



Guidelines and Procedures for the I-49 Missouri-Arkansas Connector Alternate Technical Concept Process

1.0 Description.

1.1 The contractor will be allowed the opportunity to include pricing in their bid for up to three (3) pre-approved Alternate Technical Concepts (ATCs) that differs from the Commission furnished bid proposal. ATCs allow for innovation, project schedule reduction and cost savings to obtain the best value for the project that meets or exceeds the project goals, and which provides a product equal to or better than the concept it replaces. ATCs may address, but are not limited to, concepts, design standards, specifications, materials, products, construction methods, design solutions, construction staging or traffic control.

1.2 For the purpose of this contract an ATC is a pre-approved standard, concept, product or solution that is pre-approved by the Commission and the Federal Highway Administration Missouri Division (FHWA-MO) for the contractor to include in their bid. ATCs will be included as the basis for determination of the low bidder by the Commission.

1.3 The bid documents provided by the Commission will be designated as the “Base Plans” for this contract.

1.4 The contractor may submit a bid with up to three (3) ATCs that are pre-approved by the Commission and FHWA-MO. The ATCs shall contain the price and quantities of the pay items that the ATC will include. The contractor will be responsible for completing all roadway and structural design plans, including biddable quantities, for approved ATCs.

1.5 The contractor will not be reimbursed for the design costs of ATCs regardless of whether or not the ATC is approved, and regardless of whether or not the contractor is awarded the project.

2.0 General Requirements.

2.1 The Commission furnished Base Plans contain all of the proposed work for the project to be bid, however the contractor may elect to propose ATCs in lieu of certain items in the Base Plans. If an ATC is pre-approved by the Commission and FHWA-MO then the contractor has the option of submitting a bid for the Base Plans, **or** for the Base Plans as modified by the ATC. The contractor will only be allowed to submit one bid for the project.

2.2 ATCs submitted by the contractor shall be pre-approved by the Commission and FHWA-MO prior to submitting with the bidding documents.

2.3 Individual ATCs shall have a minimum of \$75,000 in cost savings, or a minimum of two (2) weeks in construction schedule reduction to be eligible for consideration.

2.4 Roadway Design Criteria. The minimum roadway design requirements for the project are listed below:

- All roadway and structural elements shall meet all state and federal requirements for interstate highways.
- Any utility adjustments or relocations not previously addressed by the Commission or provided in the Base Plans shall be done at the contractor's expense. All applicable state and federal rules and regulations shall be adhered to.
- No additional right of way acquisition will be considered.
- The contract completion date shall not be later than the date specified in the JSPs.
- Any additional permits necessary for the ATCs shall be provided by the contractor.
- Any ATC shall be in full compliance with all previous state and federal approval actions. These items include, but are not limited to: NEPA, access justification reports, design exceptions, etc. This information is included in the Electronic Deliverables File in the letting documents.

2.5 Bridge Design Criteria. The minimum bridge design requirements for the project are listed below:

- All bridge designs shall be in accordance with all state and federal regulations.
- All bridge designs shall be in accordance with the 2012 AASHTO LRFD Bridge Design Specifications (6th Edition) and 2013 Interim Revisions, Seismic Design Category A, 1986 FHWA Report "Bridge Deck Drainage Guidelines" and MoDOT's Engineering Policy Guide.
- All bridge designs shall use an LRFD design with HL-93 live load and a 35 lb/sq ft future wearing surface.
- All MSE wall designs shall be in accordance with the 2002 AASHTO LFD (17th Edition) Standard Specifications (Section 5, ASD Design), Seismic Design Category A and MoDOT's Engineering Policy Guide.
- Bridge deck drainage shall be limited to containing the water spread on the shoulders and keeping it completely out of the lanes of vehicular traffic.
- Minimum vertical clearance shall be 16'-6".
- Design life for the bridges shall be a minimum of 75 years.
- A bridge approach slab and concrete approach pavement shall be required for bridges that carry interstate traffic.
- If a drilled shaft is utilized for any intermediate bents, all requirements in MoDOT's Engineering Policy Guide shall be met.

2.6 Project Goals. ATCs shall not negatively impact the project goals listed below:

- Complete the project on schedule and on budget.
- Construct an interstate-standard facility that adequately and safely serves the transportation needs of local and regional travelers, and that promotes economic development and freight movement.
- Minimize public impact by keeping traffic flowing safely and efficiently through the impacted area during construction.
- Incorporate innovative design and construction techniques.
- Demonstrate quality construction to provide a long lasting facility requiring minimal future maintenance.

