

**PREQUALIFICATION CRITERIA & INSTRUCTIONS
FOR ENGINEERING & ENGINEERING-RELATED
SERVICES WITH THE
KENTUCKY TRANSPORTATION CABINET**

PREPARED BY:

KYTC DIVISION OF PROFESSIONAL SERVICES

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PREQUALIFICATION PROCESS

KRS Chapter 45A requires that consulting firms desiring to be considered for professional services must be licensed with the Secretary of State to do business in Kentucky. To become prequalified with the Transportation Cabinet, each firm must provide an annual update of their qualifications upon anniversary date. Historically, the anniversary date is the date of the letter from the Cabinet granting approval of the firm's prequalification request and is now available electronically for each firm. This shall establish the firm's annual renewal date by which the firm is expected to have renewed its qualifications with the Cabinet.

Each year, thirty (30) days prior to the firm's annual renewal date, each firm must submit supporting documentation for each specific prequalification area directly in the Consultant Portal, currently found online at <https://apps.transportation.ky.gov/professionalservices>.

Annual applications shall include a full electronic application submittal for each functional area requested, and any other supporting documentation required by each functional area. These electronic applications should be submitted directly through the Professional Services portal for review by the functional area(s). Upon review, the functional area may require additional documentation before granting approval or may recommend denial.

In odd calendar years, in lieu of a full application, firms may certify that nothing has substantially changed from the previously submitted application along with annual certifications. This odd year update request should include information regarding any previously approved changes from the last even year full update. Any significant modifications to organization, staffing, or financial status which could affect the firm's qualification status with the Cabinet should be clearly stated. The request should include a Certification of Professional Liability Insurance and a Certificate of Workers Compensation and Employment Insurance policy. An officer of the firm must also attest that the firm is financially solvent and have a working arrangement with financial institutions such that all outstanding financial obligations will be met. If a substantial change has occurred or the firm is requesting prequalification additional area(s) a full application will be required.

A firm desiring to be considered for an award as a prime shall provide an original Certificate of continuous Professional Liability Insurance in an amount not less than \$1,000,000 with their annual prequalification application. The firm shall also provide a Certificate of Workers Compensation and Employment Insurance policy. A certificate of self-insurance shall not be accepted by the Transportation Cabinet.

If a prime firm responds to an announcement with a subconsultant or a subconsultant provides associated scope and activities by contract modification, it is required that the subconsultant firm is also prequalified before they perform those services on any project.

It is the sole responsibility of the firm to initiate a renewal of its prequalification with the Cabinet. If the firm makes no effort within thirty (30) days of its annual renewal date, then the firm is automatically removed from the Cabinet's listing of prequalified consultants.

If the firm has undergone significant modifications to its organization, staffing, or financial status which could affect the firm's qualification status with the Cabinet, then a revised

prequalification application is required at the time those changes occur and no later than thirty (30) days prior to the firm's annual renewal date.

A prequalified firm shall immediately notify the Division of Professional Services of a change in the address of the firm or the name of the firm. Firms shall also report immediately of any change in the continuous professional liability policy on file with the Division of Professional Services. If a prequalified firm fails to notify the Division of Professional Services of a change of the address, it may be removed from the list of prequalified firms until it notifies the Division of its new address. If the change of address notification is submitted to the Division of Professional Services prior to the firm's annual prequalification date and no other changes have occurred in the firm, the firm shall be restored to the list of prequalified firms. Removal from the list of prequalified firms pursuant to this subsection shall not be a basis for appeal.

Please direct requests related to access to the Consultant Portal, any navigation assistance related to prequalification, and any prequalification questions to:

Ms. Ashley Caldwell
Kentucky Transportation Cabinet
Department of Highways
Division of Professional Services
200 Mero Street, 3rd Floor
Frankfort, KY 40622
Phone: (502) 564-4555
Email: ashley.caldwell@ky.gov

PREQUALIFICATION CRITERIA

The following criteria should be used by the Cabinet's User Divisions in evaluating a firm's qualifications in the requested categories or sub-categories. Acceptable experience of a firm requesting prequalification in a category of work may result from satisfactory work performed by an individual(s) working for the requesting firm or by an individual(s) who gained the required experience while working for another firm or governmental agency that performed similar work or projects. The Division of Professional Services or any specific User Division reviewing an application may request additional documents to supplement information provided in a submitted prequalification form prior to determining eligibility or recommending denial.

Prequalification Criteria is established by the User Division responsible for the services. Criteria is expected to be revised by Professional Services no more than every two (2) years, by January of each even calendar year.

Performance-based Prequalification and Renewal

The single best indicator of firm viability is a strong history of performance. Firms with a proven track record will be prequalified unless conditions of their previous prequalification status change. A firm's renewal of prequalification status will be based on a satisfactory performance on current projects; and an affirmation by an officer of the firm that the licensed professional engineers identified in previous submittals for prequalification remain in that visible function, no equipment requirements have been listed previously, and that the firm is financially solvent and has working arrangements with financial institutions such that all outstanding financial obligations may be met. Any changes in any of these conditions must be submitted as part of the annual request for renewal. Failure to submit information on such changes can lead to the firm's removal of prequalification.

Initial Prequalification

All prequalifications are currently submitted and reviewed in the Consultant Portal. As a result, the first step for a new firm to obtaining a prequalification will be to gain access to the Consultant Portal. New firms should contact [Ashley Caldwell](#) to gain access into the Consultant Portal and for registration assistance. Once a System Administrator has registered an account the user may submit for prequalifications within the online system. Other prequalification requirements also include a Certificate of Liability Insurance, Affidavit for Services, and an Ethics Certification. If the firm would like to be considered to perform work directly with the Kentucky Transportation Cabinet as a prime they may also be required to register with the Secretary of State's Office, the Kentucky Board of Licensure, and contact the Finance Cabinet to establish an eMARS Vendor Account.

A firm will provide all information required for the individual areas for which prequalification is requested. An alphabetized listing of the firm's staff with appropriate professional status, areas in which each person works (i.e., Environmental, Highway Design, etc.), and an identification of whether they are full-time or part-time employees will be provided.

A full-time employee is defined as one who has eligibility to participate in the firm's benefits program. In addition, an officer of the firm must attest that the firm is financially solvent

and have a working arrangement with financial institutions such that all outstanding financial obligations will be met.

Reasons for Removal of Prequalification

A firm's project performance and retention of qualified personnel will be a basis for continued prequalification. As stated above, under the Qualification-Based Selection (QBS) process, performance is an important indicator of a firm's ability to produce the required plans or other product. Removal of prequalification may therefore be based on a firm's failure to perform in a professional and capable manner. Failure to meet schedules on items within the consultant's responsibility will also be a basis for removal of prequalification.

Removal from prequalification will generally be for one (1) year. Re-evaluation of conditions after that year indicating continued non-performance might lead to continued denial of prequalification on a year-by-year basis.

In addition to the criteria listed below, the deliberate misrepresentation of the firm's qualification and/or the failure to notify the Cabinet of significant changes in the staffing situation or economic condition of a firm will result in the loss of the prequalification status for a period of at least one (1) year. The failure to correct the identified deficiencies will result in the continued denial of prequalification on an annual basis.

**Department of Aviation
(502-564-4480)**

AIRPORT MASTER PLANNING

The following must be demonstrated to be considered:

1. Firm Experience: The level of knowledge and experience shall be demonstrated by providing a detailed project listing of no less than two (2) Airport Master Planning documents within the last five (5) years from the date of the application. The Airport Master Planning documents must be for airports within the United States and shall be subject to the regulations set forth by the Federal Aviation Administration (FAA). The following is a list of acceptable documents that will be considered as a "Master Planning Document" for prequalification approval purposes:
 - Airport Layout Drawing Set or full Airport Layout Plan Update conforming to the latest version of the FAA ARP Standard Operating Procedure (SOP) 2.0 and FAA Advisory Circular 150/5070-6, Airport Master Plans, which may include:
 - Detailed Airport Layout Drawing
 - Data Sheet
 - Facilities Layout Plan
 - Terminal Area Plan (as needed)
 - Airport Airspace Drawing
 - Inner Portion of the Approach Surface Drawing
 - Airport Land Use Drawing
 - Off-Airport Land Use Drawing (as needed)
 - Airport Property Map / Exhibit A
 - Runway Departure Surface Drawing
 - Utility Drawing
 - Airport Access Plans
 - Airport Master Plan or Airport Master Plan Update conforming to the latest version of the FAA Advisory Circular 150/5070-6, Airport Master Plans.
 - Airport Site Selection Study conforming to the latest version of the FAA Advisory Circular 150/5070-6, Airport Master Plans.
 - Runway Safety Area Determination conforming to the latest version of the FAA ARP Standard Operating Procedure (SOP) 8.0.
 - Statewide or Regional Aviation System Plan conforming to the latest version of the FAA Advisory Circular 150/5070-7, The Airport System Planning Process.
2. Staffing: Each completed project listed shall include all currently employed, full-time staff with experience on the listed project. Information relating to past experience in those areas listed above shall be submitted for the firm's current staff. This information should include applicable education, training, work experience, and their role as part of the design team. At least one (1) employee in

the firm must be primarily responsible for the project (Primary Project Planner or Project Manager) and should have their roles clearly identified and explained.

If a staff member's experience was obtained while completing an applicable Airport Master Planning document at a firm other than the current firm, that information shall also be listed, along with the role the staff member had in the completion of the Master Planning Document.

(REVISED 12/21)

AIRPORT DESIGN - The following must be demonstrated to be considered:

1. Firm Experience: The level of knowledge and experience shall be demonstrated by providing a detailed project listing of no less than three (3) Airport Design projects within the last five (5) years from the date of the application. The Airport Design projects must be for airports within the United States and shall be subject to the regulations set forth by the Federal Aviation Administration (FAA). The following is a list of acceptable projects that will be considered as “Airport Design” projects for prequalification approval purposes:
 - New airport design (runway, taxiway, apron, etc.);
 - Runway/Taxiway/Apron geometry modification (extensions, widenings, relocations, expansions, etc.);
 - Major airport pavement rehabilitation (runway/taxiway/apron overlay or reconstruction);
 - Runway safety area improvements (grading modifications);
 - Major airfield drainage improvements, including stormwater systems, edge drains, or drainage repairs between the runway and taxiway.

Please note that the following aviation-related projects will not be considered as “Airport Design” projects for prequalification approval:

- Airfield lighting or lighting rehabilitation projects;
 - Airport navigational aids, including Runway End Identifier Lights (REILs), Precision Approach Path Indicator Systems (PAPIs), Wind Cones, Localizers, or any other ground-based navigational system;
 - Airfield markings (runway/taxiway/apron) or marking rehabilitation projects;
 - Fuel system installation or fuel system relocation projects;
 - Runway approach obstruction removal projects;
 - Airport buildings or infrastructure design or demolition, such as hangars, terminal buildings, adjacent residences, etc.;
 - Airport access roads, perimeter roads, or any other projects providing access to the airfield;
 - Perimeter fencing projects
2. Staffing: Each completed project listed shall include all currently employed, full-time staff with experience on the listed project. This information should include applicable education, training, work experience, and their role as part of the design team. At least one (1) employee in the firm must be primarily responsible for the project (Primary Project Design Engineer or Project Manager) and should have their roles clearly identified and explained. Additionally, the employee responsible for the project must possess a current valid Professional Engineering license and be registered in the state of Kentucky, incorporating their PE stamp and signature on all final plans and specifications.

If a staff member’s experience was obtained while completing an applicable Airport Design project at a firm other than the current firm, that information shall be listed, along with the role the staff member had in the completion of the project design.

(REVISED 12/21)

AIRPORT NOISE ANALYSIS

The following must be demonstrated to be considered:

1. Firm Experience: The level of knowledge and experience shall be demonstrated by providing a detailed project listing of at least one (1) Airport Noise Analysis project, or detailing the Noise Analysis component of a larger Aviation Master Planning project within the last five (5) years from the date of the application. The Airport Noise Analysis must be for airports within the United States and shall be subject to the regulations set forth by the Federal Aviation Administration (FAA). In order for a project to be eligible for Airport Noise Analysis prequalification, it must have been completed within the guidelines of the most current FAA Environmental Impacts Policies and Procedures (ORDER 1050.1F) utilizing the FAA Aviation Environmental Design Tool (AEDT) for noise analysis. In the event that no employee of your firm has completed any projects meeting this criteria, we will accept written certification of recent completion of FAA's AEDT training.
2. Staffing: Each completed project listed shall include all currently employed, full-time staff with experience on the listed project. This information should include applicable education, training, work experience, and their role as part of the design team. At least one (1) employee in the firm must be primarily responsible for the project (Primary Project Design Engineer or Project Manager) and should have their roles clearly identified and explained.

If a staff member's experience was obtained while completing an applicable Airport Noise Analysis at a firm other than the current firm, that information shall also be listed, along with the role the staff member had in the completion of the project design.

(REVISED 12/21)

AIRPORT PROJECT INSPECTION

The following must be demonstrated to be considered:

1. Staffing – A firm must demonstrate that they have, under current employment, project construction inspection staff fully capable of performing construction oversight on all types of airport construction projects. Please provide the names for each of the construction inspection employees, listing their applicable education and training, as well as their project oversight/reporting experiences demonstrating their knowledge of all the most current KYTC and FAA Airport Construction and Safety Standards such as:
 - a. FAA AC 150/5370-10 (*Standards for Specifying Construction of Airports*),
 - b. FAA AC 150/5370-2 (*Operational Safety on Airports with Emphasis on Safety During Construction*)
 - c. FAA AC 150/5200-18 (*Airport Safety Self Inspection*)
 - d. Kentucky Transportation Cabinet Department of Highways Standard Specifications for Road and Bridge Construction.

Although specific airport construction project inspection experience is not absolutely required, qualified staff must have adequate experience (a minimum of five (5) projects with total construction budgets of \$250,000 each) in onsite construction inspection and be capable of performing any field testing, inspection, as well as the necessary documentation of quantities and progress reporting required by the airport project plans and specifications. For employees with little or no airport experience, an additional statement detailing how these staff members plan to become familiar with the necessary FAA Advisory Circulars and other specifics of working in an airport environment must also be included.

Additionally, the submitting firm must have at least one (1) employee with a current Professional Engineering license and be registered in the state of Kentucky who will directly oversee and be responsible for the inspection staff.

If a staff member's construction inspection experience was obtained while completing an applicable Airport Project Inspection at a firm other than the current firm, that information shall also be listed, along with the role the staff member had in the completion of the project inspection.

(REVISED 12/21)

**Division of Construction
(502-564-4780)**

CONSTRUCTION PROJECT SUPERVISION

The Consultant shall provide engineering and engineering-related services to include detailed construction engineering and inspection of materials and workmanship for highway construction in accordance with current Department of Highways standards and procedures. Consultant must be familiar with Kentucky Standard Specifications and sampling and testing requirements.

