

April 20, 2022

SUBJECT: Route FAU 6650 (Glen Avenue) Section 18-00029-00-PV Peoria County Contract No. 89789 Item 185 April 29, 2022 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 sheets 32 and 56 of the Plans.
- 2. Revised pages 6 14 of the Special Provisions.

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,

Trefete

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

LANDSCAPE REMOVAL

This work shall consist of the removal of landscape type areas constructed within the County's street right of way, including any landscaping aggregate, edging and plantings. Locations where such removal will be required in order to build the proposed improvements are identified in the plans. These specified locations and any other locations found to be in conflict by the Contractor must be verified with the Engineer's Representative before any removal takes place. The Engineer's Representative shall confirm the removal limits with the Contractor before removal. Any removals performed without prior notification and agreement of the Engineer's Representative shall be done and reconstructed without payment by the County. The Contractor shall confirm with the Engineer's Representative whether the removed materials shall be salvaged and returned to the property owner or disposed of prior to any removal. This work will be paid for at the contract unit price per each for LANDSCAPE REMOVAL.

TEMPORARY ACCESS ROAD (SPECIAL)

This work shall consist of constructing and removing temporary aggregate access roads connecting private and commercial entrances and sideroads at the locations shown in the plans and as directed by the Engineer. The work shall be performed in accordance with the applicable portions of Sections 402 and 1004 of the Standard Specifications for temporary access. Construction of access roads under this special provision shall include installation of geotechnical fabric for ground stabilization in accordance with Section 210 of the Standard Specifications. When use of temporary access is discontinued, the surface aggregate used in its construction shall be removed and utilized as approved by the Engineer in permanent construction or disposed of according to Section 202.03 of the Standard Specifications. Geotechnical fabric and removal of temporary aggregate access will not be measured for payment separately but shall be included in the unit price for Temporary Access Road (Special). All necessary earth excavation, furnished excavation, or embankment necessary to construct the temporary access roads and/or provide temporary drainage will not be measured separately for payment but shall be included in the contract unit price for Temporary Access Road (Special). Earth moved more than once due to stage construction, temporary access or by written authorization of the Engineer will not be measured for payment each time it is moved. This work will be paid for at the contract unit price per square yard for TEMPORARY ACCESS ROAD (SPECIAL).

SOLAR-POWERED FLASHING BEACON ASSEMBLY (COMPLETE)

Description:

This work shall be performed in accordance with the applicable portions of Sections 702, 801, and 806 of the Standard Specifications insofar as applicable, and the latest edition of the MUTCD except as modified herein. This work consists of furnishing and installing a photovoltaic (solar) powered flashing LED warning sign system complete in place.

Solar Electric System Design:

The solar electric system shall be designed to act as a standalone power source for the system. It shall be designed for a flashing output for 25 seconds with a duty cycle of 50 calls per day at the location shown in the plans in the month with the lowest solar radiation. Loading shall be calculated based on the maximum power consumption of each Individual component. If a manufacturer provides a range of power consumption for an item, the largest possible value of the load shall be used for design purposes. The projected days of autonomy shall be no less than 5 days. The projected battery state-of-charge (SOC) shall be no less than 85% throughout the year. The minimum acceptable array to load ratio shall be 1.1 in the month with the lowest solar radiation. System deratings shall be accounted for in the design to cover any losses from module output mismatch loss, dirt/dust accumulation losses and wiring losses.

Solar Electric Modules and Mounting Structures:

The module cells shall feature an antireflective coating and a low iron glass covering. Cells shall be encapsulated to protect them from the environment. Each module shall feature a weather tight junction box for connecting the array output cable to the module terminals. Modules shall feature a minimum manufacturer's warranty of 15 years for power output. All modules shall feature an anodized aluminum frame for mechanical support. Modules shall be from an established manufacturer/supplier with at least a 15 year history of production.

