



Special Note for US-460/KY 80 Russell Fork Bridge at Beaver Creek Item No. 12-263.67, Alternative Technical Concept Process

Description

This project will give prequalified Contractors the opportunity to include pricing for a pre-approved Alternative Technical Concept (ATC) in their bid proposal — one that differs from the base design in the Kentucky Transportation Cabinet's (KYTC) contract documents. ATCs enable innovation, reduce project delivery time, and provide cost savings. The resulting project meets or exceeds project goals and stands as a product equal to or better than what would have been produced by the concept it replaces.

For this project, the Contractor may submit a bid for KYTC's base design proposal or a bid that includes pricing for a pre-approved ATC. The project is currently scheduled for a special letting on November 10th, 2017.

General Conditions

All potential bidders interested in submitting an ATC will be invited to a mandatory Informational Meeting where the Cabinet will explain how the ATC process works and define the project's overall scope. Bidders not participating in the ATC process are not required to attend the Information Meeting. KYTC will share draft project plans giving industry Contractors an opportunity to evaluate the project and identify areas in which they can contribute technical expertise and innovation.

The bid items included in the contract documents for this project contain all proposed "base design" work. Contractors may propose an ATC as an alternative to the established bid items. ATCs may address items, such as project specifications, materials, products, design standards, design solutions, staging, or traffic control. ATCs must not impair the project's essential functions and characteristics, including but not limited to service life, reliability, economy of operation, ease of maintenance, standardized features, safety, satisfaction of customer needs, desired ability, and special design requirements. The minimum requirements for the finished project are listed below. ATCs are required to meet all design and Cabinet policies, environmental requirements, and project commitments.

If KYTC pre-approves an ATC, the Contractor has the option of submitting an alternative bid (lump sum) based on the pre-approved ATC in lieu of the KYTC bid items. The apparent low bidder will be required to submit a schedule of values for the alternative bid prior to award to support the lump sum price. Multiple ATCs may be presented and approved but the Contractor shall only submit one lump sum price to cover all ATCs. In addition, the Contractor shall only submit one bid for this project, either for the base design or one with approved ATC(s). If KYTC approves the Contractor's ATC(s) but does not award them the contract, the Contractor is eligible for a Stipend.

For approved ATC(s), the Contractor's Sub-Consultant Professional Engineer is responsible for completing all engineering plans and may become the Engineer of Record depending on the ATC(s).

If KYTC discovers an error or omission in the base design or contract documents during the ATC review process and prior to the letting date, KYTC will correct the plans accordingly without regard to confidentiality.

Step 1: Proposed Alternative Technical Concepts

The Contractor interested in pursuing an ATC must request a one-on-one confidential meeting with KYTC's Technical Review Committee (TRC) to discuss the proposed ATC. The confidential meeting will provide the Contractor with an opportunity to present their concept ideas to the TRC before investing significant time and resources in developing details of the potential change. The Contractor will bring to the meeting review documentation of its proposed ATC. The documentation should contain enough information to clearly define the work involved and the benefits that will be realized from using the ATC. Copies of the documentation should be provided by the Contractor to each member of the TRC.

The TRC consists of individuals prepared to judge the proposed ATC's viability as well as the Contractor's entire application. TRC members have been selected based this project's features and their respective qualifications. The TRC retains the right to seek opinions from outside subject-matter experts if it is unable to proficiently judge the ATC's technical merits. All parties that take part in the ATC evaluation process will sign a confidentiality agreement:

- ◇ John Michael Johnson, District Project Manager
- ◇ Samuel Hale, District Project Development Branch Manager
- ◇ Kevin Sandefur, Division of Highway Design
- ◇ Austin Shields, Division of Construction
- ◇ Matt Looney, Division of Construction
- ◇ Ryan Griffith, Division of Construction
- ◇ Paxton Weddington, District Project Delivery & Preservation Branch Manager
- ◇ Joe Van Zee, Division of Structure Design
- ◇ Daryl Greer, Division of Structure Design Geotechnical Branch
- ◇ David Waldner, Division of Environmental Analysis
- ◇ Dana Robbins, FHWA (Observer)
- ◇ Steve Waddle, KTC (Facilitator, Non-Voting Member)

KYTC will review the conceptual information and provide a response as soon as possible. Total review time should not exceed 5 business days. However, the Cabinet reserves the right to spend more time on the review if resources and evaluation needs for the specific concept warrant doing so. KYTC will notify the Contractor at the end of the 5-day period if additional review time is necessary.

The minimum basis of acceptance for a concept must adhere to the project-specific minimum requirements, general requirements, and submission requirements. KYTC will reject and return to the Contractor any concept that does not meet the project's minimum requirements.