The consultant engineering firm must provide a minimum of one (1) professional engineer with licensure in Kentucky, who can demonstrate highway construction knowledge and experience, on site as a Project Engineer. The firm must also be capable of providing home office support such as additional personnel, direction and equipment when necessary.

BRIDGE PAINTING PROJECT INSPECTION

The consultant firm shall provide the number of inspectors as requested by the Kentucky Transportation Cabinet for on-site field inspection of the bridge painting project(s). The inspector(s) will use paint inspection instruments, visual inspection, and industry standards to inspect the contractors' work and enforce the Kentucky Standard Specifications and Special Notes. Personal protection equipment and inspection equipment shall be provided by the consultant firm. The inspector(s) shall keep complete and accurate daily records of all work performed and the materials used in accordance with the Division of Construction Guidance Manual and as directed by the Engineer. Computer shall be provided by the consultant firm along with technical support in the event of computer issues. Computer must be capable of running AASHTOWare Project SiteManager.

The inspection will include, but not be limited to, inspect all work for acceptance, document work activities and complete daily reports, provide visual and instrument inspections of surface preparation and coatings applications to ensure conformance to applicable specifications, containment and emissions monitoring, monitor work for compliance with KYOSHA, OSHA, EPA, and state guidelines specified.

The firm will provide inspector(s) who have successfully completed one (1) of the following certifications: SSPC-BCI Level 1 or NACE CIP Level 1. The firm will provide documentation that shows availability of a minimum of five (5) qualified inspectors. The firm will also provide inspector(s) that demonstrate experience and knowledge of on-site bridge painting inspection and recordkeeping. The inspector(s) must be capable of handling the physical requirements needed to access and perform arms-length inspection of the entire project structure(s).

(REVISED 12/19)

BRIDGE PAINTING PROJECT MANAGEMENT

The Consultant shall provide bridge painting project management and related services to include detailed daily reporting, project coordination with contractor and State/District personnel, pay estimates, inspection of workmanship in accordance with current Department of Highways standards, plans, procedures, and project special notes. Manager and inspectors must be familiar with Kentucky Standard Specifications, Division of Construction Guidance Manual 63-01, partnering, sampling, testing and inspection requirements and project special notes.

The consultant firm must provide a minimum of one (1) Project Manager, who can demonstrate bridge painting project management/supervision, reporting, documentation and computation of pay estimates and inspection knowledge and experience, as an on-site project manager. The firm must be capable of providing home office support such as direction, additional support personnel, equipment and an on-site field office with computer and internet capabilities. Computers must be capable of running AASHTOWare Project SiteManager.

The firm shall provide on-site field inspection of the bridge painting project. The inspector(s) will use paint inspection instruments; visual inspection and industry standards to inspect the contractors work and enforce the Kentucky Standard Specifications and Special Notes. The inspector(s) shall keep complete and accurate daily records of all work performed and the materials used in accordance with the Division of Construction Guidance Manual.

The inspections will include but not be limited to: inspect all work for acceptance, document work activities, and complete daily reports, provide visual and instrument inspections of surface preparation, and coatings applications to ensure conformance to applicable specifications, containment and emissions monitoring, monitor work for compliance with KY OSHA, OSHA, EPA, and state guidelines as specified.

The firm must provide an adequate number of inspectors to provide complete quality assurance field inspections. The firm will provide documentation that demonstrates availability of a minimum of one (1) project manager. The inspectors will have successfully completed one (1) of the following certifications: SSPC-BCI Level 1 or NACE CIP Level 1 and maintain their qualification for the duration of the project. The inspector(s) must demonstrate experience and knowledge of on-site bridge painting inspection and recordkeeping. The inspector(s) must be capable of handling the physical requirements needed to access and perform arms-length inspection of the entire project structure.

(REVISED 12/19)

STRUCTURAL STEEL FABRICATION INSPECTION

The inspection will include performing all radiography, ultrasonic, magnetic particle and dye penetrate testing of welds as required and visual inspection to insure fabrication in accordance with applicable specifications Level Two nondestructive testing inspectors for magnetic particle and ultrasonic or radiographic testing. Consultant engineering firms must have a minimum of one (1) licensed professional engineer who can demonstrate knowledge and experience in welding theory, techniques, procedures, and inspections. Licensure in Kentucky is not necessarily required.

CONSTRUCTION SCHEDULING/CLAIMS ANALYSIS

The Consultant shall provide analysis consisting of construction contract claims and schedules to define issues and establish strategy of defense of claim; preparation and documentation of reports, graphics, charts, exhibits, and schedules; calculation and documentation of delays, recoverable damages, loss of productivity, inefficiencies, and other causes of claims.

Key staff members of the firms should consist of civil engineers, attorneys and certified public accountants experienced in claims review and evaluation. Consultant personnel must have at least five (5) years of experience in claim review. The firm must have a minimum of one (1) licensed professional engineer who can demonstrate knowledge and experience in computerized Highway construction project critical path scheduling. Engineers must be licensed, but not necessarily in Kentucky.

(REVISED 1/17)

**Division of Environmental Analysis
(502-564-7250)**

FISHERIES

Applicants must demonstrate professional qualification for Fisheries by providing evidence of a Federal Recovery Permit for federally-listed fish species in Kentucky or, submitting documentation that details education and work experience as follows:

EDUCATION GRADUATE AND UNDERGRADUATE TRANSCRIPTS REQUIRED

BS in Biology or Environmental Science including thirty (30) semester hours in biology with three (3)-hour courses related to fisheries such as fisheries biology, limnology, fisheries management, fisheries science, ecology, and ichthyology.*

QUALIFYING EXPERIENCE PRESENT CURRICULUM VITAE

- Four (4) years with a BS
- Two (2) years with an MS
- Two (2) years with a Ph.D**

Qualifying experience is considered to be work having to do with the ecology or biology of freshwater fish.

It must include the following:

1. A field study, publication or presentation at a scientific meeting demonstrating a knowledge of the taxonomy, sampling and ecology of freshwater fish.
2. One year experience in the assessment of impacts of construction projects on aquatic life, including mitigation measures.
3. Work indicating a knowledge of Kentucky and Federal rare, threatened, and endangered species of freshwater fish.

EQUIPMENT LIST

1. Taxonomic references sufficient to identify the fishes of Kentucky to species level.
2. Seines.

* Experience may substitute for education in exceptional cases if expertise in area can be proven by written examples of work.

** Ph.D. dissertation may substitute for one (1) year of experience if it involved the biology or ecology of freshwater fish.

(REVISED 1/17)

FRESHWATER MACROINVERTEBRATES

EDUCATION GRADUATE AND UNDERGRADUATE TRANSCRIPTS REQUIRED

BS in Biology or Environmental Science including thirty (30) semester hours in biology with three (3)-hour courses related to the taxonomy and biology of macroinvertebrates of freshwater lakes and streams and two (2) three (3)-hour courses related to aquatic biology or aquatic ecology.*

QUALIFYING EXPERIENCE PRESENT CURRICULUM VITAE

- Four (4) years with a BS
- Two (2) years with an MS
- Two (2) years with a Ph.D.**

Qualifying experience is considered to be work having to do with the ecology or biology of freshwater invertebrates.

It must include the following:

1. A field study, publication or presentation at a scientific meeting demonstrating a knowledge of the taxonomy, sampling, and ecology of freshwater invertebrates.
2. One (1) year experience in the assessment of impacts of construction projects on aquatic life, including mitigation measures.
3. Work indicating a knowledge of Kentucky and Federal rare, threatened, and endangered species of aquatic invertebrates. Documentation of Federal Recovery Permits held by the applicant for freshwater macroinvertebrates should be provided in the application for review.

EQUIPMENT LIST

1. Taxonomic references sufficient to identify most aquatic invertebrates to at least genus and pelecypods, gastropods, and crustaceans to species. If an expert is to be used in the identification of certain groups, his/her name and the group(s) to be identified should be specified.
2. Dip net with fine mesh and/or a surber sampler.
3. Stereo dissection microscope.

* Experience may substitute for education in exceptional cases if expertise in area can be proven by written examples of work.

** Ph.D. dissertation may substitute for one (1) year of experience if it involved the biology or ecology of aquatic invertebrates.

(REVISED 1/17)

WATER QUALITY

EDUCATION GRADUATE AND UNDERGRADUATE TRANSCRIPTS REQUIRED

BS in Chemistry, Biology, Environmental Science, Sanitary Engineering, Geology; including 12 semester hours in chemistry-related courses including one (1) course related specifically to water chemistry of streams and lakes.*

QUALIFYING EXPERIENCE PRESENT CURRICULUM VITAE

- 4 years with a BS
- 2 years with an MS
- 2 years with a Ph.D**

Qualifying experience is considered to be work having to do with the chemistry of freshwater.

It must include the following:

1. A field study, publication, or presentation at a scientific meeting demonstrating knowledge of the sampling and determination of water chemistry of freshwater streams and/or lakes.
2. One (1) year experience in the assessment of impacts of construction projects on water chemistry, including measures to reduce these impacts.

EQUIPMENT LIST

Capacity to perform the following tests:

- Color
- Turbidity
- PH
- Iron
- Nitrate Nitrogen
- Alkalinity
- Acidity
- Chloride
- Ammonia Nitrogen
- Sulfate
- Hardness
- Specific Conductance
- Orthophosphate
- Dissolved Oxygen
- Discharge

* Experience may substitute for education in exceptional cases if expertise in area can be proven by written examples of work.

** Ph.D. dissertation may substitute for one (1) year of experience if it involved the biology or ecology of plants.

(REVISED 1/17)

BOTANY

Applicants must demonstrate professional qualification for Botany by providing evidence of a Federal Recovery Permit for federally-listed plant species in Kentucky or, submitting documentation that details education and work experience as follows:

EDUCATION GRADUATE AND UNDERGRADUATE TRANSCRIPTS REQUIRED

BS in Biology or Environmental Science including thirty (30) semester hours in biology with three (3)-hour courses related to botany such as plant taxonomy, plant ecology, dendrology, botany, plant physiology, silviculture, etc.*

QUALIFYING EXPERIENCE PRESENT CURRICULUM VITAE

- Four (4) years with a BS
- Two (2) years with an MS
- Two (2) years with a Ph.D.**

Qualifying experience is considered to be work having to do with the ecology or biology of plants.

It must include the following:

1. A field study, publication or presentation at a scientific meeting demonstrating knowledge of the taxonomy, sampling, and ecology of plants.
2. One (1) year experience in the assessment of impacts of construction projects on plants and plant communities, including mitigation measures.
3. Work indicating a knowledge of Kentucky and Federal rare, threatened and endangered species of plants.

EQUIPMENT LIST

1. Taxonomic references sufficient to identify plants to species level.
2. Plant press.

* Experience may substitute for education in exceptional cases if expertise in area can be proven by written examples of work.

** Ph.D. dissertation may substitute for one (1) year of experience if it involved the biology or ecology of plants.

(REVISED 1/17)

TERRESTRIAL ZOOLOGY

EDUCATION GRADUATE AND UNDERGRADUATE TRANSCRIPTS REQUIRED

BS in Biology or Environmental Science including thirty (30) semester hours in biology with three (3)-hour courses related to terrestrial zoology such as vertebrate zoology, wildlife management, wildlife ecology, mammalogy, herpetology, or ornithology.*

QUALIFYING EXPERIENCE PRESENT CURRICULUM VITAE

- Four (4) years with a BS
- Two (2) years with an MS
- Two (2) years with a Ph.D.**

Qualifying experience is considered to be work having to do with the ecology or biology of terrestrial animals.

It must include the following:

1. A field study, publication or presentation at a scientific meeting demonstrating knowledge of the taxonomy, sampling, and ecology of terrestrial animals.
2. One (1) year experience in the assessment of impacts of construction projects on terrestrial animals and wildlife habitat including mitigation measures.
3. Work indicating a knowledge of Kentucky and Federal rare, threatened and endangered species of terrestrial animals. Documentation of relevant Federal Recovery Permits held by the applicant should be provided in the application for review.

EQUIPMENT LIST

1. Taxonomic references sufficient to identify animals to species level.
2. Mist nets.
3. Caving lights.
4. Small mammal traps.

* Experience may substitute for education in exceptional cases if expertise in area can be proven by written examples of work.

** Ph.D. dissertation may substitute for one (1) year of experience if it involved the biology or ecology of terrestrial animals.

(REVISED 1/17)

WETLANDS

Applicants must demonstrate professional qualification for Wetlands by providing evidence of certification as a Professional Wetlands Scientist as determined by the Society of Professional Wetland Scientists or, submitting documentation that details education and work experience as follows:

EDUCATION GRADUATE AND UNDERGRADUATE TRANSCRIPTS REQUIRED

BS in Biology or related to natural sciences including thirty (30) semester hours in biology. With at least eight (8) semester hours (or six (6) semester hours with labs) of courses related to botany and flora, one (1) three-(3)-hour course in ecological analyses, habitat assessments, or plant community assessments. At least one (1) three (3)-hour course in vertebrate biology or classification such as ichthyology, herpetology, entomology, ornithology, or mammalogy.*

REQUIRED TRAINING - CERTIFICATES REQUIRED

Training in the application of the Corps of Engineers Wetland Delineation Manual, 1987. Training must satisfy pre-requisite requirements for the Wetland Delineator Certification Program.

QUALIFYING EXPERIENCE PRESENT CURRICULUM VITAE –

Written examples required three (3) years of experience in practicing wetland delineation and mitigation under the US ACE supervised 404 program.

NOTE: MS and Ph.D. degrees may substitute for experience for up to two (2) years, only if the degree was completed with thesis or two (2) years of research work related to wetlands. An M.A. degree may qualify for one (1) year experience if it relates to wetlands.

Qualifying experience applies to the individual and is considered to be work having to do with the classification, delineation, and/or mitigation of jurisdictional wetlands.

Qualifying experience must include the following:

- Project Leader on US ACE approved or reviewed wetland delineation projects; may include any example where wetlands were determined or delineated and underwent US ACE review; and,
- Project Leader of field study and author of a publication demonstrating competence in sampling and analytical procedures involving wetlands; or,
- Project Leader for wetland mitigation involving creation, restoration or enhancement of wetlands used in 404 permits; or,
- Project Leader for monitoring studies and reports of wetlands that have been reviewed and approved by US ACE.

EQUIPMENT AND REFERENCE MATERIAL

List Equipment and Material Sampling equipment necessary for wetlands analysis shall include:

- (1) a soil probe, auger, or space, for soil samples,
- (2) Munsell soil color chart for hydric soil determinations,
- (3) taxonomy reference books for plant identification,
- (4) the USFWS publication entitled National List of Plant Species that Occur in Wetlands: Kentucky edition or Region 1 Northeast,

- (5) plant press and collection bags, and
- (6) stereo dissection microscope for plant identification.

- * Education cannot substitute entirely for experience requirement. MS and Ph.D. degrees in the area of wetland may qualify for up to two (2) years of experience. MA degrees may qualify up to one (1) year of experience.
- ** Education and experience cannot be substituted for training.