Solar modules shall be securely mounted to a suitable top of pole or side of pole mount structure that has been specifically designed to hold solar modules. All hardware used to install the modules to the mounts and the mount to the pole and all security hardware shall be stainless steel. Any specialty tools required for the security hardware shall be furnished to the Village. Mounts shall be powder coated or hot dip galvanized steel. Mill finished or powder coated aluminum mounts are considered acceptable alternates for smaller solar arrays (40W or less).

Solar/Flasher Controls:

The system shall feature an integrated control unit. The controller shall be a solid-state unit capable of managing battery charging and load/flasher control in a single unit. Charge control/flasher circuitry built from multiple components will not be allowed.

The charge control portion shall be designed such that it draws low power to minimize the parasitic load on the system. The unit shall use an ambient temperature sensor to adjust the charge termination point thus prolonging battery life (temperature compensated charging).

The charge circuit shall also employ a pulse-width-modulation algorithm for charging the batteries and be a solid-state series switch type configuration.

Load/flasher control shall be accomplished using a low-voltage-disconnect (LVD) circuit to disconnect power to the flasher control circuit when battery voltage falls to a low state-of-charge (typically 20%). The flasher circuitry shall be all solid-state and provide two complimentary drive outputs. When flashing, the unit shall have an output duty cycle of 50% per circuit and shall be capable of 50-60 flashes per minute for each lamp. On board short circuit protection shall be provided.

An 8-position terminal block with all positions labeled for ease of maintenance shall be included. Manual switches shall be provided to select the lamp activation source as either manual on or control from an external source. A status LED for charging and LVD shall be included on the face of the controller. The controller shall include an integral heat sink.

Spread Spectrum Radio Link:

The crosswalk flasher units shall be linked to each other and shall operate wirelessly to minimize effects of external RF interference. The radio shall have an output of no less than 4-milliwatt and shall not require a license for operation. The radio shall operate from a nominal 12VDC source and include a status LED lamp to indicate power on. The radio shall also include transmit-receive status LED lamps to show message traffic between units.

The radio shall use a Frequency Hopping Spread Spectrum (FHSS) radio protocol. The minimum antenna configuration shall be an omni directional whip with a stainless steel mounting bracket. A data cable between the radio and the logic control unit shall be included. In the event that multiple systems are collocated, the radio hop sequence shall be field adjustable with programming software, straight data

cable and a laptop computer. Changing hop sequences between collocated systems shall ensure that all can function without cross interference.

Additionally the radio shall be capable of using up to two additional levels of encryption including DT address settings to further encrypt data transfer.

Logic Control Unit:

The system shall be equipped with a logic control device consisting of a PLC type device. The logic control device shall include input status indicators consisting of LED lamps. The device shall also include status Indicators consisting of LED lamps showing run, power and error status indicators. The control device shall include a data cable to allow connection between its communications port and the radio. The logic device shall have a minimum of 4 dry contact output relays with a minimum output rating of .5A.

The software for the logic control device shall allow the user to adjust the run time of the flashers from a minimum run time of 10 seconds to a maximum of 80 seconds. A set of toggle switches on the electronics panel shall allow the user to set the time. Toggle switches in the ON position shall be indicated by an input status LED lamp. A TEST button shall also be included with the time selection switches to allow each flasher unit to be tested individually.

The software shall include a communications fault routine that causes the lamps to flash intermittently in the event that the radios lose link with each other. The controller shall also have an input dedicated to monitoring the battery. The logic devices shall be configured as a master-slave system using a MODBUS protocol for operation.

PED Push Button:

The PED push button shall be a vandal resistant unit. It shall have minimal travel and include both a visible and audible feedback to indicate when the button is pressed.

Visible feedback shall be a high intensity LED built into the unit and the audible feedback shall be a piezo beeper. The button assembly shall include a minimum of a 5"x 7" adjustable push button station assembly with an international crossing sign mounted on it showing the direction of travel desired.

System Batteries:

The system shall come equipped with the number and type of batteries required for loading. The battery type shall be a sealed-maintenance free valve-regulated design. The battery shall use an Absorbed Glass Mat (AGM) to suspend the electrolyte making it immobile. Alternately, the battery may be a gel type that employs a thixotropic gel to immobilize the electrolyte. Acceptable battery sizes shall be group U1, 22, 24, 27 and group 31.