3.0 Submittal of Alternate Technical Concepts.

3.1 Prospective bidders may submit up to three (3) Alternate Technical Concept proposals prior to the bid opening. If a proposed ATC meets the minimum requirements and is pre-approved by the Commission and FHWA-MO then it may be submitted by the bidder along with the bids for other items in the Base Plans.

3.2 The contractor may submit a conceptual ATC for consideration stating the basic proposal and approximate cost and/or construction schedule savings in order for the Commission and FHWA-MO to provide feedback to the contractor without requiring a significant initial design cost. However, it is the contractor's responsibility to produce sufficient information with the conceptual ATC submittal to provide a clear and concise understanding of the proposed ATC in order to provide adequate evaluation by the Commission and FHWA-MO.

3.3 Contractors are encouraged to propose specifications and design standards that differ from MoDOT practice as part of their ATC submittal. These Alternate Applicable Standards (AASs) shall be limited to those manuals, specifications and standards already reviewed and approved by FHWA (for example, AASHTO manuals and manuals/standards from other state departments of transportation). The contractor shall provide AASs with ATC submittals. The Commission will have sole authority to approve or disapprove any AASs.

3.4 Bidders may request confidential one-on-one meetings with the Project Contact and members of the I-49 Missouri-Arkansas Connector ATC Review Team to discuss their ATC submittal. Meetings may be requested in writing or by phone at the time of the ATC submittal, and should allow a minimum of two (2) weeks' notice. Meetings will be held at the MoDOT Southwest District's Joplin Regional Office, 2915 Doughboy Drive, in Joplin, MO. Meetings will be limited to two (2) hours in length.

3.4.1 The contractor shall be responsible for preparing the agenda for the one-on-one meetings and for leading the meetings. Meeting minutes shall be recorded by the contractor and approved by the Commission.

3.4.2 The Commission reserves the right to limit the number of one-on-one meetings depending on schedule and workload.

3.5 The contractor shall request the ATC Form from the Project Contact. The completed ATC Form shall be submitted in person or via email to the Project Contact with the following information:

- **Summary:** A brief description of both the existing contract requirements for performing the work and the proposed ATC.
- **Description:** A detailed description of the proposed ATC, including any specifications and conceptual drawings, and a description of where and how the proposed ATC would be used on the project.
- **Deviation:** Reference all requirements of the Base Plans that are inconsistent with the proposed ATC, an explanation of the nature of the proposed ATC deviations from said requirements, and impacts to other design elements. Include an analysis of how the proposed ATC will provide a product or solution equal to or better than the product or solution in the Base Plans it replaces.
- **Justification:** A detailed analysis justifying the proposed ATC and demonstrating why modifications or revisions to the Base Plans should be allowed. Include information on how the proposed ATC meets or exceeds the project goals.
- **Cost Savings:** A detailed discussion of the cost savings associated with the implementation of the proposed ATC, including an itemized list of impacted bid items and quantities supporting the cost savings for the proposed ATC.
- **Schedule Impact:** A detailed discussion of the probable impact the proposed ATC will have on contract completion time, including design, construction, utility relocation and permitting issues.
- **Certification** that the proposed ATC meets all applicable federal and state design standards, and that no additional design exceptions are needed for approval of the proposed ATC.
- **Utilities:** A detailed discussion addressing any potential issues with utility conflicts (public and private) as a result of the proposed ATC.
- **Permits:** A detailed discussion of permit changes, additional permits and/or agency approvals that may be required as a result of the proposed ATC.
- **Right of Way:** A certification that the proposed ATC will not impact the current right of way footprint.
- **Maintenance of Traffic:** A detailed discussion of the impacts the proposed ATC will have on maintenance of traffic during construction.
- **Operations:** A detailed discussion of the impacts the proposed ATC will have on the long-term traffic operations of the roadway.

- **Safety:** A certification that the proposed ATC will not negatively impact the safety of the project, and that all safety related elements in the proposed ATC meet or exceed the Base Plans elements.
- **Environmental Impacts:** A detailed discussion of the probable effect the proposed ATC will have on the environment, including impacts to any previous permits or approvals, deviations from the approved project Environmental Document, impacts to environmental commitments and community impacts. Include a discussion of any permit changes, additional permits and/or agency approvals that may be required as a result of the proposed ATC.
- **Maintenance:** A detailed discussion of the impacts the proposed ATC will have on the long-term maintenance of the facility.
- **History:** A description of any previous use or submission of similar technical concepts or value engineering proposals including dates, job numbers and results/outcomes of the ATC or VE if previously submitted and/or implemented, as known by the contractor. This includes ATCs or VEs from any state DOT. Include contact information for project owners who can confirm ATC implementation and performance.
- **Inspection:** A detailed discussion of any additional testing and construction inspection requirements of the proposed ATC.
- **Risks:** A detailed discussion of added risks to the Commission and other parties associated with implementing the proposed ATC.

