half mile a minimum of two miles in advance of slowed or stopped traffic by displaying messages on PCMS located on mainline FAI 55 as shown herein and directed by the Engineer. The message library and number of PCMS displaying travel time delay related messages will be determined by the Engineer.

Smart Monitoring Devices: The Contractor shall provide a device that is MUTCD compliant and consistent with the work zone channelizing devices used throughout the regular construction work zone. The SMD shall be crashworthy as defined by NCHRP 350 Category 2, easy to carry and deploy, and lightweight so that it can be positioned by any one member of a construction crew with no special skill requirements or lifting machinery. The SMD shall be independent of all local or regional power and communication networks to provide continuous, uninterrupted, data collection even during power or communication interruption. The SMD shall communicate in series and real time with multiple other SMD and PCMS. The SMD shall gather real-time data, provide 95% accuracy on all vehicle detection, have GPS functionality, transfer data to web based communications for monitoring, and communicate with the PCMS 24 hours per day 7 days a week. The web based interface shall provide vehicle speed, volume, and queue at each device location and maintain data history for a minimum of 12 months. The number and proper location of SMD needed to provide dynamic, travel time messages from the System shall be recommended by the manufacturer and approved by the Engineer. The limit of this system's detection is intended to extend beyond the limits of queuing from the project and suggest using an alternate route. *Vehicle detection shall cover a distance along NB I-55 from Reed Rd. to the BNSF Bridge, and along SB I-55 between I-80 and the BNSF Bridge. Portable Changeable Message Signs and traffic detectors shall be strategically placed in sufficient quantity and frequency to provide travel time delay and queue length data within 0.5 mile accuracy. In addition, a portable changeable message sign shall be placed along NB I-55 south of IL-47 and SB I-55 north of I-80 to display travel time delay information and recommend an alternate route.*

Control Software: The control software shall be web-based. Authorized IDOT personnel shall be enabled to view all devices via the Internet. The software shall be configurable to meet project requirements. The software shall offer both a public information side and a password protected agency-only side.

The control software shall include a map feature showing real time traffic conditions. This shall be offered in an easy to understand visual format via the Internet, such as color coding. It shall also display the devices on the project. By "clicking" on any device, the user shall be able to learn its current condition and operating properties. SMD shall display current speeds and/or volumes and changeable message signs shall display current message(s). The device information will also include a data and time stamp showing when they last reported to the control software. The software shall include user-settable parameters to dynamically trigger in real time new messages to be displayed on the roadside changeable message signs. The software shall also make it easy for authorized personnel to override the current message with a new one in emergencies or when conditions warrant it.

Revised 2/26/19

The software shall provide email and/or text alerts to specified IDOT personnel when speeds or queue lengths exceed IDOT defined parameters.

The software shall provide an XML data feed to IDOT on request and shall hold an archive or data for a period of not less than 1 year in a manner that is readily accessible to IDOT personnel with no additional assistance and at no additional cost.

All public agencies authorized by IDOT shall be granted user accounts as no additional cost to IDOT or the agencies,

Portable Changeable Message Signs: The PCMS shall meet the requirements of Article 701 of the Standard Specifications. The signs shall be equipped with communications equipment fully compatible with the STM System and shall wirelessly communicate with the SMDs and control software independent of the PCMS manufacturer. PCMS shall be provided in sufficient quantity and strategic placement to cover the variable level conditions approaching and within the work zone. The placement plan shall include advance PCMS located 5 miles in advance of the work zone on each approach, *and advance PCMS located in advance of the alternate route*. Preferred locations of PCMS may be suggested by the Engineer. The final number and location of the PCMS shall be recommended by the Contractor and approved by the Engineer. The trailer shall be installed beyond the edge of shoulder and shall not block any part of a lane or shoulder. The contractor may have to temporarily widen embankments with sandbags or other temporary material to properly install the trailer.

Protection: All communications in the STM System shall be protected to prevent unauthorized personnel from accessing the data or changing the displays on the PCMS.

Performance Requirements: Device shall gather and report real-time data during the work zone hours or as required as a single unit or as a system. Website shall report data overlaying work zones onto an interactive map. Work zones shall be represented by a single symbol and present data in a pop-up window when selected. Data shall include the data, time, and average speed through the work zone. Symbols shall also be color coded to represent general speed conditions. Website shall have web access granted accounts for any and all public-sector entities. For strategic speed enforcement, law enforcement agencies shall be granted an account in their jurisdiction at their request at no additional cost. Web access shall allow stakeholders to download archive data such as counts, travel time, speed bin, and speed history.

System Communications: All communication networks used in the STM System shall be provided by the Contractor. When any part of the STM System has not been functioning for ten minutes, the System shall notify the Engineer of the malfunction. Upon direction of the Engineer, the System shall also notify the Contractor and/or the District's Operations and Communication Center.

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Penalties: The Engineer shall notify the Contractor when any components of the STM System is not functioning properly at any time 24 hours a day and 7 days per week. Once the Contractor has been notified that the STM System is not functioning properly, the Contractor shall have four hours to repair the System. After four hours, a monetary penalty shall be assessed to the Contractor. The penalty shall be \$2000 for each hour or portion thereof until the System is functioning properly.