Capacity of the batteries at 25°C shall be 36Ah to 115Ah, respectively, at the C/100 rate depending on battery size. Batteries shall use a copolymer polypropylene case and cover. Non-removable pressure regulated flame arresting safety valves shall be standard.

Rated operating temperature shall be from -40° F to $+176^{\circ}$ F.

System Enclosure:

The system shall include a single pre-wired enclosure for ease of installation. The unit shall be an aluminum enclosure with a minimum material thickness of 0.125". The cabinet shall have a mill finish. Mounts shall be included as part of the enclosure and shall be suitable for mounting to a 4.5" outer

diameter pole. The enclosure shall also be capable of accepting band style mounts if needed. The enclosure shall feature a minimum of one police lock with key. The keyhole for the lock shall have a cover attached to the door with a rivet. The door shall be attached to the unit using a continuous stainless steel hinge that is riveted to the door and the enclosure body. The hinges shall be installed such that the rivets are not exposed when the door is closed. An integral rigid doorstop shall be included in the unit so that the door can be fixed in the open position. The door shall cover the entire front side of the cabinet and be constructed of a single piece of aluminum. It shall have a neoprene gasket around the entire edge of the door and have three screened louvered vents on each side of each compartment. The louver screening shall be aluminum for longevity. An integral rain lip shall also be provided at the top of the main cabinet body to allow the user to adjust the pressure between the door gasket and the body of the cabinet.

The battery compartment shall have a minimum of $\frac{1}{2}$ " of styrofoam sheeting around the battery to minimize heat transfer between the battery and the wall of the enclosure. The name of the system manufacturer shall be stamped on the inside of the enclosure door along with a phone number for troubleshooting assistance.

System Wiring:

All systems shall feature a color-coded wiring harness for both the lamps and the solar array output. The lamp harness shall consist of a wiring assembly suitable for use with a two-lamp system to be installed on a 15' pole. The harness shall be color coded for ease of connection to the lamps. A seven pin keyed locking connector shall be included in the harness to allow the lamps to be disconnected from the control electronics. An integral fuse assembly shall be included in the lamp positive wire of the harness. All connections shall be terminated with a crimped spade terminal for easy installation. Wire for the harness shall be TEW or MTW.

The solar array output harness shall consist of a jacketed pair of conductors suitable for the solar array output current. The jacket shall be a UV resistant PVC or XLP material. Spade terminals shall be included for ease of installation.

Systems using solar arrays over 225-watts shall include supplemental harnesses for any additional electronics needed for power control. Supplemental harness assemblies shall also be keyed to prevent confusion in the connector orientation.

Posts:

Posts shall be UL classified and designed to current AASHTO standards for 90 mph wind, 3-second gusts, and minimum 50-year life with all attached components and shall arrive at the job site in a black powder coat finish with a matching shroud or aluminum nut covers and ground connector. Post length shall be in accordance with the MUTCD for proper sign mounting height and the manufacturer's recommendations.

Foundations:

24" diameter concrete foundations shall be constructed in accordance with the foundation detail in the plans.

Signs:

Each post shall have a R10-25 sign, pedestrian crossing sign (W11-2, 30" x 30") with flashing LEDs in the border and a diagonal arrow plaque (W16-7L or W16-7R, 24" x 12") mounted on both sides of the post facing traffic.

Documentation:

Each system shall come with a complete installation and user's guide. Minimum information to be covered shall be as follows:

- 1. Description of all the system components and their basic function.
- 2. Installation of a typical system including sections specifically covering pole installation, all aspects of installation of the solar power system and LED lamp installation.
- 3. Troubleshooting and maintenance of the system.
- 4. Complete appendices on all of the components used in the system
- 5. Quick start timer programming instructions.
- 6. Complete drawings or illustrations throughout to support and clarify the text.
- 7. Phone/FAX numbers for technical support of the system.

Method of Measurement:

This work will be measured for payment for each sign assembly installed.