(REVISED 1/17)

PREHISTORIC AND HISTORIC ARCHAEOLOGY

PROFESSIONAL QUALIFICATIONS

The principal investigator is responsible for the quality of the archaeological work and resulting report. All Section 106 related investigations should be carried out under the direction of a principal investigator. He or she must ensure that all other project personnel have sufficient experience to perform assigned duties.

Principal Investigator. The Secretary of the Interior's Standards for Professional Qualifications in Archaeology are those used by the National Park Service and have been previously published in the Code of Federal Regulations, 36 CFR Part 61. These are quoted below:

“The qualifications define minimum education and experience required performing identification, evaluation, registration, and treatment activities. In some cases, additional areas or levels of expertise may be needed, depending upon the complexity of the task and the nature of the historic properties involved. In the following definitions a year of full-time professional experience need not consist of a continuous year of full-time work but may be made up of discontinuous periods of full-time work adding up to the equivalent of a year of full-time experience.”

Archaeology

The minimum professional qualifications in archaeology are a graduate degree in archaeology, anthropology, or closely related field plus:

- At least one (1) year of full-time professional experience or equivalent specialized training in archaeological research, administration or management;
- At least four (4) months of supervised field and analytic experience in general North American archaeology; and
- Demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a professional in Prehistoric Archaeology shall have at least one (1) year of full-time professional experience at a supervisory level in the study of archaeological resources of the prehistoric period. A professional in Historic Archaeology shall have at least one (1) year of full-time professional experience at a supervisory level in the study of archaeological resources of the historic period.

In addition to the previous criteria, the SHPO requires that the Principal Investigator have twelve (12) months of professional field experience in the eastern United States, of which at least three (3) months must be in Kentucky or the Ohio Valley (southern Ohio, southern Indiana, southern Illinois, western West Virginia, Kentucky, and Tennessee). In some instances, up to two (2) months of analytical and report writing experience in the Ohio Valley may be substituted for field experience. Applicants must demonstrate that SHPO qualification requirements have also been satisfied.

Field Supervisors

The Transportation Cabinet also qualifies applicants to direct field work, and to complete analytical and report writing as a primary author under the supervision of an approved Principal Investigator. Qualifications for field supervisors are graduated, as the tasks and skills required for each level of investigation become increasingly complex. Please note that for the following, as for the Principal Investigator, experience is measured in actual days of laboratory or field experience, with five days in the field being one (1) week of experience, four (4) weeks being a month of experience, and so on.

Survey Projects (Phase I)

1. An undergraduate degree in Anthropology or Archaeology or a closely related field;
2. Four (4) months minimum of archaeological laboratory experience;
3. One (1) year field experience in North American archaeology; and
4. Three (3) months of field experience in Kentucky or the Ohio Valley, of which two (2) months may be substituted with analytical experience or report writing within the Ohio Valley.

Testing Projects (Phase II)

1. Two (2) academic years of graduate school in Anthropology or closely related field;
2. Demonstrated ability to analyze artifacts and write reports;
3. One (1) year field experience in North American archaeology, of which at least a combined four (4) months must be excavation (evaluation and/or mitigation);
4. One (1) month as a Field Supervisor on Phase I projects;
5. Three (3) months of field experience in Kentucky or the Ohio Valley, of which two (2) months may be substituted with analytical experience or report writing within the Ohio Valley.

Mitigation Projects (Phase III)

1. Graduate degree in Anthropology or Archaeology or closely related field;
2. Demonstrated ability to analyze artifacts and write reports;
3. One (1) year field experience in North American archaeology, of which at least a combined six (6) months must be excavation (evaluation and/or mitigation);
4. Four (4) months as a Field Supervisor on Phase I and Phase II investigations; and
5. Three (3) months of field experience in Kentucky or the Ohio Valley, of which two (2) months may be substituted with analytical experience or report writing within the Ohio Valley.

(REVISED 1/17)

HIGHWAY NOISE ANALYSIS

EDUCATION

B.S. in Engineering, Environmental Sciences, or BA with course work related to transportation-related course work. At least one (1) semester hour of computer sciences.

QUALIFYING EXPERIENCE

- One (1) year of co-authored base studies with BS or BA
- Six (6) months of co-authored based studies with MS, MA, or Ph.D.

Qualifying experience is considered to be work associated with noise impact assessment and modeling techniques and should include the following:

- Research or documentation, which demonstrates knowledge of noise, impacts assessment, and engineering principles. Attendance of noise impact assessment and abatement courses offered by FHWA or independent consultants are required. Experience in field noise sampling along with collaboration of documentation required for submittal of a noise impact analysis. Including noise levels and abatement measures as required by FHWA 23 CFR Part 772 "Procedures for Abatement of Highway Traffic Noise and Construction Noise."

EQUIPMENT

- FHWA Traffic Noise Model (23 CFR 772.9)
- Computer hardware utilized for analyses
- Type I or Type II Sound Level Meter

(REVISED 1/20)

AIR QUALITY ANALYSIS

EDUCATION

BS in Engineering, Environmental Sciences, or Meteorology; including twelve (12) semester hours of air quality-related courses, (i.e. meteorology, engineering principles, or dispersion modeling). At least three (3) semester hours of computer sciences. BA With course work related to transportation planning.

QUALIFYING EXPERIENCE

- Four (4) years with a BS or BA
- Two (2) years with an MS or MA
- Two (2) years with a Ph.D. (1 year if research or dissertation related to air quality principles)

Qualifying experience is considered to be work associated with air quality principles and modeling techniques and should include the following:

- Research or documentation, which demonstrates knowledge of air pollution meteorology, dispersion modeling, and engineering principles.
- Affiliation with a professional society related to air quality.
- One (1) year experience in the assessment of impacts of construction projects on ambient air quality including mitigation measures as required by the Clean Air Act Amendments of 1990.
- Work indicates knowledge of Kentucky and Federal Air Quality Regulations.

EQUIPMENT

State of the art computer models, which consists of:

- A. Mobile Source Emissions Model: MOVES or current promulgated EPA mobile source emissions model
- B. Dispersion Model: CAL3QHC
- C. F-I Computer hardware utilized for analyses.

(REVISED 1/20)

STREAM AND WETLAND MITIGATION

A firm shall have a minimum of one (1) engineer licensed in Kentucky and (1) biologist who meets the prequalification criteria listed below who will both be directly involved in the project design, development, and (as-needed) post-construction evaluation and monitoring relative to implementation of design (as-built) specifications. A firm's employees involved in overseeing natural stream channel or functional wetland mitigation design through projects should have relevant training, and successful project experience for the applicable discipline prequalification is sought. Submission of a vita or resume containing education, training and experience will be necessary to assist the Kentucky Transportation Cabinet (KYTC) in this review. Inclusion of projects constructed should be provided. In addition, each firm shall provide such documentation as project performance evaluations, documented implementation and performance relative to constructed design success metrics, and other pertinent information that will aid in the KYTC's evaluation of the firm's performance of a completed mitigation project.

Equipment shall be adequate to provide plans and studies utilizing computer drafting and digital terrain modeling techniques for the applicable project, and in a format specified by the Cabinet. Sufficient financial information shall be provided to demonstrate the stability of the firm during the prequalification period.

Excluding construction, projects are typically divided into three (3) phases: data collection, design, and monitoring. A firm shall have the capability to provide the following products.

Stream and Wetland Data Collection – 1) Document stream (or wetland) project pre-construction conditions relative to bioregion reference streams (or wetland type); 2) the expected functional class of streams (wetlands) to be restored; and 3) as applicable, documentation of habitat conditions of streams (wetlands) that will be disturbed by road construction projects.

Please provide one (1) project submission that demonstrates the following capabilities for stream or wetland, as applicable. This submission should be in the form of a report.

Stream and Wetland

- Location map drawn to scale, with any notes necessary for site location.
- Stream (wetland) and watershed areas accurately delineated on USGS 7.5' Topographic Quadrangle maps.
- Watershed condition and hydrologic characteristics.
- Description of riparian and transitional zone characteristics and condition.
- Stream bio-survey (wetland functional) assessment – may be qualitative, or quantitative depending on stream order/watershed size.
- Tabulated survey notes.

Stream Specific

- Completed *Habitat Assessment Field Data Sheet* as obtained through the Kentucky Division of Water (modified from the USEPA's Rapid Bioassessment Protocols).
 - High or low gradient form, as applicable.
- Description of channel substrate, bank (each) material and bank (each) condition.
- Morphological (Rosgen or other characteristically defined) stream physical or functional classification.

Natural Stream (Functional Wetland) Design - Provide stream channel (wetland) construction or restoration plans in the detail required for construction of the project. The format for drawings shall conform to cabinet CADD standards. The elements of the design plan will include the following.

- Scale drawings showing the proposed work in plan, cross-section and profile view.
- Construction detail drawings as needed for clarity.
- Vegetation planting details.
- Description of measures to be used for creation of aquatic riparian (or buffer) habitat.
- Description of unique or species of concern (e.g. Threatened or Endangered species) habitat designs and implementation.
- Monitoring plan.
- Summary report documenting all design criteria, analyses and computations.

Biologist Qualifications - In addition to the above requirements, the firm shall have a minimum of one (1) aquatic biologist that meet each of the pre-qualification requirements below, or additional aquatic biologists that together meet those minimum pre-qualifications, and have project responsibility.

- Fisheries
- Freshwater macroinvertebrates
- Water quality
- Botany
- Wetlands

(REVISED 12/21)

SOCIO-ECONOMIC ANALYSIS

EDUCATION

Bachelor's degree with a major, minor; emphasis, or area of concentration in planning; or a bachelor's degree in transportation or a closely related field. Closely related fields include administration, business, economics, geology, geography, political science, and others.

QUALIFYING EXPERIENCE

- One (1) year with a bachelor's degree.

Qualifying experience is considered to be work to do with urban and regional planning or socio-economic impact analysis.

Work indicates a knowledge and familiarity with FHWA guidelines and regulations relative to socioeconomic analyses and community impact assessments of transportation projects.

Work on a community comprehensive plan including land use planning, population, and economic base study analyses, etc.

CONTINUING EDUCATION

Courses in Relocation, Right-of-Way, Community Impact Assessments, Environmental Justice, Public Involvement, Context Sensitive Design, Secondary and Cumulative Impacts, and related topics

CULTURAL-HISTORIC ANALYSIS

PROFESSIONAL QUALIFICATIONS

The Secretary of the Interior's Standards for Professional Qualifications in History and Architectural History are those used by the National Park Service and they have been previously published in 36 CFR Part 61. Familiarity with Section 106 is also required. In order to be qualified in history and/or architectural history, the following education and experience should be met:

History: The minimum professional qualification in history is a graduate degree in history or a closely related field, or a bachelor's degree in history, or a closely related field, plus one (1) of the following:

- (a) At least two (2) years of full-time experience in research, writing, teaching, interpretation, or other demonstrable professional activity with an academic institution, historical organization or agency, museum, or other professional institution; or
- (b) Substantial contribution through research and publication, to the body of scholarly knowledge in the field of history.

Architectural History: The minimum professional qualifications in architectural history are a graduate degree in architectural history, art history, historic preservation, or closely related field, with course work in American architectural history; or a bachelor's degree in architectural history, art history, historic preservation, or closely related field, plus one (1) of the following:

- (a) At least two (2) years of full-time experience in research, writing, or teaching in American architectural history or restoration architecture with an academic institution, historical organization or agency, museum, or other professional institution; or
- (b) Substantial contribution through research and publication to the body of scholarly knowledge in the field of American architectural history.

SPECIFIC EXPERIENCE

Also in order to be qualified; experience and/or training and knowledge with FHWA guidelines and regulations relative to cultural-historic architectural analyses of transportation projects must be demonstrated. This includes familiarity with the Section 106 process and Section 4(f).

(REVISED 11/98)

ENVIRONMENTAL DOCUMENT WRITING AND COORDINATION

EDUCATION

Graduate of a college or university with a bachelor's degree

QUALIFYING EXPERIENCE

- Two (2) years with a BS
- One (1) year with an MS/MA

Qualifying experience is considered to be work and training having to do with the preparation and coordination of categorical exclusions, environmental assessments, and environmental impact statements.

It should include, or be demonstrated by the following:

1. Specific training in environmental document preparation, such as NHI/FHWA training;
2. Work indicating one's knowledge and familiarity with FHWA guidelines and regulations in regard to environmental document writing and coordination;
3. Specific experience in environmental document preparation;
4. Specific examples of environmental documents authored (by project identification and client); or
5. List other experience with technical writing and/or special environmental studies prepared.

(REVISED 12/21)

HAZARDOUS MATERIALS (HAZMAT) AND UNDERGROUND STORAGE TANKS (UST)

EDUCATION

Bachelor of Science in Chemistry, Chemical Engineering, Geology, Hydrogeology, Industrial Hygiene, or closely related field of study.

QUALIFYING TRAINING

Minimum 40-Hour Waste Site Worker Protection training to comply with OSHA CFR 1910.120(e)(2).

Include proof of current certification, (i.e., current 40-hour certification and/or current 8-hour annual refresher course certification) for each individual listed to conduct any work in the Underground Storage Tank (UST) or Hazardous Materials (HAZMAT) area.

LICENSURE

License as a Professional Geologist or Professional Engineer for all UST related services with the exception of Preliminary Site Assessment (Phase I).

QUALIFYING EXPERIENCE

The applicant shall identify the personnel who will be performing each phase of work for which prequalification is sought. Qualifying experience is considered to include on-site experience and report development as appropriate for conducting each phase of work. The applicant shall demonstrate competence for each area of prequalification requested in accordance with the criteria outlined.

UST and HAZMAT Preliminary Site Assessments (Phase I):

The applicant shall demonstrate proof of personnel's experience conducting PSAs with submittal of a detailed vitae for each individual identified in support of the firm's prequalification in this area. The description shall identify the specific work conducted by the individual on listed projects. Individuals identified in support of this prequalification shall have authored a minimum of three (3) PSA reports. For each individual identified in support of this prequalification, the application shall also provide a sample of a PSA, authored by the individual and developed in accordance with ASTM E1527-21.

Underground Storage Tanks (UST) Closure Assessment:

The applicant shall demonstrate proof of personnel's experience developing Closure Assessment Reports (CAR) with submittal of a detailed vitae for each individual identified in support of the firm's prequalification in this area. The applicant shall submit a copy of letters issued by the Kentucky Division of Waste Management, Underground Storage Tank Branch for a minimum of two (2) projects, indicating acceptance of a CAR. Documentation of approval by the regulatory agency for verifiably equivalent activities in other states may substitute. Vitae for individuals identified to conduct this work shall include the projects documented by the letters. The reports shall have been authored by those identified in support of the request for prequalification approval. The prequalification application shall also provide a copy of a sample CAR, or verifiably equivalent report prepared for the regulatory agency of another state, authored by each individual identified in the application for this area of work.

