SUMMARY OF BRIDGE PROJECT DELIVERY GUIDANCE MANUAL

1.0 OBJECTIVES

The 2022-2028 Highway Plan used an enhanced bridge prioritization process to strengthen KYTC's commitment to improve bridges across Kentucky. The resultant bridge program is to build upon project delivery and scoping process improvements gleaned from the recent "Bridging Kentucky" effort and "lessons learned" to increase the efficiency of individual bridge project delivery. This summary of key elements of the framework for a streamlined process was developed to expedite delivery of bridge projects under this contract.

The goal of each bridge project will be to fully vet rehabilitation options before the advancement of bridge replacement. Rehabilitations/repairs will only be performed on portions of the bridge that are necessary to increase the service life of the bridge and meet rehabilitation criteria.

If the determination is made for bridge replacement, the goal in the streamlined process is "in-kind" replacement at the same location with current geometrics (bridge width, length, hydraulic opening, etc.), to avoid environmental impacts, avoid utility impacts, and minimize the need for right of way.

The Bridge Project Delivery Guidance Manual is currently under development and details noted below are subject to change. The Manual will be provided prior to the Scoping Conference.

2.0 SCREENING

KYTC will conduct screening for each bridge prior to assignment of preconstruction activities for delivery to construction letting. This screening will classify advancement of each bridge project into one of four categories.

1. Rehabilitation - Typical Rehab: Bridge deck overlays, minor repairs, etc.
2. Rehabilitation - Superstructure Strengthening: May include deck replacement and other repairs
3. Rehabilitation - Superstructure Replacement: May include other repairs
4. Replacements: Full removal and replacement of the entire bridge

3.0 PROJECT DEVELOPMENT MILESTONES

3.1 SCOPE VERIFICATION

The multidisciplinary field project site assessment (PSA) meeting will “kick-off” project implementation with verification of screening scope and establishing environmental constraints, potential right of way needs (if any), utility impacts, drainage concerns, detour routes (if required), anticipated levels of geotechnical investigation(s) and cost estimate update(s).

3.2 PRELIMINARY PLAN SUBMITTAL

Similar to a traditional Preliminary Line and Grade Review and Structure Preliminary Plan Submittal – however plans will be developed to a level that right of way acquisition, if required, can be initiated.

3.3 FINAL PLAN SUBMITTAL

Multidiscipline plan example is provided as part of the PS&E submittal.

3.4 PS&E SUBMITTAL

Multidiscipline plan example is provided.

4.0 PROJECT MANAGEMENT INFORMATION SYSTEM (PMIS)

KYTC will host and utilize a project management information system (PMIS) tool for this project. KYTC will provide a training program which will ensure end users are equipped with the necessary knowledge to interact with the system to meet project goals.

5.0 DISTRICT ENGAGEMENT

KYTC District Office personnel will be included at each milestone review. This could include representatives from design, bridge management, construction, and/or utilities/right-of-way.

District Personnel may also perform some services such as right-of-way, utility coordination, and surveying for some bridge projects as identified in the Scoping Meeting. KYTC may also perform structure design and/or geotechnical services as identified in the Scoping Meeting. In those

cases, the Consultant will coordinate these efforts with the KYTC personnel working functionally as part of the design team to deliver the project by the identified letting date.

6.0 DISCIPLINE OVERVIEWS

6.1 STRUCTURE DESIGN

The goal is to minimize design cost and promote construction efficiency by using the KYTC's standard bridge designs, where applicable.

- **Replacements and Superstructure Replacements:** Satisfy KY-HL-93 loading, Current edition of the AASHTO LRFD Bridge Design Specifications, satisfy load rating objectives.
- **Typical Rehabs and Superstructure Strengthening:** Satisfy load rating objectives, improve NBI condition rating (7 desired, 6 min), and provide 30-year design life.
- **Load Rating Objective:** Replacement and rehabilitated bridges should not require load posting.
- For superstructure replacement projects, existing substructure elements will be eligible for reuse without analysis if there are no current signs of structural distress and the new superstructure is reasonably close in configuration and weight to the existing.

6.2 ROADWAY DESIGN

- For replacement projects, the goal is to replace the bridge in the same location with current geometrics (bridge width, length, hydraulic opening, etc.) while minimizing approach work, where appropriate.
- Roadway Design shall be in accordance with the KYTC policy regarding Performance Based Flexible Solutions, the KYTC Highway Design Guidance Manual, the AASHTO Roadside Design Guide and, where applicable, the AASHTO Guidelines for Geometric Design of Very Low Volume Local Roads.
- Bridge railings evaluated on a case-by-case basis.
- Project team to consider potential traffic control schemes during the PSA.
- Full closure of the roadway for construction should be used whenever possible to minimize construction time but must be approved by KYTC.

6.3 GEOTECHNICAL

- Baseline for Geotechnical investigations to follow KYTC Geotechnical Manual, utilizing a risk based streamlined field investigation approach.
- PSA process to establish the level of geotechnical study needed.
- Geotechnical Engineer to provide foundation recommendations for each structure.
- An abbreviated Geotechnical report will be required.

6.4 HYDRAULICS

- For replacement projects, the goal is to replace the bridge 'in-kind' and in the same location to match or exceed the existing bridge's hydraulic opening. A risk assessment shall be required for all crossings classified as bridges as defined in the KYTC Drainage Manual, Chapter 807. A risk assessment will determine the risks and required level of hydraulic analysis necessary for the project.
- Where scour issues are identified in inspection reports or field assessments, construction documents will incorporate appropriate countermeasures.
- A full drainage folder will not be required.

6.5 ENVIRONMENTAL

- The goal is to improve bridges with a minimum footprint to minimizing the environmental impacts.
- Environmental requirements will comply with all appropriate federal environmental laws.
- Most projects will be processed as a Categorical Exclusion for Minor Project (CEMP)
- A streamlined Section 106 process will be used for bridges with a recommendation of "No Effect" for aboveground, and "No Find" for below ground.
- Most projects will meet small scale project criteria per KYTC-FHWA-SHPO Handbook for Implementing Section 106 of the NHPA (Handbook).
- Section 7 shall use all programmatic agreements when possible.
- No relocations/EJ/socioeconomic, noise, or air quality impacts or analysis are anticipated.

6.6 RIGHT-OF-WAY

- The goal is to improve bridges while minimizing the need for additional right of way or easements.

- May be responsible for all or any of the following: appraisals; appraisal reviews; negotiations; relocation assistance; project management; titles and closings; property management, and other related acquisition services.
- Surveyors will establish existing right-of-way lines prior to the start of acquisition based on title reports and field survey.
- Designers may be required to request the official order for projects needing right of way which will include the Right of Way Cost Estimate TC 62-603 form, request for funding authorization, and mapping.

6.7 UTILITIES

- The goal is to improve bridges while avoiding or minimizing impacts to utilities.
- Actively explore ways to minimize utility conflicts.
- 100% reimbursement for required relocations.
- Certain utility relocation work may be included in the construction contract to expedite the process.

6.8 RAILROAD

- The goal is to improve bridges while avoiding or minimizing impacts to railroads.
- KYTC will provide funding to pay for all required railroad charges, including preliminary engineering, plan review, and railroad flagging services.

6.9 SURVEY

All project survey requirements shall be in accordance with Section 300 of the KYTC Design Manual and conform to reasonable modern precision expectations for establishing control coordinates and field data collection.