Basis of Payment:

This work will be paid for at the contract unit price per each for SOLAR-POWERED FLASHING BEACON ASSEMBLY (COMPLETE), which price shall include all labor, equipment, materials, and incidental expenses necessary to furnish the components, signs, posts, foundations, hardware, cables, connectors, and brackets necessary for installation of each sign assembly.

REMOVE SIGN (SPECIAL)

This work shall consist of the removal of specialty subdivision signs, including stone structures and foundations within the County's street right of way. Locations where such removal will be required in order to build the proposed improvements are identified in the plans. These specified locations must be verified with the Engineer's Representative before any removal takes place. The Engineer's Representative shall confirm the removal limits with the Contractor before removal. The Contractor shall confirm with the Engineer's Representative that removed sign panels shall be salvaged and returned to the homeowner's association and stone structures and foundations shall be removed and disposed of by the Contractor. This work will be paid for at the contract unit price per each for REMOVE SIGN (SPECIAL).

RELOCATE EXISTING MAILBOX

The Contractor shall be responsible for determining and coordinating with the Engineer and the local Post Office (Post Master) an acceptable method for mail service during construction. Notice shall be provided to all affected homeowners that will experience a change in mail delivery procedures. Temporary mail box facilities may be required to be furnished by the Contractor. In addition to this coordination, all existing mailbox assemblies within the project limits and as noted in the plans shall be relocated to accommodate the conditions of the final roadway improvements. This work will be paid for at the contract unit price per each for RELOCATE EXISTING MAILBOX.

FENCE REMOVAL AND REINSTALLATION

This work shall consist of the removal of fencing constructed within the County's street right of way,

including any foundations or anchors. Locations where such removal will be required in order to build the proposed improvements are identified in the plans. The Engineer's Representative shall confirm the removal limits and location for reinstallation along right-of-way line with the Contractor before removal. This work will be paid for at the contract unit price per each for FENCE REMOVAL AND REINSTALLATION.

RETAINING WALL REMOVAL

This item of work shall consist of furnishing all labor, equipment, and materials necessary to remove existing concrete and stone retaining walls including associated foundations at the locations indicated in the plans and as directed by the Engineer. This work will be paid for at the contract unit price per foot for RETAINING WALL REMOVAL.

HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH

This work consists of removal of the existing surface of the roadway at a depth that varies from 0" to 4" as shown in the plans. The removal shall be done in such a manner that the existing concrete pavement is not damaged.

The work shall be paid for at the contract unit price per SQUARE YARD for HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH, which price shall include all material, equipment, and labor necessary to complete the work.

CONCRETE CURB, TYPE B (SPECIAL)

Concrete Curb, Type B (Special) shall be installed at locations specified and as shown in the plan detail. Work will be paid for at the Contract Unit Price per Linear Foot of Concrete Curb, Type B (Special), which price shall be considered payment in full for all labor, equipment, backfill, and all material necessary to complete the work.

DETOUR SIGNING

Traffic control signs, devices and changeable message signs necessary to mark the detour route as shown in the plans shall be the responsibility of the Contractor. Signs and traffic control devices shall be installed in accordance with applicable standard details and the Illinois Manual of Uniform Traffic Control Devices. All materials and labor to install and maintain traffic control devices along the detour route will be paid for at the contract lump sum price for DETOUR SIGNING.

FENCE REMOVAL (SPECIAL)

This work shall consist of the removal of fencing constructed within the County's street right of way, including any foundations or anchors. Locations where such removal will be required in order to build the proposed improvements are identified in the plans. These specified locations and any other locations found to be in conflict by the Contractor must be verified with the Engineer's Representative before any removal takes place. The Engineer's Representative shall confirm the removal limits with the Contractor before removal. Any removals performed without prior notification and agreement of the Engineer's Representative shall be done and reconstructed without payment. The Contractor shall confirm with the Engineer's Representative whether the removed materials shall be salvaged and returned to the property owner or disposed of prior to the removal. This work will be paid for at the contract unit price per foot for FENCE REMOVAL (SPECIAL).