Underground Storage Tanks (UST) Site Investigation (Phase II):

The applicant shall demonstrate proof of personnel's experience developing Site Investigation Reports with submittal of a detailed vitae for each individual identified in support of the firm's prequalification in this area. The applicant shall submit a copy of letters issued by the Kentucky Division of Waste Management, Underground Storage Tank Branch for a minimum of two (2) projects, indicating acceptance of a Site Investigation Report. Documentation of approval by the regulatory agency for verifiably equivalent activities in other states may substitute. Vitae for individuals identified to conduct this work shall include the projects documented by the letters. The reports shall have been authored by individuals identified in support of the firm's prequalification in this area. The prequalification application shall also provide a copy of a sample Site Investigation Report, or verifiably equivalent report prepared for the regulatory agency of another state, authored by each individual identified in the application for this area of work.

Underground Storage Tanks (UST) Corrective Action:

The applicant shall demonstrate proof of personnel's experience developing and implementing corrective action with submittal of a detailed vitae for each individual identified in support of the firm's prequalification in this area. The applicant shall submit a copy of letters issued by the Kentucky Division of Waste Management, Underground Storage Tank Branch for a minimum of two (2) projects, indicating acceptance of a Corrective Action Plan and a Corrective Action Report (No Further Action letter). Documentation of approval by the regulatory agency for verifiably equivalent activities in other states may substitute. Vitae for individuals identified to conduct this work shall include the projects documented by the letters. The reports shall have been authored by individuals identified in support of the firm's prequalification in this area. The prequalification application shall also provide a copy of a sample Corrective Action Plan and a Corrective Action Report, or verifiably equivalent report prepared for the regulatory agency of another state, authored by each individual identified in the application for this area of work.

Hazardous Materials (HAZMAT) Site Investigation (Phase II):

A minimum of two (2) years of experience conducting Site Investigation fieldwork and reporting is required.

The applicant shall demonstrate proof of personnel's experience conducting Site Investigations with submittal of a detailed vitae for each individual identified in support of the firm's prequalification in this area. The applicant shall submit a copy of letters issued by the Kentucky Division of Waste Management for a minimum of two (2) projects, indicating acceptance of a Site Investigation Report. Documentation of approval by the regulatory agency for verifiably equivalent activities in other states may substitute. Vitae for individuals identified to conduct this work shall include the projects documented by the letters. The reports shall have been authored by individuals identified in support of the firm's prequalification in this area. The prequalification application shall also provide a copy of a sample Site Investigation Report, or verifiably equivalent report prepared for the regulatory agency of another state, authored by each individual identified in the application for this area of work.

Hazardous Materials (HAZMAT) Corrective Action:

A minimum of two (2) years of experience developing Corrective Action Plans is required.

The applicant shall demonstrate proof of personnel's experience developing and implementing corrective action with submittal of a detailed vitae for each individual identified in support of the firm's prequalification in this area. The applicant shall submit a copy of letters issued by the Kentucky Division of Waste Management for a minimum of two (2) projects, indicating acceptance of a Corrective Action Plan and a Corrective Action Report. Documentation of approval by the regulatory agency for verifiably equivalent activities in other states may substitute. Vitae for individuals identified to conduct this work shall include the projects documented by the letters. The reports shall have been authored by individuals identified in support of the firm's prequalification in this area. The prequalification application shall also provide a copy of a sample Corrective Action Plan and Corrective Action Report, or verifiably equivalent report prepared for the regulatory agency of another state, authored by each individual identified in the application for this area of work.

(REVISED 12/23)

Division of Highway Design (502-564-3280)

RURAL ROADWAY DESIGN

The purpose of this prequalification is to determine if a firm has the capability to design rural roadway projects. Roadways that have been designed within a rural context may include but not be limited to:

- paved or earth shoulders
- shared-use paths
- cross drains
- Level 1 and Level 2 Risk Assessment Analysis for drainage structures
- entrance pipes
- 'V' or flat bottom roadway ditches with ditch channel treatments
- superelevation and transitions
- depressed medians

The firm shall submit a stand-alone prequalification document addressing the following requirements:

I. Company

A. Sufficient financial information should be provided to demonstrate the stability of the firm during the prequalification period. Financial Information should include but is not limited to the following:

1. Finance Statement sheet (Balance of Assets and Liabilities)
2. Insurance

B. Contact information (name, email, phone number) for a person in your firm to answer questions about the application

II. Personnel

A. The firm must demonstrate that current staff has the knowledge and skills to design a roadway in a rural context as described above and develop a set of contract plans for construction. Provide a resume for each individual that should be considered for this category. The firm must have at least two (2) engineers licensed in Kentucky with highway/transportation and related drainage experience. Each resume should contain the following:

1. Educational history
2. Professional certifications
3. Applicable training courses
4. Applicable skills
5. Rural roadway projects worked on in the last ten (10) years with current or former firm. For each project include:
 - a. Project location, route, and description
 - b. Firm name (if other than applicant)
 - c. Specific responsibility and roles on each project (e.g. lead designer, detailer, project manager, traffic modeler, public involvement, drainage designer, etc.)
6. Other projects worked on that may be applicable

III. Projects Completed by Firm

- A. The firm shall provide a minimum of three (3) projects completed within the last ten (10) years to show that they have the capability to design a roadway in a rural context as described above and develop a set of contract plans for construction. The information for each project shall include the following:
1. A project description, which should include the following:
 - a. Client and reference contact information
 - b. Project location, route, length, and description including project purpose and need
 - c. Standards used for project design
 - d. Firm's role on the project (prime or subconsultant and work performed)
 - e. Current staff names involved with the project and roles
 - f. Completion date of design
 - g. Firm's design fee
 - h. Performance evaluation documents or letters (if applicable)

IV. Equipment and Software

- A. The firm should have adequate resources to provide plans and studies utilizing CAD and civil design techniques to provide Electronic Engineering Data for an average type of project and to a format specified by in KYTC's current CADD standards. The following shall be listed:
1. Civil Design software owned. Note: the firm will be required to own Bentley CONNECT product appropriate for the project and of the latest version recognized by KYTC for any new design starts after Nov. 1st, 2019 with software training to qualify for KYTC work. See the CADD Standards website for current version information.
 2. Additional design software (e.g. autoturn, drainage software, etc.) owned by firm
 3. Specialty hardware used for highway design work

CONDITIONAL APPROVAL for Small Rural Roadway Design Projects:

- A. The firm may be prequalified conditionally for rural roadway design if it demonstrates the capability to design small rural roadway projects with an estimated design fee of less than \$400,000. The firm shall follow the same submittal process described above. This prequalification may be applicable to companies that:
1. Have only one (1) engineer licensed in Kentucky
 2. Have little or no previous experience designing and delivering contract plans on large rural projects
 3. Shows adequate applicable project design experience on small rural projects
 4. Does not have the capabilities or resources to manage large rural projects
 5. Expecting to do rural roadway design work for local public agencies only
 6. Although there are no software requirements, it is recommended to adhere to Equipment and Software requirements above

(REVISED 12/23)

URBAN ROADWAY DESIGN

The purpose of this prequalification is to determine if a firm has the capability to design urban roadway projects. Roadways that have been designed within an urban context may include but not be limited to the following features:

- curb and gutter
- storm sewer with curb drainage boxes
- Level 1 and Level 2 Risk Assessment Analysis for drainage structures
- shared-use paths, bike lanes, and/or sidewalks
- cross drains
- entrance pipes
- 'V' or flat bottom roadway ditches with ditch channel treatments
- intersections
- auxiliary lanes

The firm shall submit a stand-alone prequalification document addressing the following requirements:

I. Company

- A. Sufficient financial information should be provided to demonstrate the stability of the firm during the prequalification period. Financial Information should include but is not limited to the following:
 1. Finance Statement sheet (Balance of Assets and Liabilities)
 2. Insurance
- B. Contact information (name, email, phone number) for a person in your firm to answer questions about the application

II. Personnel

- A. The firm must demonstrate that current staff has the knowledge and skills to design a roadway in an urban context as described above and develop a set of contract plans for construction. Provide a resume for each individual that should be considered for this category. The firm must have at least two (2) engineers licensed in Kentucky with highway/transportation and related drainage experience. Each resume should contain the following:
 1. Educational history
 2. Professional certifications
 3. Applicable training courses
 4. Applicable skills
 5. Urban roadway projects worked on in the last ten (10) years with current or former firm. For each project include:
 - a. Project location, route, and description
 - b. Firm name (if other than applicant)
 - c. Specific responsibility and roles on each project (e.g. lead designer, detailer, project manager, traffic modeler, public involvement, drainage designer, etc.)
 6. Other projects worked on that may be applicable

III. Projects Completed by Firm

- A. The firm shall provide a minimum of three (3) projects completed within the last ten (10) years to show that they have the capability to design a roadway in an

urban context as described above and develop a set of contract plans for construction. The information for each project shall include the following:

1. A project description, which should include the following:
 - a. Client and reference contact information
 - b. Project location, route, length, and description including project purpose and need
 - c. Standards used for project design
 - d. Firm's role on the project (prime or subconsultant and work performed)
 - e. Current staff names involved with the project and roles
 - f. Completion date of design
 - g. Firm's design fee
 - h. Performance evaluation documents or letters (if applicable)

IV. Equipment and Software

- A. The firm should have adequate resources to provide plans and studies utilizing CAD and civil design techniques to provide Electronic Engineering Data for an average type of project and to a format specified by in KYTC's current CADD standards. The following shall be listed:
 1. Civil Design software currently owned. Note: the firm will be required to own Bentley CONNECT product appropriate for the project and of the latest version recognized by KYTC for any new design starts after Nov. 1st, 2019 with software training to qualify for KYTC work. See the CADD Standards website for current version information.
 2. Additional design software (eg autoturn, drainage software, etc.) owned by firm
 3. Specialty hardware used for highway design work

CONDITIONAL APPROVAL for Small Urban Roadway Design Projects:

- A. The firm may be prequalified conditionally for urban roadway design if it demonstrates the capability to design small urban roadway projects with an estimated design fee of less than \$400,000. The firm shall follow the same submittal process described above. This prequalification may be applicable to companies that:
 1. Have only one (1) engineer licensed in Kentucky
 2. Have little or no previous experience designing and delivering contract plans on large urban projects
 3. Shows adequate applicable project design experience on small urban projects
 4. Does not that the capabilities or resources to manage large urban projects
 5. Expecting to do urban roadway design work for local public agencies only
 6. Although there are no software requirements, it is recommended to adhere to the Equipment and Software requirements described above

(REVISED 12/23)

ADVANCED DRAINAGE ANALYSIS AND DESIGN

The purpose of this prequalification is to determine if a firm has the capability to perform advanced drainage analysis for highway projects. Advanced Drainage Analysis and Design encompasses advanced hydrologic and hydraulic analysis techniques for site specific needs in the design of highways. It may include but not be limited to: 2-D hydraulic floodplain analysis, FEMA map revisions, FEMA No-Rise certifications, advanced hydrologic evaluations using Bulletin 17C procedures, specialized energy dissipation techniques, water quality modeling, advanced flood relief water quantity modeling, evaluation of other professional engineer drainage designs, and serving as an expert witness in court proceedings. It may also include standard highway drainage designs where that need arises in performance of specialty drainage contracts.

The firm shall submit a prequalification document addressing the following requirements:

1. Company

- a. Sufficient financial information should be provided to demonstrate the stability of the firm during the prequalification period. Financial Information should include but is not limited to the following:
 - i. Finance Statement sheet (Balance of Assets and Liabilities)
 - ii. Insurance
- b. Contact information (name, email, phone number) for a person in your firm to answer questions about the application

2. Personnel

The firm must demonstrate that current staff has the knowledge and skills to perform Advanced Drainage Analysis and Design, as defined above, and develop the required associated work products. Provide a resume for each individual that should be considered for this category. The firm must have at least one (1) engineer licensed in Kentucky with highway drainage experience. Each resume should contain the following:

- a. Educational history
- b. Professional certifications
- c. Applicable training courses
- d. Applicable skills
- e. Advanced Drainage Design and Analysis work performed in the last ten (10) years with current or former firm. For each project include:
 - i. Project location, route, and description
 - ii. Firm name (if other than applicant)
 - iii. Specific responsibility and role on each project.
- f. Other projects worked on that may be applicable

3. Projects Completed by Firm

The firm shall provide a minimum of three (3) projects completed within the last ten (10) years to show that they have the capability to perform basic and advanced drainage analysis. The description for each project shall include the following:

- a. Client and reference contact information
- b. Project location, route, and description including project purpose and need
- c. Standards used for Drainage Analysis and Design
- d. Firm's role on the project (prime or subconsultant and work performed)
- e. Current staff names involved with the project and roles

- f. Completion date of design
- g. Firm's design fee
- h. Performance evaluation documentation

4. Equipment and Software

The firm should have adequate resources to provide study results or other work products, as required for Advanced Drainage Analysis and Design. The following shall be listed:

- a. Advanced Drainage Analysis and Design software currently owned and used
- b. Specialty hardware used

(ADDED 12/19)

SURVEYING

The purpose of this prequalification is to determine if a firm has the capability to survey projects for KYTC. The firm shall submit prequalification document addressing the following requirements:

1. Personal

- a. The firm must demonstrate that the current staff has the knowledge and skills to survey for KYTC. Provide a resume for each individual that should be considered for this category. The firm must have at least one (1) professional land surveyor licensed in Kentucky. Each resume should contain the following:
 - i. Educational history
 - ii. Professional certifications
 - iii. Applicable training courses
 - iv. Applicable skills
 - v. Surveying projects worked on in the last ten years with current or former firm. For each project include:
 1. Project location, route, and description
 2. Firm name (if other than applicant)
 3. Specific responsibility and roles on each project
 - vi. Other projects worked on that may be applicable
- b. If the company uses UAS (Unmanned Aircraft Systems) to survey, then list number of certified UAS pilots, and all certifications that go along with UAS operations. Any use of this technology will follow FAA (Federal Aviation Administration) regulations. Also, list the drone brand(s) and model(s) being used for the surveying.
- c. The company shall provide its firm`s Kentucky State Board Professional Land Surveyors` License number.

2. **Equipment** - Adequate equipment to provide digital data and computer graphics necessary for modern surveying practices must be available. In this submittal, list all major company assets that are available to complete surveying projects for KYTC. A firm is to make a recommendation to the KYTC Project Manager for the best surveying procedure to use on a per project basis. A firm may use mobile LIDAR for point cloud collection if feasible. The firm will discuss scope with KYTC Project Manager before any work commences.

3. Projects

- a. The firm shall provide a minimum of three (3) projects completed within the last ten (10) years to show that they are capable of surveying projects for KYTC. The information for each project shall include the following:
 - i. If the project was a roadway:
 1. Location
 2. Route
 3. Linear Miles
 - ii. If the project was a site:
 1. Location
 2. Site
 3. Size of site in Acres
 - iii. If the project is out of state:

1. Include the contact information for an individual within that client that was directly responsible for that project.
2. The following is optional:
 - a. Performance evaluation documents
 - b. Letters from the agency addressing past performance or other similar documents
- iv. For all surveying projects:
 1. Method of surveying
 2. Estimated Completion date
 3. Brief description of project
 4. Company`s Role: Prime or Subcontractor
 5. Description of Company`s work
 6. Cost
 7. Client

If any other firm is hired to subcontract the installation of monumentation and perform control surveys, it is required that firm be on the KYTC prequalification list.