If the TRC judges the proposed idea favorably, it will notify the Contractor in writing. However, this notification only indicates that engineering and plan development may continue so that the formal ATC may be submitted. This notification does not authorize the ATC to be bid. If the Contractor moves forward with development of the formal ATC, the TRC may reject the ATC if its expected benefits are not realized once the formal proposal is complete. KYTC and the TRC reserve the right not to consider any ATC.

Step 2: Formal Alternative Technical Concepts

If KYTC appraises the proposed concept favorably, the Contractor's Sub-Consultant Professional Engineer may continue engineering and plan development, at its own risk, on the ATC and submit formal ATC documentation for TRC review. The Contractor will submit an electronic PDF copy and twelve paper copies of the formal ATC documentation to KYTC's Director of Construction Procurement.

After formal ATC documentation is received, the TRC will determine whether to accept or reject the ATC. The Cabinet will notify the Contractor in writing of its decision. Contractors may submit an approved ATC as a bid.

At a minimum the Contractor must submit the following information with each ATC:

- 1) Description
 - A detailed description and schematic drawings of the proposed ATC or other appropriate descriptive information including if appropriate, specifications, construction tolerances and special provisions.
- 2) Usage
 - A detailed description of where and how the proposed ATC would be used on the project
- 3) Deviations
 - References to all requirements in KYTC's contract documents inconsistent with the proposed ATC, an explanation of why the contract documents deviate from these requirements, approvals given from other state departments of transportation (if applicable), and details of impacts to other non-contract related items (if applicable)
- 4) Justification
 - Analysis that justifies the proposed ATC and demonstrates why modifying or revising the KYTC contract documents requirements should be allowed; include information on how the proposed ATC meets project goals.
- 5) Cost Differences
 - A detailed statement of anticipated cost differences associated with implementing the proposed ATC

- 6) Schedule Impact
 - A discussion of how the proposed ATC will affect contract completion time, including design, construction, right of way, utility relocation and/or permitting issues
- 7) Utilities
 - A discussion of utility impacts and potential added costs
- 8) Permits
 - A discussion of permit changes, additional permits, and/or agency approvals the proposed ATC may require. This discussion needs to include any changes to existing railroad agreements.
- 9) Right-of-Way:
 - A discussion of the proposed ATC's right-of-way impacts (both temporary and permanent)
- 10) Traffic and Safety Impacts
 - A discussion of the proposed ATC's impacts on maintenance of traffic during construction.
- 11) Environmental Impacts
 - A discussion that compares the proposed ATC's environmental effects to those discussed in the Environmental Document, including impacts to environmental commitments and community impacts.
- 12) Maintenance
 - A discussion of the maintenance impacts over the project's design life
- 13) History
 - A detailed account of other projects the proposed ATC has been used on, including contact information (name, title, phone number, address and email) for project owners that can confirm ATC implementation.
- 14) Inspection
 - A discussion on any additional testing and construction inspection requirements
- 15) Risks
 - A discussion of risks KYTC and other parties associated with implementing the ATC will incur.

Formal ATC documentation submissions must provide sufficient engineering details to facilitate the Cabinet's deliberations. These include but are not limited to geometrics, hydraulic calculations, profiles, typical sections, and traffic control concepts. For structures these include type, size and location, superstructure information, substructure information, and any other significant information. With written authorization to proceed with the concept, the TRC reserves the right to request specific information for each ATC to supplement the information listed above.

The TRC will evaluate an ATC based on whether it complies with the requirements of the base design and the areas of concern described above. The TRC will reject and return to the Contractor any concept that fails to include the information required for submission. That concept will not

be approved for bid. The TRC has sole authority for determining if the ATC complies with these requirements.

General Design Specifications – Minimum Requirements

1. Follow all applicable requirements in Kentucky Transportation Cabinet's Guidance Manuals and Design Memorandums.
2. Follow requirements of the AASHTO LRFD Bridge Design Specifications, Customary U. S. Units, 7th Edition, with 2015 and 2016 Interim Revisions.
3. Follow applicable AASHTO guideline requirements for alternate structure types.
4. Do not reduce the traveled way or shoulder width of the base design throughout the project.
5. Any change to vertical or horizontal geometry must tie into the adjoining construction sections and follow through the project at the base plan design speed and terrain without design exceptions.

The TRC will evaluate ATCs using the following criteria. If an ATC fails to meet any of the following criteria it will not be approved for bid:

- a.) The ATC meets or exceeds the minimum requirements of the contract documents.
- b.) The ATC does not adversely affect the long-term maintenance of the project.
- c.) The ATC is consistent with the overall project goals
- d.) The ATC is equal to or better than the original design proposal.