3.6 ATC submittals shall include enough roadway and/or structural design details to determine acceptance of the ATC. ATC submittals shall include if applicable, but not limited to:

- Proposed superstructure and substructure information for bridges.
- The MSE or alternative wall system to be used, and its associated application criteria.
- The corrosion protection measures for structural steel and concrete reinforcing steel subject to chloride exposure, such as decks, elements under joints and locations within splash zones. The definition of splash zone shall be included if utilized.
- The application limits and material requirements for protective coatings for structures, such as graffiti protection, to be used.
- The specifications for the application of proposed coatings for bridge superstructures, signs, message boards, steel piling and miscellaneous steel.
- The types of expansion devices and bearings to be used on bridges.
- The type and height of bridge traffic barriers.
- The roadway design shall include the bidder's method used to determine geometrics, profiles, superelevation rates, hydraulics, typical sections, sight distances, design speeds, etc.

- The bidder shall specify the materials used for drainage pipes in various applications (i.e. under mainline roadway, under local roads, on bridges, etc.).
- For traffic related items, the bidder shall define their interpretation of the guidance recommendations in the MUTCD.

3.7 An electronic copy of each proposed ATC shall be submitted to the Project Contact for review **no later than 12:00 Noon CST on January 3, 2020**. Any ATCs submitted after this time will not be considered.

4.0 Evaluation of Alternate Technical Concepts.

4.1 The Commission and Federal Highway Administration – Missouri Division will be the sole judges of acceptability of ATCs. The Commission and FHWA-MO reserve the right to reject any ATC request for any reason.

4.2 ATCs that meet the minimum requirements may be approved by the Commission and FHWA-MO to include in the contractor's bid package. ATCs that do not meet the minimum requirements will not be approved. Approval, conditional approval, partial approval, or non-approval of any ATC is at the sole discretion of the Commission and FHWA-MO.

4.2.1 ATCs that are approved may be submitted by the contractor along with their bid. **The contractor shall notify the Commission in writing of their intent to pursue the ATC within one (1) week of approval of the ATC.** An approved ATC which is comprised of multiple elements must be bid as a whole. Selective implementation of less than all elements of an approved ATC will not be accepted.

4.2.2 Conditional approval may be granted if some elements of the ATC are recommended for approval provided that certain additional requirements imposed by the Commission are met. Conceptual ATCs receiving conditional approval must be re-submitted according to the Submittal of Alternate Technical Concepts requirements.

4.2.3 Partial approval may be granted if some elements of the ATC are recommended for approval and other elements are not approved.

4.2.4 ATCs that are not approved may be revised and re-submitted based on comments received from the I-49 Missouri-Arkansas Connector ATC Review Team.

4.3 ATCs will be evaluated utilizing the following criteria:

- The ATC meets or exceeds the minimum requirements and engineering standards of the general conditions.
- The ATC is consistent with, and does not negatively impact, the project goals.
- The ATC shall not extend the overall construction completion date.
- The ATC will not have long term impacts to the maintenance of the project.

- The ATC is equal to or better than the Base Plans design. No decrease in the engineering standards from the Base Plans for any safety related item will be considered, including but not limited to narrowing the shoulders, narrowing the lane widths, decreasing the sight distance, decreasing horizontal curve radii, reducing the design speed, reducing the clear zone, reducing clear distance to piers and/or abutments, reducing vertical clearance, or reduced traffic control performance, etc.
- All safety related elements shall meet or exceed the Base Plans elements.
- No additional utility costs or utility relocations will be made by the Commission.
- Additional right of way shall not be required.
- A full-access interchange shall be provided at Missouri Route 90.

4.4 The Commission will make every effort to evaluate each ATC within 10 working days of submittal. Written notification will be provided to the bidder for each ATC that is approved, conditionally approved, partially approved or not approved.

4.4.1 The Commission reserves the right to take longer than 10 working days to review submittals, depending on the availability of resources and evaluation needs of the specific ATC. The contractor will be notified in writing if more time will be required for evaluation of the ATC.

4.5 The Commission will not consider any ATC that is not formally submitted with proper documentation. No verbal ATC submittals will be considered, and no verbal directions or comments will be given concerning proposed ATCs.

4.6 A request from the Commission for additional information from the bidder will be considered a Commission response, and allows for extension of the evaluation period.