(REVISED 12/19)

PHOTOGRAMMETRY AND RELATED SERVICES

The purpose of this prequalification is to determine if a firm has the capability to conduct photogrammetry and related services for KYTC. The firm shall submit a prequalification document addressing the following requirements:

1. Personal

- a. The firm must demonstrate that current staff has the knowledge and skills to provide photogrammetry and related services. Provide a resume for each individual that should be considered for this category. The firm must have at least one (1) certified photogrammetrist who shall be on staff and be responsible for the coordination of work on projects. Each resume should contain the following:
 - i. Educational history
 - ii. Professional certifications
 - iii. Applicable training courses
 - iv. Applicable skills
 - v. Photogrammetry and related services worked on in the last ten years with current or former firm. For each project include:
 1. Project location, route, and description
 2. Firm name (if other than applicant)
 3. Specific responsibility and roles on each project
 - vi. Other projects worked on that may be applicable
- b. List number of certified pilots (Fixed Wing, and/or Helicopter)
- c. If the company uses UAS to survey, then list number of certified UAS pilots, and all certifications that go along with UAS operations. Any use of this technology must follow FAA regulations. Also, list the drone brand(s) and model(s) being used.

2. Equipment

- a. A firm shall have the necessary equipment to produce photographic mapping in accordance with current Cabinet CADD standards and format. In this submittal, list all major company assets that are available to complete photogrammetry projects for KYTC. A firm is to make a recommendation to the KYTC Project Manager for the best mapping procedure to use on a per project basis. A firm may use mobile LIDAR for point cloud collection if feasible. The firm will discuss the scope with KYTC Project Manager before any work commences.

3. Projects

- a. The firm shall provide a minimum of three (3) projects completed within the last ten (10) years to show that they have the capability of conducting photogrammetry and related services for KYTC. The information for each project shall include the following:
 - i. If the project was a roadway:
 1. Location
 2. Route
 3. Linear Miles
 - ii. If the project was a site:
 1. Location
 2. Site

3. Size of site in Acres
- iii. If the project is out of state:
 1. Include the contact information for an individual within that client that was directly responsible for that project.
 2. The following is optional:
 - a. Performance evaluation documents
 - b. Letters from the agency addressing past performance or other similar documents.
- iv. For all projects:
 1. Method
 2. Estimated Completion date
 3. Brief description of project
 4. Company`s Role: Prime or Subcontractor
 5. Description of Company`s work
 6. Cost
 7. Client

Note: If another firm is hired to subcontract the installation of monumentation and perform control surveys for the photogrammetry process, that firm is required to be on the KYTC prequalification list for Surveying.

(REVISED 12/19)

ADVANCED TRAFFIC ENGINEERING DESIGN AND MODELING

The purpose of this prequalification is to determine if a firm has the capability to perform advanced traffic engineering analysis for roadway design projects, including microsimulation and corridor signal analysis. The firm shall submit a prequalification document addressing the following requirements:

1. **KYTC Basic Traffic Engineering Design Course:** At least one (1) member of the firm must have attended the KYTC Basic Traffic Engineering Design course. Provide documentation for all staff that attended the course. To get course information, contact Adam Kirk with the Kentucky Transportation Center at his email address; adam@adamkirkpe.com.
2. The firm must have at least one (1) full-time staff member registered as a Professional Traffic Operations Engineer (PTOE). List the name(s) of individuals and date of certification.
3. Demonstrate staff experience in all of the following categories. Include a resume for each staff person that includes their specific training and role in applicable projects. There should be at least two (2) projects represented for each category. Each applicable staff person should have a minimum of four (4) years of experience in traffic engineering.
 - a. Traffic Operations Analysis
 1. Roadway capacity and traffic flow analysis
 - a. LOS, capacity, speed, travel time, throughput
 2. Intersection analysis (signalized, unsignalized, roundabout)
 - a. Delay, queue length
 3. Freeway operations
 - a. Merge, diverge, weave analysis, speed differential
 - b. Access Management
 1. New alignment
 2. Retrofit condition
 - c. Traffic Control Devices
 1. Traffic signing
 2. Signal progression
 - d. Traffic Engineering Studies
4. **Signal Systems Operations:**
 - a. Provide a resume for each staff member that has knowledge and experience in the design of traffic signal systems.
 - b. List and describe projects in which staff applied signal system design concepts.
 - c. Identify software owned by the firm and staff that has experience in applying that software for developing signal timing plans for progression.
 - d. Optionally, include experience in the operation, retiming, and maintenance of signal systems.
5. **Microsimulation Modeling:** A listing of preferred microsimulation software can be found on Highway Design's webpage under Resources » Software and Support. List microsimulation software packages owned by the firm.
 - a. Provide a resume for each staff member that has knowledge and experience in microsimulation.

- b. Include training and years of experience in using each software. Demonstrate staff member's proficiency in developing, calibrating, and using microsimulation models.
- c. List at least two (2) projects that current staff was involved in which microsimulation was used in the development of a highway design.
- d. Experience current staff had on projects with another firm or agency is acceptable. Include how the model was used to make project decisions and how it was used for public involvement (when applicable).

(REVISED 12/23)

VALUE ENGINEERING

The purpose of this prequalification is to determine if a firm has the capability to perform value engineering analysis for roadway and bridge design projects. The firm shall submit a stand-alone prequalification document or a distinct, separate section of a prequalification document addressing the following requirements:

1. Staffing

SAVE Certification: At least one member of the firm shall have attained the accreditation of Certified Value Specialist (CVS) through the SAVE International organization. List the name(s) of individuals and date of certification.

2. Projects Completed by Firm

Demonstrate staff experience in leading/conducting value engineering studies for transportation projects. Include a resume for each CVS who may lead transportation studies. Include example projects with demonstrative adopted recommendations.

3. Personnel

Include resumes of staff with CVS certification who will lead value engineering studies. Optionally, the firm may supplement their application with resumes of other staff who are transportation subject matter experts in areas such as roadway design, traffic engineering, constructability, etc. and are available to serve on value engineering studies.

(ADDED 12/21)

E-PLAN ROOM

The purpose of this prequalification is to determine if a firm has the capability to create and/or maintain an electronic web-based engineering content management system (ePlan Room) with reproduction and distribution services of engineering content.

I. Firm Experience

The firm shall demonstrate the ability to host a web-based interface for engineering content and provide a mechanism where KYTC clients can go online to view, download, and order hard copies of project content and electronic images, engineering data sets, geometric alignment information, three-dimensional terrain model content and other information pertaining to KYTC construction projects. The company should have the following relevant experience:

- A. Customized cloud based distribution systems
- B. Document and Planroom Management
- C. eComm Information Management
- D. Software and Database Development
- E. Cyber Security and Networking Firewall Management
- F. Printing software, file handling, and file conversion software
- G. High speed color and monochrome printing, scanning, and CD services

II. Equipment and Software

- A. The firm should have adequate resources to create, develop, and maintain an electronic web-based engineering content management system for an average type of project and to a format specified by in KYTC's current standards. The following shall be listed:
 - 1. Secure file transfer method to exchange files to and from KYTC
 - 2. Abide by KYTC Hard Copy Reproductive Standards
 - 3. Web Based Ordering and eFile System

III. Staffing

- A. The firm must demonstrate that current staff has the knowledge and skills to provide a web-based engineering content management system as described above. Provide a resume for each individual that should be considered for this category. Each individual resume should contain the following:
 - 1. Relevant projects completed
 - 2. Educational history
 - 3. Professional certifications
 - 4. Applicable training courses
 - 5. Applicable skills
 - 6. Web-based engineering content management system projects worked on in the last ten (10) years with current or former firm
 - 7. Other projects worked on that may be applicable
- B. Contact information (name, email, phone number) for a person in your firm to answer questions about the application.
- C. The firm must have staffing adequate to have phone accessibility for file revisions or order placement from 8:00 AM to 5:00 PM EST, Monday through Friday, excluding approved holidays.

(ADDED 1/22)

Intelligent Transportation Systems (ITS) (502-764-0526)

ITS: ARCHITURE DEVELOPMENT

Concept – Niche service consultant who can take a vision of concept and develop an ITS architecture.

This category of work is defined as the research, planning, design and development of ITS Architectures for multi-state, statewide, regional, corridor, or project planning. A firm petitioning to become prequalified in this area shall demonstrate competence in and be capable of providing the following:

- Identification of key stakeholders and their interrelationships including data collection and analysis;
- Description of the required activities or functions;
- Description of the interconnections and interdependencies between functions;
- Definition of a blueprint for the integration of all systems; and
- Completion of proposed architecture.

The firm shall employ:

- A minimum of one (1) professional engineer with a background in transportation and traffic engineering and experienced in the activities associated with the researching, planning, designing, and development of ITS Architectures who maintains the appropriate technology awareness and proficiency;
- Additional professionals with backgrounds in electrical and systems engineering, human factors, public relations, group facilitation, computer science, and systems integration sufficient to perform the contracted services who maintain the appropriate technology awareness and proficiency;
- Additionally, the firm shall have a member of the project team who has completed the four USDOT ITS Architecture Use & Maintenance training courses or updated equivalents. The firm should own and have used the Turbo Architecture.

(REVISED 1/17)

ITS: SYSTEM DESIGN, DEPLOYMENT AND INTEGRATION

Concept - Full service consultant who can take a study, concept or design and develop/build an application/project to maturity and continue to operate the system.

A firm petitioning to become prequalified in this area shall demonstrate competence in, and be capable of providing the following technical capacity, necessary engineering and related services in each of the following areas:

- Emergency Technologies
- Project Design
- Systems Engineering Analysis
- Project Management
- Systems Integration and Communications
- Project Installation
- Project Management
- Project Equipment Procurement
- Software/Development/Modification
- Operations
- Training

The firm shall employ:

- A minimum of one (1) professional engineer with a background in transportation/traffic engineering and experienced in the activities associated with the development, management and operations of related advanced transportation technologies, and who maintains the appropriate technology awareness and proficiency.
- Additional professionals with backgrounds in electrical and/or systems engineering, human factors, computer science, system communications and systems integration sufficient to perform the contracted services, and who maintain the appropriate technology awareness and proficiency.

The firm must show a capability/understanding of the:

- Problem areas and risk factors and their interrelationships
- Required activities or functions to complete a design
- National and KYTC design and ITS Standards
- Integration and development of the system
- Deployment of the technology system
- Additionally, the firm shall have a member of the project team who has completed the four USDOT ITS Architecture Use & Maintenance training courses or updated equivalents.

(REVISED 1/17)

ITS: SYSTEM MAINTENANCE, MANAGEMENT AND OPERATIONS

Concepts – Full Service consultant who can Maintain, Manage, and Operate Existing Systems.

This category of work is defined as the management and operation of advanced transportation/technology systems.

A firm petitioning to become prequalified in this area shall demonstrate competence in and be capable of providing the following:

- Actions necessary for the proper functioning of the system and integration new assets as needed (Operations);
- Actions performed on an as-needed basis (Response Maintenance);
- Actions performed on a regularly scheduled basis (Preventative Maintenance);
- Actions invoked to correct a recurring problem (Design and System Modification); and
- Resources allocated for the proper functioning of the system (Management).

The firm shall employ:

- A minimum of one (1) Professional Engineer licensed in Kentucky with a background in transportation and traffic engineering, is experienced in the activities associated with the management and operation of transportation technology/systems, and who maintains the appropriate technology awareness and proficiency;
- Additional professionals with backgrounds in electrical and system engineering, transportation and traffic engineering, human factors, system communications, computer science, and systems integration sufficient to perform the contracted services, and who maintain the appropriate technology awareness and proficiency;
- Additionally, the firm shall have a member of the project team who has completed the four USDOT ITS Architecture Use & Maintenance training courses or updated equivalents.

(REVISED 1/17)

ITS: TECHNOLOGY/SYSTEM EVALUATION

Concept - Niche service Consultant who can research and evaluate advanced technology/systems.

This category of work is defined as the independent research and evaluation of advanced transportation technology/systems in accordance with applicable project evaluation guidelines.

A firm petitioning to become prequalified for ITS Technology/System Evaluation shall employ:

- A minimum of one (1) Professional Engineer with a background in transportation and traffic engineering, is experienced in the activities associated with the researching, planning, designing and development of ITS projects and new technologies, and who maintains the appropriate technology awareness and proficiency;
- Additional Professionals with backgrounds in electrical and systems engineering, human factors, transportation planning, group facilitation, system communications, computer science and systems integration sufficient to perform the contracted services, and who maintain appropriate technology awareness and proficiency;
- The firm must have access to and the ability to use tools such as the ITS Deployment Analysis System (IDAS) model. Additionally, the firm shall have a member of the project team who has completed the four USDOT ITS Architecture Use & Maintenance training courses or updated equivalents.

(REVISED 1/17)

Division of Maintenance - Bridge Maintenance Branch (502-564-4556)

IN-DEPTH STRUCTURE INSPECTION

To be pre-qualified for in-depth inspection, the consultant must meet the following requirements:

- Demonstrate experience with performing inspections for NBIS purposes, or demonstrate an understanding of NBIS requirements for such inspections by demonstrating knowledge of the current edition of FHWA Bridge Inspector's Reference Manual (BIRM), the current edition of the AASHTO Manual for Bridge Evaluation, the current edition of the AASHTO Manual for Bridge Element Inspection and the Recording and Coding guide for Structural Inventory and Appraisal of the Nations Bridges, and the current edition of the Specifications for the National Bridge Inventory (SNBI); and
- Demonstrate an understanding of the access and traffic control requirements of conducting such inspections by providing a narrative describing what types of access equipment might be required and how traffic control would be handled (which should identify whether these can be provided in house or obtained through other means)
- Have adequate staff, who meet minimum requirements for qualification for Team Leader or Program Manager as set forth in National Bridge Inspection Standards (23 CFR 650 C), to be present in each area of operation during all phases of inspection and condition reporting. (A copy of a certificate of successful completion of a FHWA-approved comprehensive bridge inspection training course, a successful completion of an 18 hour FHWA-approved bridge inspection refresher training course over each 60 month period, and a successful completion of a FHWA-approved training course on the inspection of NSTMs (previously defined Fracture Critical) will be required for each Team Leader for inspection.)
- Have adequate inspection staff trained for element level condition reporting in AASHTOWARE Bridge Management (BrM) software used by KYTC; and
- Have available computer hardware for installation of KYTC's BrM software.
- Have adequate staff, meeting team leader qualifications under NBIS, to perform inspections within prescribed frequencies described in scope of work.
- Have available trained staff for performing Non Destructive Testing (Dye Penetrate and Magnetic Particle)

UNDERWATER STRUCTURE INSPECTION

To be prequalified for underwater structure inspection, the consultant must meet the following requirements:

- Meet all the minimum criteria of and be prequalified for In-Depth Structure Inspection.
- Have a staff member who is a Kentucky licensed professional engineer and a certified diver; all underwater inspections are required to be performed by a professional engineer.
- Have adequate staff, who meet minimum requirements for qualification for Underwater Bridge Inspection Diver (23 CFR 650 C), to be present in each area of operation during all phases of inspection and condition reporting. (A copy of a certificate of successful completion of a FHWA-approved underwater bridge inspection training will be required for each underwater bridge inspection diver.)