CONCRETE STRUCTURES (RETAINING WALL)

This work shall consist of installing the cast-in-place concrete wall with its form liner textured surface in accordance with Section 503 of the Standard Specifications, the plans, and as directed by the Engineer.

The wall shall be no higher than 60 inches above any finished, adjacent surface, without a Structural Engineer approval. The plans specify general depth of structure to be 3'-6" below grade. #4 and #5 Rebar is to be installed with ties and spacing as seen in plan specifications.

Concrete shall be 4,000 PSI air entrained. Class SI concrete used for cast-in-place structures shall contain a high range water-reducing admixture according to Article 1021.03(c) of the Standard Specifications to obtain a 5"-7" slump.

Reinforcing steel shall comply with ASTM A615 and have a yield strength of 60,000 psi.

Control Joints shall be placed no more than 20 feet on center. Expansion joints shall be placed no more than 100 feet on center.

The footing shall be constructed on native, undisturbed soil. If soil under the footing consists of <u>unsuitable or unstable materials (ie soft clay)</u> then 6" of compacted CA-6 shall be placed, meeting Article 1004 of the Standard Specifications. <u>Compacted CA-6 is not required under retaining wall</u> footing unless unstable or unsuitable native soils are found. A smooth rubbed finish shall be provided at top, entire street-side above form liner limits. Contractor shall remove fins and repair tie holes and defective areas. Contractor shall moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture.

The pattern of the form liner shall appear natural and non-repeating. Seam lines or match lines caused from two or more molds coming together will not be apparent when viewing final wall. The molds shall not compress more than ¹/₄ inch when concrete is poured at a rate of 10 vertical feet per hour. The molds shall be removable without causing deterioration of surface or underlying concrete.

The forms shall be properly braced or tied together to maintain position and shape. The forms shall be made sufficiently tight to prevent leakage of the mortar. The formwork shall have the strength and stability to ensure finished concrete dimensions within the tolerances specified herein.

The Engineer has pre-approved the following form liner suppliers and patterns for the textured surface:

- 1. American Form Liners, IL Pattern #1204 Dry Stack. www.americanformliners.com
- 2. Scott System, CO Pattern #1280, Random Drystack. www.scottsystem.com
- 3. Custom Rock, MN Pattern #1208, Drystack. www.customrock.com

Any other similar form liner and its specifications must be submitted to the Resident Engineer for approval. Carving/sculpting a similar pattern without form-liners must be approved by the Resident Engineer. Contractor carving/sculpting must be pre-approved by the Engineer by submitting previous local similar work portfolio to the Resident Engineer.

Form ties shall be made of either metal or fiberglass. Metal ties, which result in a portion of the tie permanently embedded in the concrete, shall be designed to separate at least one inch back from the finished surface, leaving only a neat hole that can be plugged with patching material. Contractor shall submit the type of form ties to the Engineer for approval prior to use in this work.

Basis of Payment

Work will be paid for at the Contract Unit Price per CUBIC YARD of CONCRETE STRUCTURES (RETAINING WALL), as determined by cast-in-place volume specified in the plans, which price shall

be considered payment in full for all labor, equipment, and material necessary to complete the work as specified. The cost will also include rubbing the face of the exposed surfaces to create a clean finish. Reinforcement bars for cast-in-place concrete retaining walls will be paid for according to Article 508.11. Form liner textured surfaces will be paid for at the contract unit price per SQUARE FEET for FORM LINER TEXTURED SURFACE. Porous granular backfill will be paid for at the contract unit price per CUBIC YARD for POROUS GRANULAR BACKFILL. The removal and disposal of unstable and/or unsuitable material will be measured for payment according to Article 502.12(b) and paid for according to Article 109.04. When necessary, compacted CA-6 placed under footing will be measured for payment at the contract unit price per SQUARE YARD for SUBBASE GRANULAR MATERIAL, TYPE B, 6".