4.7 The contractor will have no claim for additional costs (including development costs), delays, loss of anticipated profits, or increased material labor costs for any decision by the Commission on any ATC for approval, conditional approval, partial approval or non-approval, including any request for additional information.

4.8 An approved ATC that is not submitted with the bidding documents will not be considered a pre-approved Value Engineering Change Proposal (VECP). The successful low bidder may submit their approved ATC as a VECP, however the fact that it was approved as an ATC will have no bearing on its potential approval as a VECP, and it will be reviewed independently in accordance with Sec 104.6.

5.0 Confidentiality.

5.1 All members of the I-49 Missouri-Arkansas Connector ATC Review Team (except FHWA which is covered by federal law) will be required to sign a project-specific confidentiality agreement before reviewing any ATC submittals. A copy of the agreement to be used for this purpose may be requested in writing from the Project Contact.

5.2 The Commission will not pay stipends for ATCs. The following guidelines shall apply to the public release of ATCs:

- All ATCs, whether approved or not, shall be considered confidential and will not be shared with other bidders or the public prior to award of the project.
- All pre-approved ATCs included in the successful bidder's bid will be eligible for release with a Sunshine request following the award of the project.
- All pre-approved ATCs included in an unsuccessful bidder's bid will be eligible for release with a Sunshine request following the award of the project. The Commission, at its sole discretion, may incorporate these ideas into the project as a practical design change.
- All ATCs, whether approved or not, that are not included in a contractor's bid will remain the property of the contractor and will not be publicly released.

5.3 Other bidders' ATCs will not be shared with the successful bidder who is awarded the contract. The successful bidder may make a Sunshine request to obtain that information following the award of the contract.

5.4 In the event that the awarded contractor utilizes a Sunshine request to obtain information about ATCs included in the bids of unsuccessful bidders, these ideas shall not be considered eligible for submittal as a VECP unless the awarded contractor has an agreement letter from the other bidder stating that its use is permissible.

5.5 The Commission expressly reserves the right to adopt any specific Alternate Technical Concept as standard practice for use on other contracts administered by the Commission, whether the ATC is accepted or rejected. The ATC shall not be used by the Commission until after the award of the I-49 Missouri-Arkansas Connector project.

6.0 Design Requirements.

6.1 The Commission will not reimburse the contractor for any expenses related to preparation, design, submittal and approval of any ATC submitted to the Commission. The ATC shall be developed to a degree such that the Commission and contractor are satisfied that biddable quantities are established.

6.2 The sole responsibility and costs shall be the contractor's for any design changes and/or plan changes resulting from any submitted ATC.

6.3 Any plan or design changes shall be signed and sealed by a Registered Professional Engineer in the State of Missouri. The costs associated with this are the sole responsibility of the contractor.

6.4 The contractor shall submit any final plans for ATCs to be incorporated into the project no later than 120 calendar days after the contractor is awarded the contract. The contractor cannot begin work on any part of the project that is part of the ATC until the plans are reviewed and final approval is given by the Commission.

6.5 The Commission will be given a minimum of 15 working days to review the final plan submittal for each ATC. The contractor shall have no claim for delays or additional costs for labor, equipment or materials as a result of the Commission reviewing and approving the final plan for each ATC.

6.6 The cost of the ATC is the sole responsibility of the contractor. No additional costs will be paid by the Commission, and the Commission will pay only what is specified in the bidding documents for each ATC as awarded. In the event the ATC does not perform or meet the requirements as stated in the proposal, the contractor shall remedy any malfunctions, failures, or non-conformance issues at the contractor's cost.

7.0 Bidding Requirements.

7.1 If the contractor elects to bid the project with pre-approved Alternate Technical Concepts, the contractor shall submit the following information with their bid documents:

- A description of the proposed ATC.
- A detailed statement of the basis of the lump sum savings. The statement should include assumed unit prices for each of the bid items considered for the lump sum savings. If the lump sum bid price (savings total) changes from the original ATC submittal the Commission reserves the right to re-evaluate the ATC based on the criteria list in section 4.3.
- Certification that the contractor has reviewed all Requests for Clarification (RFCs) and Addenda related to the project.

7.2 The above listed information shall be submitted in accordance with Sec 102.10. The ATC submittal may be submitted separately prior to the bid opening.

7.3 If the successful bidder includes a pre-approved ATC in their bid and the ATC is abandoned by the contractor or fails to be constructed for any reason, the contractor is obligated to complete the project utilizing the original Base Plans design at the awarded cost, and shall be responsible for any final redesign cost.