Method of Measurement: This work will be measured for payment on a lump sum basis.

Basis of Payment: This work will be paid for at the contract unit price per lump sum for SMART TRAFFIC MONITORING SYSTEM.

- (a) After the STM System is set up and 100% operable, 25% of the pay item will be paid.
- (b) After each month of use, 65% of the pay item will be paid on a prorated monthly basis.
- (c) After the STM System is completely removed, 10% of the pay item will be paid.

KEEPING THE EXPRESSWAY OPEN TO TRAFFIC

Effective: March 22, 1996

Revised: January 21, 2015

Whenever work is in progress on or adjacent to an expressway, the Contractor shall provide the necessary traffic control devices to warn the public and to delineate the work zone as required in these Special Provisions, the Standard Specifications, the State Standards and the District Freeway details. All Contractors' personnel shall be limited to these barricaded work zones and shall not cross the expressway.

The Contractor shall request and gain approval from the Illinois Department of Transportation's Expressway Traffic Operations Engineer at www.idotlcs.com twenty-four (24) hours in advance of all daily lane, ramp and shoulder closures and 7 days in advance of all permanent and weekend closures on all Freeways and/or Expressways in District One. This advance notification is calculated based on workweek of Monday through Friday and shall not include weekends or Holidays.

LOCATION: I-55: River Rd to I-80

WEEKNIGHT	TYPE OF CLOSURE	ALLOWABLE LANE CLOSURE HOURS		
Sunday - Thursday	1-Lane	9:00 PM	to	5:00 AM
Friday	1-Lane	9:00 PM (Fri)	to	9:00 AM (Sat)
Saturday	1-Lane	9:00 PM (Sat)	to	11:00 AM (Sun)

Revised 2/26/19

FILLING EXISTING RUMBLE STRIP

Description. This work shall consist of removing the shoulder rumble strips through milling and repaving with hot-mix asphalt (HMA) surface or directed by the Engineer, and in conformance with these specifications.

Construction Requirements. This work shall be done in accordance with the applicable portions of Section 440 of the Standard Specifications and Section 406. The surface lift of the existing pavement shall be removed by a self-propelled milling machine to a width of 2 to 5 inches wider than the existing rumble strip. Tack coat shall be applied and HMA shall be placed to fill in the milled area. Hot-mix asphalts shall match the proposed permanent shoulder mix for the mainline. If the milling machine cuts too deep or damages areas of the existing pavement outside of the designated removal, the holes shall be filled with leveling binder and surface at the Contractor's expense.

Method of Measurement. FILLING EXISTING RUMBLE STRIP will be measured for payment in place and the length computed in linear feet of rumble strip removed.

Basis of Payment. This work will be paid for at the contract unit price per linear foot for FILLING EXISTING RUMBLE STRIP which price shall include all equipment, labor, and materials necessary to remove the rumble strip and replace with HMA surface.

PORTABLE VIDEO TOWER STATIONS

Description. This work shall consist of furnishing, installing, maintaining, relocating, and removing a system of video surveillance stations as well as providing web-based viewing and control for each individual station for incident management and traffic operation.

The purpose of the system is to provide real-time, full motion video surveillance of traffic operations at various locations along the project route via the internet to multiple IDOT facilities.

Equipment. The video surveillance equipment shall consist of trailer-mounted mobile video camera systems. The system shall be easily transported and set up quickly by one individual.

Cameras shall consist of full pan-tilt-zoom cameras capable of transmitting a minimum of 20 frames per second. Camera stations shall be capable of 360 degree panning, 90 degree tilt, and a minimum of 25x zoom. For video monitoring, each camera shall be capable of autoswitching between user-defined preset positions as well as full manual control. At least half of all stations shall include infrared video capability for use in unlit regions of the contract.

This Contract shall have a total of three (3) Individual trailered video stations. All stations shall be capable of raising the camera(s) to a height of 40'. The stations shall also include infrared cameras for use in unlit sections of the highway. Each station shall be designed to be stable during normal winds (up to 50 MPH) keeping camera wobble to a minimum.

Each station shall have battery power with solar charging for continuous operation.

Added 2/26/19

Communications. Each station shall have the necessary communication equipment required for transmitting and receiving Information via the Internet. Data upload/download requirements with the service provider shall be sufficient to ensure the 20 frames per second continuous transmission.

General. The Station shall be 100% operable prior to the implementation of MOT Stage. The MOT Stage shall not be implemented prior to the Station being in place and operable.

The Station shall be operation 24 hours a day and 7 days per week during the duration of each stage.

Video shall be accessible via the internet. No additional software shall be needed to access the website for viewing or controlling cameras. Secure logins shall be capable for full viewing and control as well as view-only.

Still Picture Capture. The station shall be capable of capturing a still image in JPEG format and automatically transferring this image to an FTP site. The resolution of the image shall be user selectable with a default size of 704X480 pixels. The frequency of captures shall be user settable and shall as a minimum range from 1 picture every 120 seconds to 1 picture every five minutes. As a part of the still image capture, a graphic overlay image shall be added to the captured image. The graphic image shall be user selectable, in JPEG, or GIF formats. The overlay shall also be user positional. The image will be provided by the Department.