(REVISED 12/23)

TUNNEL INSPECTION

To be pre-qualified tunnel inspection, the consultant must meet the following requirements:

- Demonstrate experience with performing inspections for NTIS purposes, or demonstrate an understanding of NTIS requirements for such inspections by demonstrating knowledge of current edition of the Specifications for the National Tunnel Inventory (S.N.T.I.) and the Tunnel Operations, Maintenance, Inspection, and Evaluation Manual (TOMIE) as set forth in 23 CFR 650.5.
- Have adequate staff who meet requirements for qualification of National Certified Tunnel Inspector as set forth in the National Tunnel Inspection Standards (23 CFR 650.5). This must be evidenced by submitted documentation including: NHI 130110 "Tunnel Safety Inspection" course completion certificate, Professional Engineer Licensure, Engineer in Training Certificate, and/or documented tunnel/bridge inspection experience.
- Have inspection staff trained for element level condition reporting.
- Have adequate staff, meeting Team Leader qualifications under NTIS, to perform inspections within prescribed frequencies described in scope of work.
- Have adequate staff to perform inspections of specialized complex tunnel systems, such as: ventilation, mechanical, electrical and fire protection systems.

(REVISED 12/23)

**Division of Maintenance – Permits Branch
(502-564-4556)**

LANDSCAPING ARBORICULTURE SERVICES

To be pre-qualified in Landscaping Arboriculture Services, firms must meet the following requirements:

Experience:

The firm must demonstrate knowledge and prior experience with developing vegetation management plans. The firm must demonstrate a history of providing expertise for complex arboriculture issues. The firm must demonstrate a history of performing arboriculture services in accordance with industry standards as defined by the International Society of Arboriculture, American Society of Consulting Arborists, and all federal, state, and local regulations. The firm must have the ability to perform arm's length field inspections. The firm must be capable of submitting pdf files of typed written reports, spreadsheets, and scaled drawings. The firm must be capable of recording and submitting detailed vegetation inventories, which must include GPS locations and digital photographs of individual plants and trees.

Firms that have not previously submitted accepted vegetation plans to the Department of Highways may be required to submit sample vegetation plans developed by the firm or arborists employed by the firm.

Staffing:

Include resumes for each key individual indicating their specific training, experience, related certifications, and applicable past projects. Additionally, the firm must have at least one (1) employee that holds current status as an International Society of Arboriculture (ISA) Certified Arborist at all times throughout the period of prequalification. Submit proof of certification for each individual that holds ISA Certification.

(ADDED 12/19)

**Division of Planning
(502-564-7183)**

CONCEPTUAL TRANSPORTATION PLANNING SERVICES

A firm shall provide evidence to the Kentucky Transportation Cabinet of:

- (1) knowledge of acceptable transportation planning practices;
- (2) prior experience in the last ten years in transportation planning activities to include:
 - collection or acquisition, processing, and presentation of transportation-related data; and
 - analysis of transportation-related data; and
 - public involvement; and
 - financial analysis to identify and evaluate funding priorities and options for proposed improvements.
- (3) at least one (1) staff member who is certified by the American Institute of Certified Planners (AICP) OR one (1) staff member who is a licensed professional engineer.

Information relating to past experience in those areas listed above shall be submitted for the firm's current staff. This information should include applicable education, training, and work experience. The employees in the firm primarily responsible for the project should be identified and their roles should be clearly explained.

Prequalification in Conceptual Planning Services does not permit a firm to offer engineering services unless those services are offered by an engineer who is a licensed professional engineer in Kentucky.

Projects shown in a firm's experience that are not for the Kentucky Transportation Cabinet shall include the name of an individual directly responsible for the project, and any performance evaluations or other documentation received at the conclusion of the project.

In addition, a minimum of one (1) report by the firm shall be submitted showing evidence of the requirements in Item 2. The firm shall provide a listing of all equipment available for the development of product deliverables; including hardware and software, and demonstrate the firm's knowledge and previous use of data collection, mapping and/or other equipment and programs, as needed.

(ADDED 1/20)

TRANSPORTATION PLANNING ENGINEERING

A firm shall provide evidence to the Kentucky Transportation Cabinet of:

- (1) knowledge of acceptable transportation planning practices; and
- (2) prior experience in the last ten years in transportation planning activities to include:
 - collection or acquisition, processing, and presentation of transportation-related data;
 - analysis of transportation-related data;
 - traffic forecasting;
 - development of a draft purpose and need statement;
 - identification of transportation deficiencies and needs;
 - development and evaluation of improvement concepts to meet identified needs;
 - preparation of cost estimates for proposed improvements;
 - selection and scheduling of recommended improvements;
 - public involvement, including Local Officials/Stakeholders and public engagement and outreach; and
 - financial analysis to identify and evaluate funding priorities and options for proposed improvements.
- (3) at least two (2) staff members who are licensed professional engineers OR one (1) staff member who is a licensed professional engineer AND one (1) staff member who is certified by the American Institute of Certified Planners (AICP)

Information relating to past experience in those areas listed above shall be submitted for the firm's current staff. This information should include applicable education, training, and work experience. The employees in the firm primarily responsible for the project should be identified and their roles should be clearly explained.

Prequalification in Transportation Planning Engineering Services does not permit a firm to offer engineering services unless those services are offered by an engineer who is a licensed professional engineer in Kentucky.

Projects shown in a firm's experience that are not for the Kentucky Transportation Cabinet shall include the name of an individual directly responsible for the project, and any performance evaluations or other documentation received at the conclusion of the project.

In addition, a minimum of one (1) report by the firm shall be submitted showing evidence of the requirements in Item 2. The firm shall provide a listing of all equipment available for the development of product deliverables; including hardware and software, and demonstrate the firm's knowledge and previous use of data collection, mapping and/or other equipment and programs, as needed.

(REVISED 12/19)

ADVANCED TRANSPORTATION PLANNING ENGINEERING

A firm shall provide evidence to the Kentucky Transportation Cabinet of:

- (1) knowledge of acceptable transportation planning practices; and
- (2) prior experience in the last ten years in the following; and:
 - (a) multimodal transportation planning at the project and systems level, to include:
 - collection or acquisition, processing, and presentation of transportation-related data;
 - forecasts of traffic and/or other transportation-related data;
 - analysis of transportation-related data;
 - development of a draft purpose and need statement;
 - identification of transportation deficiencies and needs;
 - development and evaluation of improvement concepts to meet identified needs;
 - preparation of cost estimates for improvements;
 - selection and scheduling of recommended improvements; and
 - public involvement, including Local Officials/Stakeholders and public engagement and outreach.
 - (b) economic analysis to evaluate the economic justification of proposed improvements, with emphasis on identifying and comparing all costs and benefits, including:
 - facility management and maintenance costs and benefits;
 - user costs and benefits;
 - social and environmental costs and benefits due to business transfers and the generation of new business, including land use changes;
 - as well as subsequent impacts developed through econometric modeling or other economic tools, as appropriate; and
 - (c) financial analysis to identify and evaluate all possible funding options to determine the financial feasibility of proposed improvements.
- (3) at least two (2) staff members who are licensed professional engineers OR one (1) staff member who is a licensed professional engineer AND one (1) staff member who is certified by the American Institute of Certified Planners (AICP)

Information relating to past experience in those areas listed above shall be submitted for the firm's current staff. This information should include applicable education, training, and work experience. The employees in the firm primarily responsible for the project should be identified and their roles should be clearly explained.

Prequalification in Advanced Transportation Planning Engineering Services does not permit a firm to offer engineering services unless those services are offered by an engineer who is a licensed professional engineer in Kentucky.

Projects shown in a firm's experience that are not for the Kentucky Transportation Cabinet shall include the name of an individual directly responsible for the project, and any performance evaluations or other documentation received at the conclusion of the project.

In addition, a minimum of one (1) report prepared by the firm shall be submitted showing evidence of the requirements listed in Item 2. If a firm does not have the required experience in economic analysis, they may acquire it through an outside source. In this case, the experience of the outside source must be documented, along with a sample report showing evidence of the required experience. A brief explanation of the anticipated contractual arrangements between the firm and the source of the econometric analysis experience should be documented.

The firm shall provide a listing of all equipment available for the development of product deliverables, including hardware and software, and document or demonstrate the firm's knowledge and previous use of data collection, mapping, and/or other equipment and programs, as needed.

(REVISED 12/19)

ROAD CENTERLINE DATA COLLECTION - A firm needs to demonstrate its ability to utilize Global Positioning System (GPS) receivers and aerial orthoimagery to create geospatial polylines and points. The firm must demonstrate proficiency of performing both of these methods and determine if a firm has the ability to collect geospatial transportation features for KYTC. The firm shall submit evidence of its ability to meet the following requirements:

1. GPS Collection and Processing

- The firm shall provide a listing of the specific equipment and software in its possession that would be used to collect and process GPS data.
 - The GPS receiver(s) must be certified by the manufacturer to have the capability of obtaining sub-meter horizontal accuracy after post-processing or real-time correction.
 - The software must be compatible with the GPS equipment and capable of generating polyline and point features in shapefile or file geodatabase format.
- The firm shall provide a narrative that proves its ability to repeatedly satisfy KYTC's horizontal accuracy standard of 0.5 to 2 meter relative positional error at the 95% confidence level.

2. Aerial Orthoimagery Digitizing

The firm shall provide a listing of the specific geospatial software in its possession that would be used to digitize polyline and point features over orthoimagery basemaps.

3. Personnel

The firm shall demonstrate that current staff members have the knowledge and skills to provide these services for KYTC. Resumes must be provided for each individual that could potentially perform work in this category. Each individual's resume must contain the following:

- Educational history
- Applicable professional certifications
- Applicable training received
- Applicable skills
- Related work experience

4. Related Projects

The firm shall provide a minimum of three (3) related projects completed within the last five years that demonstrate its capability to provide these services for KYTC. There must be a minimum of one (1) project utilizing each of the aforementioned collection techniques to prove competency for both methods. The description of each project must include the following:

- Client name
- Contract amount
- Location of the features collected
- Type and number of features collected
- Equipment and software used
- Procedures for collecting features, including Quality Assurance and Quality Control measures
- Participating personnel

(REVISED 12/19)

TRAFFIC DATA COLLECTION

A firm shall provide evidence of:

1. the firm's knowledge of acceptable traffic data collection practices.
2. a listing of the firm's current staff members and their prior experience collecting traffic data.
3. a listing of the firm's previous completed projects in which they collected traffic data.
4. a listing of all equipment used for traffic data collection owned by the firm.

Information relating to past experience in those areas listed above shall be submitted for the firm's current staff. This information should include applicable education, training, and work experience. The employees in the firm primarily responsible for the traffic data collection should be identified and their roles should be clearly explained.

Projects shown in a firm's experience that are not for the Kentucky Transportation Cabinet shall include the name of an individual directly responsible for the project, and any performance evaluations or other documentation received at the conclusion of the project. The firm shall provide a listing of all equipment available for the development of product deliverables; including hardware and software, and demonstrate the firm's knowledge and previous use of data collection, mapping, and/or other equipment and programs, as needed.

Traffic data includes Volume, Axle Classification, Speed and Length Data. It is to be collected according to the guidelines set forth in the current edition of the Federal Highway Administration's (FHWA) Traffic Monitoring Guide (TMG). Equipment used by the Kentucky Transportation Cabinet (KYTC), Division of Planning, is the Peek ADR Traffic Data Recorders.

Data is to be provided to KYTC in the following formats:

- ADR binary files (if Peek ADR Traffic Data Recorders are used);
- Peek's Daily; and

Classification Data

Axle classification data is to be collected using FHWA Scheme "F" 13 plus 2 bins are as follows:

- Motorcycles
- Passenger Cars - All sedans, coupes and station wagons
- Other Two (2)-Axle, Four (4)-Tire Single Unit Vehicles excluding passenger cars.
- Buses - buses with two (2) axles and six (6) tires or three (3) or more axles
- Two (2)-Axle, Six (6)-Tire Single Unit Trucks
- Three (3)-Axle Single Unit Trucks
- Four (4) or More Axle Single Unit Trucks
- Four (4) or Less Axle Single Trailer Trucks
- Five (5)-Axle Single Trailer Trucks
- Six (6) or More Axle Single Trailer Trucks
- Five (5) or Less Multi-Trailer Trucks
- Six (6)-Axle Multi Trailer Trucks
- Seven (7) or More Axle Multi-Trailer Trucks

- (reserved for future)
- Unknown vehicles

Speed Data

Speed data is to be collected in 13 bins. Bins are as follows:

- <25 MPH
- 25 - 29 MPH
- 30 - 34 MPH
- 35 - 39 MPH
- 40 - 44 MPH
- 45 - 49 MPH
- 50 - 54 MPH
- 55 - 59 MPH
- 60 - 64 MPH
- 65 - 69 MPH
- 70 - 74 MPH
- 75 - 79 MPH
- >80 MPH

Speed data can be collected at any classification site.

Length Data

Length data is to be collected in four (4) bins. Bins are as follows:

- <25 Feet
- 25 to 49.9 Feet
- 50 to 54.9 Feet
- >54.9 Feet

Length data can be collected at any classification site.

TRAFFIC FORECASTING A firm shall provide evidence to the Cabinet of:

1. Knowledge and experience in the development of forecasts for various project phases, and generally accepted traffic forecasting parameters.
2. Knowledge and experience with generating DHV, PHF, K-factors, D-factors, truck percentages as well as turn movement development from manual and automatic counts.
3. Knowledge and experience in the use of traffic demand models for appropriate forecasting studies.
4. Experience in the analysis of outputs from traffic modeling software such as our preferred software, TransCAD and simulation software such as TransModeler (a Caliper product).
5. A professional engineer licensed in Kentucky with experience in traffic forecasting as defined herein who will be directly involved with the proposed work.
6. Availability of and experience to collect traffic data that may be necessary for the purpose of completing a forecast. Data shall be in a format that is compatible with the Cabinet's existing database.
7. Traffic forecasting experience shall include pavement design forecasts, estimation of residual traffic, forecasts for turn lane geometries, bypass studies, interchange justification studies, road user cost analysis for detours, environmental analysis forecasts, and interchange studies.
8. Subconsultants shall be prequalified in their proposed work.

Information relating to past experience in those areas listed above shall be submitted for the firm's current staff. This information should include applicable education, training, and work experience. The employees in the firm primarily responsible for the project should be identified and their roles should be clearly explained.