7.4 Examples of the bidding requirements and procedures will be presented and discussed at the pre-bid meeting scheduled for Noon to 2:00 PM on Thursday, January 30, 2020 at the MoDOT Southwest District Office, 3025 East Kearney Street, in Springfield, MO.

8.0 Contact Information.

8.1 All submittals for pre-approval of Alternate Technical Concepts for this project should be forwarded to the Project Contact as listed below:

Craig Switzer, P.E.
Transportation Project Manager
Missouri Department of Transportation
2915 Doughboy Drive

Joplin, MO 64804
Telephone Number: (417) 621-6331
Email: craig.switzer@modot.mo.gov

9.0 Basis of Payment.

9.1 The proposal documents contain all of the proposed work for the project to be bid as designed by the Commission. Contractors choosing not to participate in the ATC process must bid the Base Plans furnished by the Commission.

9.2 Contractors submitting an ATC bid will receive modified bidding documents with separate pay items for the pre-approved ATC(s) and other applicable bid items. If the contractor elects to bid the project with pre-approved ATCs, the contractor shall enter the unit prices in the modified bidding document. If the successful bidder's bid contains pre-approved ATCs that are abandoned by the contractor, or that fail to be constructed for any reason, a no-cost change order will be processed to re-adjust the bid items to the original design quantities. In this circumstance the contractor is obligated to complete the project utilizing the original Base Plans design at the awarded cost.

9.3 No direct payment will be made for any change in quantity of pay items not included in the ATC that are affected by the contractor's decision to use an ATC on this project.

9.4 No direct payment will be made for delay of schedule due to the use of an ATC, including but not limited to delay resulting from the design, review, implementation or construction of an ATC.

9.5 If the ATC causes conflicts with utilities that were not previously identified in the original ATC submittal, the contractor's sole remedy for the effects of the presence of utilities, delay in their relocation, or any other effects they have on delivery of the project shall be a non-compensable, excusable delay as provided in Sec 105.7.3. No time delay will be granted for any utility conflicts identified in the original ATC submittal. The contractor shall be responsible for all utility relocation costs.

10.0 ATC Process Schedule:

Date	Milestone
September 6, 2019	Draft roadway plans, draft bridge plans and draft cross sections posted to the MoDOT Contractor Resources website in preparation for the industry informational meeting. Blast email sent to contractors and design consultants.
September 24, 2019	Industry informational meeting held at The Civic in Neosho, MO to outline the project, explain the draft ATC and bidding processes, present the draft ATC submittal schedule and answer questions.
September 25, 2019	Establish the project website on the MoDOT Southwest District webpage. Post the draft roadway plans, draft bridge plans, draft cross sections and geotechnical report. Also post Microstation files containing the centerlines, right of way lines, existing survey information and existing ground 3D terrain model.

November 6, 2019	Guidelines and procedures document for the ATC process (this document) finalized and posted to the project website.
November 12, 2019	Signed and sealed plans and job special provisions due to Central Office Design, and electronic deliverables posted to the project website.
November 13, 2019	First day for contractors to submit proposed ATCs for review and pre-approval.
January 3, 2020 (noon CST)	7 weeks before the letting – Last day for contractors to submit proposed ATCs for review and pre-approval. Be advised that contractors cannot re-submit ATCs that receive conditional/partial approval, or ATCs that are rejected after this date.
January 16, 2020	Advertisement
January 17, 2020	5 weeks before the letting – Last day for MoDOT to provide approval or rejection of proposed ATCs.
January 24, 2020 (Noon CST)	4 weeks before the letting – Last day for contractors to notify MoDOT if they elect to include ATCs in their bid. Notification after this date (or non-notification) will require the contractor to bid the Base Plans even if ATCs have been pre-approved.
January 30, 2020 (Noon-2:00 PM CST)	Pre-Bid Meeting to be held at MoDOT's Southwest District Office, conference rooms 2 and 3.
February 7, 2020	2 weeks before the letting – MoDOT Bidding and Contracting Services furnishes alternate bid packages to those contractors who have elected to include ATCs in their bids.
February 21, 2020	Letting
March 4, 2020	Award
April 6, 2020	Early notice to proceed

11.0 Clarifications and Addenda.

11.1 Requests for Clarification (RFCs) concerning this document may be made in writing to the Project Contact. All RFCs and responses will be posted to the project website and will not be considered confidential. It is the contractor's sole responsibility to monitor the website to receive the latest information.

11.2 The RFC process shall be limited solely to the content of this document, and shall not include correspondence related to any specific ATCs or ATC submittals.

11.3 Addenda to this document will be issued as determined by the Project Contact. Addenda will be posted to the project website. It is the contractor's sole responsibility to monitor the website to receive the latest information.