KYTC intends to evaluate and render judgement on ATCs within 20 business days of their submission depending on the complexity of the ATC. The Cabinet will notify the Contractor of the decision in writing. Irrespective of an ATC's promise or innovative nature, submissions that do not include all necessary information will be rejected. KYTC will describe the reason(s) for rejection in a written notification. Contractors have the option of addressing the Cabinet's concerns and resubmitting an updated ATC before the deadline. All discussions pertaining to an ATC must be written or conducted in-person. KYTC and the TRC are the sole judges of an ATC's merits and acceptability. KYTC reserves the right to reject an ATC request for any reason.

Once the TRC has rendered judgment on an ATC's merits, the Cabinet will issue one of the following responses via a written notification:

- A. The ATC is approved and may be included in the Contractor's bid.
- B. The ATC is not approved in its present form but may be resubmitted for reconsideration. The Contractor submitting a reconsideration request must address all the TRC's comments, questions, and concerns. Reconsideration requests must comply with ATC submission and content requirements.
- C. The ATC is not approved. Including the ATC in the Contractor's bid will render it non-responsive.

KYTC may also request additional information from the Contractor. If additional information is requested the evaluation can be extended.

The TRC is responsible for approving ATCs. Contractors who have approved ATCs but are not awarded the contract will be eligible for a Stipend (described below).

For approved ATC's, the written notification will outline the post award plan development and inspection requirements that are needed prior to development of the "Release for Construction Plans". The Contractor will also be advised by this notification if the ATC requires their Sub-Consultant Professional Engineer to become the Engineer of Record for the entire project or a portion of the project that the ATC replaces.

An approved ATC may be submitted as a bid by the Contractor. A schedule of values will be required for this alternative bid submission to support the lump sum price, prior to the award of the contract if the Contractor is the apparent low bidder. An approved ATC that consists of multiple elements must be bid as a whole. Selective implementation of less than all the elements will result in the bid's rejection. If the Contractor elects to submit multiple approved ATCs, each ATC must be clearly defined by individual sections in the schedule of values. The Contractor shall only submit one lump sum price to cover all submitted ATCs.

Compared to the base design, the ATC may introduce extra costs, work, or risk. The ATC lump sum bid must incorporate the additional costs required to complete supplemental work. For example, if the ATC requires additional utility relocation, the Contractor is obligated to pay for it. The Contractor also takes on any additional risk associated with the ATC; submitted bids must price in the cost of this risk. If KYTC will incur additional costs due to ATC, the Contractor must include them in their bid to ensure a fair comparison and award process. The Contractor is responsible for paying excess actual costs over and above the estimate of KYTC's additional costs.

An approved ATC that is not submitted with the bid will not be considered a pre-approved value engineering change proposal (VECP).

Confidentiality

The ATC process will only be successful if confidentiality is maintained throughout. All TRC members must sign a confidentiality agreement before reviewing any ATC submissions. All submissions are treated as confidential and will not be shared with other bidders.

Bidding Requirements

If the Contractor abandons a pre-approved ATC or fails to construct it for any reason, they are obligated to complete the project using the original design, at the awarded cost. Decisions made by KYTC subsequent to award or site conditions encountered contrary to project information provided to bidders MAY be considered as changed conditions and will be dealt with on a case by case basis in accordance with the Kentucky Standard Specifications for Road and Bridge Construction, 2012 Edition.

Basis of Payment

If KYTC pre-approves the ATC, the Contractor may submit a lump sum alternative bid based on the ATC's design. A schedule of values must be developed and submitted for the ATC work by the apparent low bidder prior to award. The schedule of values must show bid items, quantities, and costs to support the lump sum price. The schedule of values will be used to support progress payments and materials acceptance; it is not to be used for quantity or unit price adjustments as the ATC is a lump sum bid.

In order to develop a schedule of values, a design should be completed in enough detail to enable the establishment of accurate item quantities. The quantities are administered in accordance with the processes laid out in the current edition of KYTC's *Standard Specifications for Road and Bridge Construction*. A supplemental agreement may be developed due to variations in site conditions or other aspects of work, as mutually agreed upon between Contractor and KYTC.

Contractors that decline to participate in the ATC process must bid the base set of plans supplied by KYTC.

If the awarded Contractor abandons the pre-approved ATC or fails to construct it for any reason, KYTC will process a no-cost change order to readjust the bid items to reflect the original design quantities. The Contractor is obligated to complete the project using the original design at the awarded cost. Decisions made by KYTC subsequent to award or site conditions encountered contrary to project information provided to bidders MAY be considered as changed conditions and will be dealt with on a case by case basis in accordance with the Kentucky Standard Specifications for Road and Bridge Construction, 2012 Edition.