ABANDON AND FILL EXISTING STORM SEWER

Where existing storm sewers are to be abandoned in place, the pipe openings shall be sealed using concrete or brick masonry units with grout. The remaining sewer shall be filled with controlled low-strength material in accordance with the requirements of Sections 593 and 1019 of the Standard Specifications to prevent the infiltration of ground water into the abandoned pipe. This work will be paid for at the contract unit price per foot for ABANDON AND FILL EXISTING STORM SEWER.

CLEANOUTS

This work shall consist of installing cleanouts for connection of private drainpipes that currently outfall into the existing ditches within the County's right of way to the proposed roadway storm sewer system. This work shall be in accordance with the applicable portions of Section 601 of the Standard Specifications, the "Standard Specifications for Water & Sewer main Construction in Illinois", according to the details shown in the plans and as directed by the Engineer. Cleanout pipe materials shall be PVC with joints and fittings per the manufacturer's specifications.

Where installed on underground drainage, an accessible cleanout shall be extended to or above the finished grade level. Cleanouts shall be of the same size as the private drainpipe up to a maximum of 6". Cleanouts shall be two-way with fittings permitting rodding both directions. Cleanouts shall have a pop-up drain cap and not a standard or treaded closed cap. At a minimum, one cleanout shall be located on every private drainpipe connection to roadway storm drainage system. Cleanouts shall be located at the right of way line on all private drainpipe, see detail shown in the plans.

This work will be paid for at the contract unit price per EACH for CLEANOUTS. Additional length of pipe necessary to extend private drainpipes shall be paid for at the contract unit price per FOOT for PIPE UNDERDRAIN 4" (SPECIAL).

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (PROJECT SPECIFIC)

This work shall consist of the removal and disposal of regulated substances according to Section 669 of the Standard Specifications as revised below.

Contract Specific Work Areas. The excavated soil and groundwater within the work areas listed below shall be managed as either "uncontaminated soil", hazardous waste, special waste or non-special waste. For stationing, the lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit, whichever is less.

Site 17 – Commercial Strip- 611, 613, 615, 617, 619, 621 Glen Avenue, Peoria County, Illinois

Station 82+80 through 83+70 (Glen Ave) 0 to 50 LT, 0-5 feet bgs. All excavation planned for underdrain excavation. The Engineer has determined this material meets to criteria of and shall be managed in accordance with Article 669.05(a)(5). Contaminants of concern sampling parameters: arsenic.

Station 83+70 through 84+55 (Glen Ave) 0 to 50 LT, 0-5 feet bgs. All excavation planned for underdrain excavation. The Engineer has determined this material meets to criteria of and shall be managed in accordance with Article 669.05(a)(5). Contaminants of concern sampling parameters: arsenic and TVOCs.

<u>Site 18 – Mattress Liquidations – 609 Glen Avenue, Peoria County, Illinois</u>

Station 84+55 through 85+35 (Glen Ave) 0 to 50 LT, 0-5 feet bgs. All excavation planned for underdrain excavation. The Engineer has determined this material meets to criteria of and shall be managed in accordance with Article 669.05(a)(5). Contaminants of concern sampling parameters: arsenic.

Work Zones

Three distinct OSHA HAZWOPER work zones (exclusion, decontamination, and support) shall apply to projects adjacent to or within sites with documented leaking underground storage tank (LUST) incidents, or sites under management in accordance with the requirements of the Site Remediation Program (SRP), Resource Conservation and Recovery Act (RCRA), or Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or as deemed necessary. For this project, the work zones apply for the following ISGS PESA Sites: None

Additional information on the above sites collected during the Phase I Engineering process is available through the District's Environmental Studies Unit (DESU).

LUMINAIRE, LED, SPECIAL

This work shall consist of furnishing and installing a new LED luminaire to be installed on existing light poles in accordance with Section 821 of the Standard Specifications and the details in the plans. All connectors, fasteners, additional electrical cable, or other materials as necessary to complete this work will not be measured separately for payment.

This work will be paid for at the contract unit price per EACH for LUMINAIRE, LED, SPECIAL which price shall include all labor, equipment, and materials necessary to complete the work as specified.