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PULASKI COUNTY HIGHWAY DEPARTMENT

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August 11, 2021

Post Creek Cut-Off Bridge Replacement
Existing Structure #077-3000
Tick Ridge Rd (CH-2, FAS 937)
Section # 12-00071-00-BR

Location:

The project is approximately 4 miles east of Grand Chain, IL on Tick Ridge Rd (FAS 937, CH-2). The existing Structure #077-3000 carries traffic over Post Creek Cut-Off in Pulaski County, IL. The waterway is a direct link to the Ohio River which is less than ¾ of a mile downstream.

Project Understanding:

The existing three-span steel structure (S.N. 077-3000) will be replaced with proposed structure 077-3145. The new bridge will be a three-span, 54" precast prestressed concrete I-beam bridge measuring 274' back-to back of abutments, built inside of the existing right-of-way. The proposed 30'-10" wide deck will provide a 28'-0" clear bridge width between the 39" tall concrete parapets and support two 11'-0" lanes with 3'-0" shoulders across the bridge. Due to current conditions subsoil borings were not completed at the piers. The contractor will verify subsoil conditions prior to construction of the new structure. Precast bridge approach slabs will be topped with a nominal 5" concrete wearing surface. Type 6 and Type 1 (Special) Traffic Barrier Terminals will be attached to the concrete parapets at each corner of the bridge. The proposed work will include 626' of roadway improvements for a total project length of 900': The existing horizontal alignment will be maintained while the vertical profile will be improved by the addition of a crest vertical curve across the bridge to promote drainage. The profile will be raised approximately 2'-9" ± at the new bridge abutments. The proposed typical roadway section will consist of a 26'-0" HMA surface with 2'-0" aggregate shoulders typical beyond the bridge (3'-0" HMA shoulders in front of the guardrail near the bridge) providing two 11'-0" HMA lanes and 4'-0" shoulders (2'-0" HMA and 2'-0" aggregate) typical (3'-0" shoulders at the bridge), tapering out to match the existing roadway and turf (earth) shoulders at the end of the project. The travel lanes are narrower than HMA surface to allow the extra HMA to be considered as part of a combined shoulder layout, which is above the policy shoulder requirements. The extra pavement width was selected to better

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accommodate large vehicles travelling on these routes and minimize edge raveling. No parking, bicycle, or turning lanes will be present in these improvements nor will there be sidewalks or shared-use paths. No traffic control devices will be used within the project limits. Proposed front slopes will be 1:4 (V:H) typical with a transition to 1:2 behind the concrete barrier/guardrail near the structure, and some 1:3 areas to minimize impacts. The proposed back slopes will be 1:3 typical throughout the project length. Clear zone throughout the project is provided through the 1:4 and 1:3 typical side slopes, ditches, and guardrail near the structure. Drainage ditches will be reshaped along most of the roadway alignment while maintaining the drainage much like existing patterns. The across-road culvert west of the bridge will be replaced. Generally, the ditches will have a maximum of 1:3 side slopes with a 2'-0" flat bottom. Water and communications utilities are present within the project limits. The waterline is owned by Fort Massac Water District, runs adjacent to the roadway, is carried across the creek by the bridge, and will have/to be shut down during construction. The Water District has determined that boring a waterline is cost prohibitive due to the proximity of rock and requested that a new waterline be supported on the new bridge and placed in conjunction with this project but at its own expense. The buried communications lines are controlled by Frontier Communications, run adjacent to the roadway, and become aerial to cross the creek. The aerial line will have to be avoided by the contractor while the poles and buried lines will have to possibly be adjusted during construction.

The work consists of Phase III Engineering required to:

-meet all Illinois Department of Transportation (IDOT), Federal Highway Administration (FHWA) and Corp of Engineers (Corp) requirements and specifications for replacement of the existing structure.
-record all required IDOT and FHWA inspection and testing with CMMS
- Process estimates for contractor payment
- Perform survey and staking quality assurance as needed

Most of the available funding for construction will be provided by IDOT's Major Bridge Program and is set to begin FY2022. Bidding will be accepted through the IDOT bidding process approximately January 2022. Construction will involve removing the current structure, erecting a new structure, and replacing the approaches. The roadway will be completely closed during bridge construction. The replacement is approved for a maximum of $2,491,000 of Illinois Major Bridge Program Funds for construction **and construction engineering**. The total estimate for **construction and construction engineering is $3,114,000**. With that said, the goal is to complete a high-quality project under budget. Illinois Major Bridge Funds will provide funds for 80% of construction and construction engineering.

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Scope:

-Attend or have representative attend all construction meetings.
–Coordinate with IDOT to meet all IDOT construction and materials inspection requirements.
-Keep County Engineer up to date on progress, scheduling, and significant developments.
-Make all necessary documentation and inspection required to guarantee construction and materials meet plans and specification requirements.
-Coordinate with all utilities that will be affected by the project. (The existing structure carries a 6” Ft. Massac Water District water line under the superstructure.)
- Facilitate utility relocations as needed.
-Replacing structure includes attachment of a Ft. Massac Water District 6” water line.
-Produce pay estimates for contractor payment.
- Provide any necessary technical support to the contractor to facilitate successful completion of the project.
-Work with the design firm regarding any necessary plan changes or inquiries.
-Provide quality assurance for contractor survey, staking, and layout.
-Complete and obtain approval for any other tasks or documentation deemed necessary by IDOT, FHWA, the Corp or PCHD for successful progress and completion of the project.