Signal timing studies, traffic impact studies, project scoping studies, micro-simulation studies, level of service (LOS) analysis, as well as environmental and design work will not be considered as experience for traffic forecasting studies. Any qualifying experience contained in these types of work shall be specifically identified in the request for prequalification.

Qualifying experience should be within the last five (5) years and the work should have been performed for the Kentucky Transportation Cabinet, another state highway agency, the Federal Highway Administration, a metropolitan planning organization, or major local public works agency. KYTC's assessment of staff capabilities and overall performance on previous work known to Cabinet staff, including quality of work and timely completion, will also be considered.

Projects shown in a firm's experience that are not for the Kentucky Transportation Cabinet shall include the name of an individual directly responsible for the project, and any performance evaluations or other documentation received at the conclusion of the project.

In addition, a minimum of one (1) report by the firm shall be submitted showing evidence of the above requirements. The firm shall provide a listing of all equipment available for the development of product deliverables; including hardware and software, and demonstrate the firm's knowledge and previous use of data collection, mapping, and/or other equipment and programs, as needed.

(REVISED 1/20)

TRAVEL DEMAND AND SIMULATION MODELING

A firm shall provide evidence to the Kentucky Transportation Cabinet of:

1. Knowledge and experience in the development of comprehensive regional, county, and community travel demand models.
2. Knowledge and experience in the development and analysis of existing and future networks.
3. Knowledge and experience in the development and analysis of simulation models for traffic operational studies.
4. Knowledge about the current KYTC Microsimulation Guidelines document and the ability to use the software specific seed files provided with the document.
5. Availability of and experience with state-of-the-art traffic modeling software such as our preferred software, TransCAD (a Caliper product), with Vissim as the only alternative software option.
6. Availability of and experience with state-of-the-art simulation modeling software such as our preferred software, TransModeler (a Caliper product).
7. Experience in the development and calibration/validation of traffic demand or simulation models.
8. Availability of GIS software and experience with mapping and transportation related applications.
9. Ability to collect/acquisition, process, analyze, and present population and socio-economic travel demand model related data.
10. Ability to collect traffic data that may be necessary for the purpose of model calibration. Data shall be in a format that is compatible with the Cabinet's existing database.
11. Experience in the use of traffic demand models
 - a) For analysis of existing and future networks;
 - b) For development of traffic operational plans
 - c) For creation of long-range transportation plans
12. Sub-consultants shall be pre-qualified in their proposed work.

Information relating to past experience in those areas listed above shall be submitted for the firm's current staff. This information should include applicable education, training, and work experience. The employees in the firm primarily responsible for the project should be identified and their roles should be clearly explained.

Qualifying experience should be within the last five (5) years and the work should have been performed for the Kentucky Transportation Cabinet, another state highway agency, the Federal Highway Administration, a metropolitan planning organization, or major local public works agency. KYTC's assessment of staff capabilities and overall performance on previous work known to Cabinet staff, including quality of work and timely completion, will also be considered.

Projects shown in a firm's experience that are not for the Kentucky Transportation Cabinet shall include the name of an individual directly responsible for the project, and any performance evaluations or other documentation received at the conclusion of the project.

In addition, a minimum of one (1) report by the firm shall be submitted showing evidence of the above requirements. The firm shall provide a listing of all equipment available for the development of product deliverables; including hardware and software, and

demonstrate the firm's knowledge and previous use of data collection, mapping, and/or other equipment and programs, as needed.

(REVISED 12/21)

PEDESTRIAN & BICYCLE FACILITY PLANNING & DESIGN

A firm shall provide evidence to the Kentucky Transportation Cabinet of:

1. Firm Experience: The level of knowledge and experience shall be demonstrated by providing information about projects in all of the categories listed below. It is helpful to include the role of the firm and some detail about pedestrian and bicycle facility planning or design aspect of the project. Also, include experience current staff has had on projects with another firm or agency. For work performed for clients other than the Kentucky Transportation Cabinet, include the contact information of the individual directly responsible for managing the project.

- a. Complete Streets is an approach to planning, designing, and building streets that enables safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. KYTC has adopted a Complete Streets, Roads, and Highways Policy and firm should show experience in planning Complete Streets.
- b. Master Planning: Creation of a city, county, or regional master plan for bicycle or pedestrian facilities.
- c. Roadway Project Scoping: Involvement in the process of examining the pedestrian and bicycle needs as part of corridor study screening and final determination on the appropriate pedestrian and bicycle facilities.
- d. Roadway Project Design: Design of bicycle lanes, shared-use paths, sidewalks and other pedestrian and bicyclist amenities as part of a roadway or highway design project.
- e. Streetscape Project Planning and Design: Pedestrian design that fits the urban context and includes pedestrian amenities in addition to sidewalks.
- f. Off-road Project Planning and Design: Planning and design of standalone shared-use paths and other amenities, not included in a roadway project.
- g. Other Experience: specialized pedestrian and bicycle design such as that in private development or local planning and zoning standards that demonstrates the firm's understanding of pedestrian and bicycle facility planning and design. Performance evaluations from previous work are helpful.

2. Staffing: The number of professionals, their direct experience, and their knowledge should be demonstrated as part of the application. The following information is required:

- a. List all planners, engineers, landscape architects, and other professionals involved in pedestrian and bicycle facility planning and design. Indicate whether full or part time. For each staff member, include the following:
 - i. Name
 - ii. List educational, professional and relevant training credentials.
 - iii. List applicable projects and the staff member's direct role on each project. Projects from a previous company or agency may be applicable.
 - iv. List years of experience in pedestrian and bicycle planning and/or design.
 - v. Other information that demonstrates their knowledge in pedestrian and bicycle facilities.
 - vi. The firm shall have at least one (1) Professional Engineer licensed in KY and that has worked on or supervised a bicycle and pedestrian facility.
 - vii. At least one (1) member of the firm must have attended or registered for a future KYTC Complete Streets, Roads, and Highways Manual Training course and provide documentation for all staff that attended the course.

3. Equipment & Software: List any specialized equipment or software owned by the firm that has been used as part of applicable projects and the staff that has expertise for each.

(REVISED 12/23)

Division of Right of Way & Utilities (502-564-3210)

RIGHT OF WAY ACQUISITION SERVICES AND RELOCATION SERVICES

The Division Right of Way and Utilities has established the following consultant prequalification criteria for Right of Way Acquisition Services and Relocation Services.

Right of Way Consultants - In order to respond to advertised projects, a firm must submit their request to Professional Services and become pre-qualified by the Division Of Right of Way prior to the response due date. Criteria for being placed on the Cabinet's pre-qualified list of Right of Way Acquisition consultants are as follows:

Firm: A firm shall have a Project Manager, a Level III Relocation Agent, and at least two (2) buyers who are on staff or committed to working exclusively for the firm. One (1) of these buyers must meet the minimum requirements of a Level III Agent. The second buyer may be a Level I, or Trainee.

Project Manager: A firm shall have a Project Manager who is either on staff or committed to working exclusively for that firm. To qualify as Project Manager, the individual must have a minimum of six (6) years of experience in managing complex Right of Way acquisition, relocation, and a general knowledge and understanding of appraising under the laws of eminent domain, with demonstrated management skills. The project manager must also possess a clear understanding of current KYTC Right of Way Policies and Procedures and Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act). The Acquisition Branch Manager and Relocation Branch Manager will review all requests for Project Manager Status and a prequalification questionnaire must be completed before approval is given. In addition, three (3) hours of Continuing Education on a Right of Way related topic must be completed prior to start of the questionnaire. The completion certificate of Continuing Education must be presented prior to taking the exam. A firm may have more than one prequalified Project Manager on staff but they shall not perform dual roles on an assigned project; therefore, he/she cannot appraise, acquire, or relocate Right of Way parcels on the same project in which they are managing. The status of a Project Manager will be effective for a two (2) year period. After the two (2) year period, a Project Manager must requalify to have active status.

Project Manager Trainee: is an individual who has six (6) years of experience in complex Acquisitions, Relocation and a general knowledge and understanding of appraisals but has no experience in managing complex Right of Way projects. A Project Manager Trainee must work directly under an approved KYTC Project Manager and successfully manage multiple complex projects to be considered for Project Manager status.

Conditional Prequalification

A firm can be prequalified without a Project Manager, if it has the same level of Agent staffing/commitments required. However, they shall not be assigned a highway project exclusively due to the lack of Project Management oversight but would assist the Prime Contractor in a supporting role.

A firm that has been prequalified without a Project Manager should have someone on staff assigned as a Project Manager Trainee and who is actively pursuing a Project Manager qualification.

Level III Acquisition Agent: is an individual with a minimum of four (4) years of recent experience in buying under the laws of eminent domain and capable of handling multiple complex acquisition issues.

Level II Acquisition Agent: is an individual with a minimum of two (2) years of recent experience in buying under the laws of eminent domain and capable of handling complex acquisition issues.

Level I Acquisition Agent: is an individual with a minimum of one (1) year of experience in buying under the laws of eminent domain and capable of handling minor acquisitions and non-complex issues.

Acquisition Agent Trainee: is an individual who meets the minimum qualifications but has no experience in acquiring right of way under the laws of eminent domain. To be considered as a trainee, an individual must be a graduate of a college or university with a bachelor's degree. Experience in writing real estate appraisals, Right of Way negotiations, or relocation assistance, all of which must have been under the laws of eminent domain, and work directly under a Project Manager and/ or a Level III Buyer for a period of three (3) years, will substitute for the required education on year-for-year basis.

Relocation Assistance Level III Relocation Agent: is an individual with a minimum of four (4) years of recent experience in Relocation Assistance under the Uniform Relocation Assistance and Real Property Acquisitions Act of 1970, as amended, and capable of handling multiple complex residential and non-residential relocation issues. This includes project management and review of projects where these complex residential and non-residential relocation issues existed.

Level II Relocation Agent: is an individual with a minimum of two (2) years of recent experience in Relocation Assistance under the Uniform Relocation Assistance and Real Property Acquisitions Act of 1970, as amended, and capable of handling complex relocation issues.

Level I Relocation Agent: is an individual with a minimum of one (1) year of experience as a Relocation Agent Trainee under the laws of eminent domain and capable of handling minor relocation files and noncomplex issues.

Relocation Agent Trainee: is an individual who has no experience in relocation under the laws of eminent domain and meets the requirements of a Level I Acquisition Agent. To be considered as a trainee, an individual must be a graduate of a college or university with a bachelor's degree. Experience in Right of Way acquisitions, all of which must have been under the laws of eminent domain and work directly under a Project Manager and/ or a Level III Relocation Agent for a period of three (3) years will substitute for the required education on year for year basis.

- When submitting prequalification applications or renewals, provide a detailed resume that satisfies the requirements needed for the position being applied for (Education, years of experience, number of parcels acquired/relocated,

type/complexity of parcels relocated, name and item number of project along with time frame).

Example:

John/Jane Doe

1-1234.00 - approximate start and end date of project

225 total project parcels

John/Jane Doe acquired 87 parcels including 47 Appraisals, and 40 MAR's

John/Jane Doe relocated 23 parcels including 15 commercial, 5 residential, 3 misc. move

All Independent Fee Acquisition Buyers or Relocation Assistance Persons must be associated with only one (1) qualified firm in order to be considered for pre-qualification. A Fee Acquisition and/or Relocation Assistance Person may work as a Sub Consultant for another prequalified firm on a project by project basis upon receiving prior approval from Central Office Right of Way by request from the Consulting Firm who was awarded the project.

For any individual or firm proposed to perform work in any of the above disciplines who is not a direct salaried employee or a subsidiary, there must be a signed letter of intent included in the submission.

If there is any change in staff, the Consultant is to notify KYTC Central Office Right of Way immediately.

INSURANCE: Vendors must have Workers' Compensation and Liability Insurance as required by the Division of Professional Services. (For more information, see the *Prequalification Actions* on page 5 above).

Continuing Education Requirement

All Consultant Project Managers, Acquisition Agents and Relocation Agents shall complete three (3) hours of Continuing Education on a Right of Way related topic each year. Completion Certificates shall be submitted to the appropriate Branch Manager by December 31 of each year.

(REVISED 12/23)

UTILITY DESIGN: WATER AND SEWER LEVEL 1

The purpose of this prequalification is to determine if a firm has the capability to perform engineering design for the relocation of **water and sewer** utilities to accommodate transportation project construction. The firm shall submit a prequalification document addressing the following requirements:

1. The firm shall submit two (2) or three (3) projects that they have led the design for each of the below design elements. There shall be a full description of the work and a listing of applicable active employees with their role in the project. Each project should note whether the firm was the prime consultant or a sub consultant.
 - a. **Gravity distribution sanitary sewer main**
 - b. **Pressurized distribution water main**
 - c. **Structures (manholes, valves, valve boxes, basin, restrained joints, thrust blocks)**
 - d. **Water/Wastewater property service line**
2. The firm shall provide a one (1) page biography of active staff that will be used for KYTC initiated-projects. It shall have at least one (1) Professional Engineer licensed in Kentucky with qualifying experience. The biography should list relevant training and experience. Experience should include pertinent utility projects only, the years the work was completed, and the individual's role in each project (i.e. project manager, designer, etc.) Experience for staff may include work with another firm or agency.
3. The firm shall demonstrate knowledge on use of utility company standards and requirements. It shall also demonstrate an understanding of easement width, description, and clearance requirements for the specified utility type.
4. The firm shall have at least one (1) active staff member explicitly identified to lead this prequalification activity. This staff member shall be dedicated to work on KYTC project activities. The firm's one staff member identified as a dedicated designer performing this work shall attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and received accompanying certification to practice. Proof of valid and current certification must be provided with the application. We recommend all staff members performing this work attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and receive accompanying certification to practice. To get information about the course, contact Jennifer McCleve at Jennifer.McCleve@ky.gov.

(REVISED 2/24)

UTILITY DESIGN: WATER AND SEWER LEVEL 2

The purpose of this prequalification is to determine if a firm has the capability to perform engineering design for the relocation of **water and sewer** utilities to accommodate transportation project construction. The firm shall submit a prequalification document addressing the following requirements:

1. The firm must be prequalified for Utility Design: Water and Sewer Level 1.
2. The firm shall submit two (2) or three (3) projects that they have led the design for each of the below design elements. There shall be a full description of the work and a listing of applicable active employees with their role in the project. Each project should note whether the firm was the prime consultant or a sub consultant.
 - a. **Gravity transmission sanitary sewer main**
 - b. **Force main sanitary sewer**
 - c. **Pressurized transmission water main**
 - d. **Transmission structure (manhole, box, basin) valve, and fitting**
 - e. **Pump/lift station**
3. The firm shall provide a one (1) page biography of active staff that will be used for KYTC initiated-projects. It shall have at least one (1) Professional Engineer licensed in Kentucky with qualifying experience. The biography should list relevant training and experience. Experience should include pertinent utility projects only, the years the work was completed, and the individual's role in each project (i.e. project manager, designer, etc.) Experience for staff may include work with another firm or agency.
4. The firm shall demonstrate knowledge on use of utility company standards and requirements. It shall also demonstrate an understanding of easement width, description, and clearance requirements for the specified utility type.
5. The firm shall have at least one (1) active staff member explicitly identified to lead this prequalification activity. This staff member shall be dedicated to work on KYTC project activities. The firm's one staff member identified as a dedicated designer performing this work shall attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and received accompanying certification to practice. Proof of valid and current certification must be provided with the application. We recommend all staff members performing this work attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and receive accompanying certification to practice. To get information about the course, contact Jennifer McCleve at Jennifer.McCleve@ky.gov.