KYTC will not make direct payments to cover Contractor initiated changes on the project.

KYTC will not make direct payments if the use of an ATC triggers schedule delays, irrespective of the reason for the delay (e.g., delays stemming from the design, review, implementation or construction of an ATC).

Payment and Conditions of Stipend

KYTC will pay a Stipend to Contractors that have approved ATCs but are not awarded the contract. By paying the Stipend, KYTC can use any ideas, concepts, or information contained in the ATC in the contract awarded for the project.

The Cabinet does not intend for the Stipend to cover ATC development costs in their entirety — its purpose is to offset a portion of the costs. The Stipend for approved ATCs on the US 460 Russell Fork Bridge Project, Item #12-263.67, will be \$50,000 per Contractor.

When a Contactor submits an ATC for the project, it establishes with KYTC a contractual agreement for its alternative technical proposal and conceptual design. By submitting an ATC the

Contractor acknowledges that it is eligible for payment if it is not the successful bidder. KYTC will pay the Stipend to unsuccessful Contractors after a contract is finalized with the successful Contractor. Unsuccessful Contractors reserve the right to waive payment (see below).

KYTC will pay a Stipend to all Contractors with approved ATCs if it does not award the contract. Contractors have the right to waive this payment. If the Cabinet withdraws the contract before the ATC is approved, it is not obligated to make a payment. An unsuccessful Contractor that otherwise qualifies for the payment may elect to waive the payment within 10 days of KYTC's Awards decision. In doing so, the Contractor retains its rights to the ATC. The Contractor that accepts the Stipend payment agrees to waive all claims and causes of action against KYTC and FHWA.

Post Award Requirements

The Contractor, upon Award of the Contract, is responsible for producing the ATC's plan requirements as identified in the KYTC's written notification of approval. This responsibility includes the professional quality and technical accuracy of all submissions. All documents must be preserved to offer evidence that work has been completed. The Contractor shall establish and maintain documented procedures for identification, collection, indexing, access, filing, storage, maintenance, and disposition of records. Records must be adequately identified, filed, and stored.

Working drawings and calculations must be signed by and bear the seal of a Licensed Professional Engineer in the State of Kentucky who is prequalified with KYTC in the applicable subject matter areas. All working drawings and design calculations must include the contract number, the Contractor/fabricator's name, and contact person.

The Contractor must furnish working drawings for commercially available patented devices that appear on approved lists published by the relevant state agency. Drawings must be signed by and bear the seal of a licensed professional engineer. The professional engineer who signs and stamps the drawings for patented devices may be licensed in any state. Manufacturer's installation manuals must be provided with the working drawings and shall remain the property of the relevant state agency.

The Contractor shall be responsible for any costs associated with the following:

- The ATC's third party engineering and development costs
- Project delays that stem from the design and production of plans and specifications that are needed to implement the ATC
- Additional construction costs not foreseen prior before the ATC design was completed

Released for Construction Review

The ATC plans, as required and identified in KYTC's written notification of approval for bidding the ATC, shall be complete before any construction activities related to the ATC may proceed. *Released for Construction* (RFC) plans shall be prepared after the appropriate inspections have occurred per the procedures identified in this written notification. The Contractor will schedule

and conduct an RFC review with the Department when the RFC plans are complete and all Department comments have been addressed from prior inspections.

After completing the RFC plan review, KYTC will issue a written authorization (including the date of authorization) to the Contractor stating they are “Released for Construction.” The Contractor shall use the plan set KYTC identifies as “Released for Construction”.

Construction

Once the ATC has been released for construction, it is administered in accordance with the current edition of *KYTC’s Standard Specifications for Road and Bridge Construction*. A supplemental agreement may be developed due to variations in site conditions or other aspects of work, as mutually agreed upon between Contractor and KYTC.

All inquiries regarding ATCs for this project must be directed to the contact as listed below:

Kentucky Transportation Cabinet
Division of Construction Procurement
200 Mero Street
Frankfort, KY 40622
Phone: (502) 564-3500 Fax: (502) 564-8961
Email: KYTC.projectquestions@ky.gov

US-460/KY 80 Russell Fork Bridge, Item 12-263.67, ATC Process Schedule

March 17, 2017	Information Meeting about ATC Process
March 29, 2017*	Start date for Confidential Meetings
September 29, 2017	ATCs approved or rejected for bidding
October 6, 2017	Project Advertisement for Bids
November 10, 2017	Bids Due
TRC will be available every other Wednesday to entertain concepts beginning March 29 th , 2017 at request by Contractors.	