Trailer should be located as directed by the Engineer. Positioning should be to maximize the field of view and coverage along the project corridor. Once installed and operations, the Contractor shall provide the latitude and longitude of each device to the Engineer unless the stations self-transmit GPS locations. Relocation of the stations should be minimized; however it may be necessary based upon traffic characteristics or operational Issues. Additionally, if and when a unit is relocated, the coordinates must also be updated.

The contractor may be required to periodically clean the protective clear shroud surrounding the camera to ensure visibility and proper operation which is included in the cost of the item.

Method of Measurement. Portable Video Tower Stations will be measure on a calendar month basis for the entire system.

One calendar month is defined as thirty-one (31) calendar days where the system is fully functional. In the event that all or a portion of the system is not fully functional, the full month payment will be deducted as follows whereas:

- X equals the number of stations not functioning
- N equals the total stations in the contract
- D equals the number of 6-hour periods where a station does not work

Deduction = $(X/N) \times (D/4) \times (1/31)$

Added 2/16/19

Deductions will begin when the entire system or portion thereof is not functional for over 2 hours and will be rounded up to the nearest 6 hours. Fully functional shall mean that full video is being transmitted and received on a remote computer via the internet, images are not obscured due to lack of maintenance or cleaning, and stations maintain pan-tilt-zoom control via the Internet. Internet service failures not due to the Contractor or their pay item will not be included for deduction.

Basis of Payment. PORTABLE VIDEO TOWER STATIONS shall be paid at the contract unit price per calendar month or fraction thereof for the entire system.

TEMPORARY RUMBLE STRIPS (SPECIAL)

Description. This work shall consist of the furnishing, installation, maintenance, and removal of temporary rumble strips and advance signage.

CONSTRUCTION REQUIREMENTS

General. The rumble strips shall consist of six (6) layers of Preformed Plastic Pavement Marking, Type B - Inlaid - Line 6" (White). The temporary rumble strips shall be placed as shown on the Detail for Temporary Rumble Strips (Special) or as directed by the Engineer.

Advance Signage. In advance of the temporary rumble strips, advance signage shall be furnished and installed as shown on the Traffic Control and Protection, Standard 701400 plan detail.

Method of Measurement. This work will be measured for payment as each, where each is defined as a set of three temporary rumble strips across a single lane of pavement; and each set of temporary rumble strips will be measured for payment once.

Furnishing, installation and removal of the advance signage shall not be paid for separately but shall be included in the cost of the "Temporary Rumble Strip (Special) item.

Basis of Payment. This work will be paid for at the contract unit price per each for TEMPORARY RUMBLE STRIPS (SPECIAL) which price shall include all materials and labor to complete this work.

TEMPORARY TRAFFIC SIGNAL TIMING

Effective: May 22, 2002
890.02TS

Revised: July 1, 2015

Description.

This work shall consist of developing and maintaining appropriate traffic signal timings for the specified intersection for the duration of the temporary signalized condition, as well as impact to existing traffic signal timings caused by detours or other temporary conditions.

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants.

Added 2/26/19

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMING.

- (a) Consultant shall attend temporary traffic signal inspection (turn-on) and/or detour meeting and conduct on-site implementation of the traffic signal timings.
- (b) Consultant shall be responsible for making fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
- (c) Consultant shall provide monthly observation of traffic signal operations in the field.
- (d) Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, detours, and other construction activities.
- (e) Consultant shall make timing adjustments and prepare comment responses as directed by the Area Traffic Signal Operations Engineer.
- (f) Return original timing plan once construction is complete.

Basis of Payment.

The work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL TIMING, which price shall be payment in full for performing all work described herein per intersection. When the temporary traffic signal installation is turned on and/or detour implemented, 50 percent of the bid price will be paid. The remaining 50 percent of the bid price will be paid following the removal of the temporary traffic signal installation and/or detour.

TRAFFIC CONTROL FOR WORK ZONE AREAS

Effective: September 14, 1995

Revised: January 1, 2007

Work zone entry and exit openings shall be established daily by the Contractor with the approval of the Engineer. All vehicles including cars and pickup trucks shall exit the work zone at the exit openings. All trucks shall enter the work zone at the entry openings. These openings shall be signed in accordance with the details shown elsewhere in the plans and shall be under flagger control during working hours.

The Contractor shall plan his trucking operations into and out of the work zone as well as on to and off the expressway to maintain adequate merging distance. Merging distances to cross all lanes of traffic shall be no less than 1/2 mile. This distance is the length from where the trucks enter the expressway to where the trucks enter the work zone. It is also the length from where the trucks exit the work zone to where the trucks exit the expressway. The stopping of expressway traffic to allow trucks to change lanes and/or cross the expressway is prohibited.

Failure to comply with the above requirements will result in a Traffic Control Deficiency charge. The deficiency charge will be calculated as outlined in Article 105.03 of the Standard Specifications. The Contractor will be assessed this daily charge for each day a deficiency is documented by the Engineer.

Added 2/26/19