(REVISED 2/24)

UTILITY DESIGN: COMMUNICATION

The purpose of this prequalification is to determine if a firm has the capability to perform engineering design for the relocation of **communication** utilities to accommodate transportation project construction. The firm shall submit a prequalification document addressing the following requirements:

1. The firm shall submit two (2) or three (3) projects that they have led the design for each of the below design elements. There shall be a full description of the work and a listing of applicable active employees with their role in the project. Each project should note whether the firm was the prime consultant or a sub consultant.
 - a. **Broadband**
 - b. **Fiber optic cable**
 - c. **Coaxial cable**
 - d. **Copper cable**
 - e. **Property service line**
 - f. **Conduit and structure**
 - g. **Overhead installation**
 - h. **Underground installation**
2. The firm shall provide a one (1) page biography of active staff that will be used for KYTC initiated-projects. It shall have at least one (1) Professional Engineer licensed in Kentucky with qualifying experience. The biography should list relevant training and experience. Experience should include pertinent utility projects only, the years the work was completed, and the individual's role in each project (i.e. project manager, designer, construction inspector, etc.) Experience for staff may include work with another firm or agency.
3. The firm shall demonstrate knowledge on use of utility company standards and requirements. It shall also demonstrate an understanding of easement width, description, and clearance requirements for the specified utility type.
4. The firm shall have at least one (1) active staff member explicitly identified to lead this prequalification activity. This staff member shall be dedicated to work on KYTC project activities. The firm's one staff member identified as a dedicated designer performing this work shall attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and received accompanying certification to practice. Proof of valid and current certification must be provided with the application. We recommend all staff members performing this work attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and receive accompanying certification to practice. To get information about the course, contact Jennifer McCleve at Jennifer.McCleve@ky.gov.

(REVISED 2/24)

UTILITY DESIGN: ELECTRICAL LEVEL 1

The purpose of this prequalification is to determine if a firm has the capability to perform engineering design for the relocation of **electric** utilities to accommodate transportation project construction. The firm shall submit a prequalification document addressing the following requirements:

1. The firm shall submit two (2) or three (3) projects that they have led the design for each of the below design elements. There shall be a full description of the work and a listing of applicable active employees with their role in the project. Each project should note whether the firm was the prime consultant or a sub consultant.
 - a. **Distribution facility: Single-phase, Three (3)-phase**
 - b. **Overhead distribution facility**
 - c. **Underground distribution facility including direct bury, conduit and structure**
 - d. **Overhead and underground property service line**
2. The firm shall provide a one (1) page biography of active staff that will be used for KYTC initiated-projects. It shall have at least one (1) Professional Engineer licensed in Kentucky with qualifying experience. The biography should list relevant training and experience. Experience should include pertinent utility projects only, the years the work was completed, and the individual's role in each project (i.e. project manager, designer, etc.) Experience for staff may be include work with another firm or agency.
3. The firm shall demonstrate knowledge on use of utility company standards and requirements. It shall also demonstrate an understanding of easement width, description, and clearance requirements for the specified utility type.
4. The firm shall have at least one (1) active staff member explicitly identified to lead this prequalification activity. This staff member shall be dedicated to work on KYTC project activities. The firm's one staff member identified as a dedicated designer performing this work shall attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and received accompanying certification to practice. Proof of valid and current certification must be provided with the application. We recommend all staff members performing this work attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and receive accompanying certification to practice. To get information about the course, contact Jennifer McCleve at Jennifer.McCleve@ky.gov.

(REVISED 2/24)

UTILITY DESIGN: ELECTRICAL LEVEL 2

The purpose of this prequalification is to determine if a firm has the capability to perform engineering design for the relocation of **electric** utilities to accommodate transportation project construction. The firm shall submit a prequalification document addressing the following requirements:

1. The firm must be prequalified under Utility Design: Electric Level 1.
2. The firm shall submit two (2) or three (3) projects that they have led the design for each of the below design elements. There shall be a full description of the work and a listing of applicable active employees with their role in the project. Each project should note whether the firm was the prime consultant or a sub consultant.
 - a. **Overhead transmission facility (69kV and up)**
 - b. **Underground transmission facility (69kV and up) including direct bury, conduit and structure**
 - c. **Overhead engineered steel pole and tower**
3. The firm shall provide a one (1) page biography of active staff that will be used for KYTC initiated-projects. It shall have at least one (1) Professional Engineer licensed in Kentucky with qualifying experience. The biography should list relevant training and experience. Experience should include pertinent utility projects only, the years the work was completed, and the individual's role in each project (i.e. project manager, designer, etc.) Experience for staff may be include work with another firm or agency.
4. The firm shall demonstrate knowledge on use of utility company standards and requirements. It shall also demonstrate an understanding of easement width, description, and clearance requirements for the specified utility type.
5. The firm shall have at least one (1) active staff member explicitly identified to lead this prequalification activity. This staff member shall be dedicated to work on KYTC project activities. The firm's one staff member identified as a dedicated designer performing this work shall attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and received accompanying certification to practice. Proof of valid and current certification must be provided with the application. We recommend all staff members performing this work attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and receive accompanying certification to practice. To get information about the course, contact Jennifer McCleve at Jennifer.McCleve@ky.gov.

(REVISED 2/24)

UTILITY DESIGN: GAS LEVEL 1

The purpose of this prequalification is to determine if a firm has the capability to perform engineering design for the relocation of **gas** utilities to accommodate transportation project construction. The firm shall submit a prequalification document addressing the following requirements:

1. The firm shall submit two (2) or three (3) projects that they have led the design for each of the below design elements. There shall be a full description of the work and a listing of applicable active employees with their role in the project. Each project should note whether the firm was the prime consultant or a sub consultant.
 - a. **Distribution natural gas facility**
 - b. **Natural gas property service line**
 - c. **Distribution regulation valve, fitting, and connection**
2. The firm shall provide a one (1) page biography of active staff that will be used for KYTC initiated-projects. It shall have at least one (1) Professional Engineer licensed in Kentucky with qualifying experience. The biography should list relevant training and experience. Experience should include pertinent utility projects only, the years the work was completed, and the individual's role in each project (i.e. project manager, designer, etc.) Experience for staff may be include work with another firm or agency.
3. The firm shall demonstrate knowledge on use of utility company standards and requirements. It shall also demonstrate an understanding of easement width, description, and clearance requirements for the specified utility type.
4. The firm shall have at least one (1) active staff member explicitly identified to lead this prequalification activity. This staff member shall be dedicated to work on KYTC project activities. The firm's one staff member identified as a dedicated designer performing this work shall attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and received accompanying certification to practice. Proof of valid and current certification must be provided with the application. We recommend all staff members performing this work attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and receive accompanying certification to practice. To get information about the course, contact Jennifer McCleve at Jennifer.McCleve@ky.gov.

(REVISED 2/24)

UTILITY DESIGN: GAS LEVEL 2

The purpose of this prequalification is to determine if a firm has the capability to perform engineering design for the relocation of **gas** utilities to accommodate transportation project construction. The firm shall submit a prequalification document addressing the following requirements:

1. The firm must be prequalified under Utility Design: Gas Level 1.
2. The firm shall submit two (2) or three (3) projects that they have led the design for each of the below design elements. There shall be a full description of the work and a listing of applicable active employees with their role in the project. Each project should note whether the firm was the prime consultant or a sub consultant.
 - a. **Transmission natural gas facility**
 - b. **Transmission regulation valve, fitting, and connection**
3. The firm shall provide a one (1) page biography of active staff that will be used for KYTC initiated-projects. It shall have at least one (1) Professional Engineer licensed in Kentucky with qualifying experience. The biography should list relevant training and experience. Experience should include pertinent utility projects only, the years the work was completed, and the individual's role in each project (i.e. project manager, designer, etc.) Experience for staff may include work with another firm or agency.
4. The firm shall demonstrate knowledge on use of utility company standards and requirements. It shall also demonstrate an understanding of easement width, description, and clearance requirements for the specified utility type.
5. The firm shall have at least one (1) active staff member explicitly identified to lead this prequalification activity. This staff member shall be dedicated to work on KYTC project activities. The firm's one staff member identified as a dedicated designer performing this work shall attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and received accompanying certification to practice. Proof of valid and current certification must be provided with the application. We recommend all staff members performing this work attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and receive accompanying certification to practice. To get information about the course, contact Jennifer McCleve at Jennifer.McCleve@ky.gov.

(REVISED 2/24)

UTILITY DESIGN: PETROLEUM

The purpose of this prequalification is to determine if a firm has the capability to perform engineering design for the relocation of **petroleum** utilities to accommodate transportation project construction. The firm shall submit a prequalification document addressing the following requirements:

1. The firm shall submit two (2) or three (3) projects that they have led the design for each of the below design elements. There shall be a full description of the work and a listing of applicable active employees with their role in the project. Each project should note whether the firm was the prime consultant or a sub consultant.
 - a. **Petroleum facility**
 - b. **Jet fuel facility**
 - c. **Pump station**
 - d. **Regulation valve, connection, and fitting**
2. The firm shall provide a one (1) page biography of active staff that will be used for KYTC initiated-projects. It shall have at least one (1) Professional Engineer licensed in Kentucky with qualifying experience. The biography should list relevant training and experience. Experience should include pertinent utility projects only, the years the work was completed, and the individual's role in each project (i.e. project manager, designer, etc.) Experience for staff may be include work with another firm or agency.
3. The firm shall demonstrate knowledge on use of utility company standards and requirements. It shall also demonstrate an understanding of easement width, description, and clearance requirements for the specified utility type.
4. The firm shall have at least one (1) active staff member explicitly identified to lead this prequalification activity. This staff member shall be dedicated to work on KYTC project activities. The firm's one staff member identified as a dedicated designer performing this work shall attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and received accompanying certification to practice. Proof of valid and current certification must be provided with the application. We recommend all staff members performing this work attend any available Kentucky Utility Coordination Training Course, as approved by the Kentucky Transportation Cabinet (KYTC) and receive accompanying certification to practice. To get information about the course, contact Jennifer McCleve at Jennifer.McCleve@ky.gov.

(REVISED 2/24)

UTILITY PRECONSTRUCTION COORDINATION

The purpose of this prequalification is to determine if a firm has the capability to be an agent of the Kentucky Transportation Cabinet in conducting utility coordination through the project development process inclusive of early utility involvement, an emphasis on utility conflict avoidance or minimization, and finally the coordination of remaining conflicts with utility relocations for the accommodation of transportation project construction. The firm shall submit a prequalification document addressing the following requirements:

1. The firm shall submit at least three (3) projects that they have coordinated and managed the utility coordination process with emphasis on effective practices such as early coordination, utility conflict management, impact avoidance measures, or strategic utility investigation approaches as well as the management of utility relocations. The examples must be specific to the following utility company types. There shall be a full description of the utility facilities coordinated, experiences, challenges encountered, approaches used within Preliminary and Final Design Phases, and a listing of applicable active employees with their role in the project denoted. Each project should note whether the firm was the prime consultant or a sub consultant.
 - a. At least two (2) municipally owned utilities
 - b. At least two (2) privately owned utility companies
2. The firm shall document understanding and acceptance of the following activities. There shall be a brief description of experience, a statement of capacity to fulfill the activities, and a listing of applicable active employees with their role. These statements shall be limited to less than two (2) pages and include experiences complying with regulations, statutes, policies and processes.
 - a. **Federal utility accommodation and relocation policies, rules, and regulations**
 - b. **State statute on utility accommodation and relocation in public right of way**
 - c. **Kentucky Transportation Cabinet accommodation and relocation policies**
 - d. **Design management**
3. The firm shall provide a one (1) page biography of active staff to be used for KYTC initiated-projects. The biography should list relevant training, certifications, and experience. Experience should include utility coordination or relocation projects only, the years the work was completed, and the individual's role in each project (i.e. project manager, designer, etc.) Experience for staff may include work with another firm or agency.
4. The firm shall have at least one (1) active staff member explicitly identified to lead the utility coordination effort. This utility coordinator shall be dedicated to work on

KYTC project activities. All staff performing this work must attend any available Kentucky Utility Coordination Training course, as approved by the Kentucky Transportation Cabinet (KYTC) and received accompanying certification to practice. Proof of valid and current certification must be provided with the application. To get information about the course, contact Jennifer McCleve at Jennifer.McCleve@ky.gov.

(REVISED 12/23)

UTILITY CONSTRUCTION INSPECTION

The purpose of this prequalification is to determine if a firm has the capability to be an agent of the Kentucky Transportation Cabinet inspecting the construction of utility relocations for the accommodation of transportation project construction. The firm shall submit a prequalification document addressing the following requirements:

1. The firm shall submit at least three (3) projects that they have inspected the construction of two (2) or more of the following utility facility types. The intent of this prequalification is to provide inspection services for general compliance and transportation project clearance for multiple utilities on a roadway project, which will allow transportation project construction to proceed. It is not intended to be a quality control inspection of individual utility relocations on behalf of the respective utility companies. The firm shall prove experience inspecting both overhead and underground utility construction inspection. There shall be a full description of the facilities inspected, experience, challenges encountered, and a listing of applicable active employees with their role in the project denoted. Each project should note whether the firm was the prime consultant or a sub consultant.
 - a. **Water & Sewer**
 - b. **Communication**
 - c. **Electric**
 - d. **Gas**
 - e. **Petroleum**
2. The firm shall document understanding and acceptance of the following activities. There shall be a brief description of experience, a statement of capacity to fulfill the activities, and a listing of applicable active employees with their role.
 - a. **Utility construction management**
 - b. **Utility construction inspection**
 - c. **Utility company design and construction standards**
3. The firm shall provide a one (1) page biography of active staff that will be used for KYTC initiated-projects. The biography should list relevant training and experience. Experience should include utility relocation projects only, the years the work was completed, and the individual's role in each project (i.e. project manager, designer, etc.) Experience for staff may include work with another firm or agency.
4. The firm shall have at least one (1) active staff member explicitly identified to lead the utility construction inspection effort. This utility construction inspector shall be dedicated to work on KYTC project activities. All staff performing this work must attend any available Kentucky Utility Coordination Training course, as approved by the Kentucky Transportation Cabinet (KYTC) and received accompanying certification to practice. Proof of valid and current certification must be provided with the application. To get information about the course, contact Jennifer McCleve at Jennifer.McCleve@ky.gov.

(REVISED 12/23)

SUBSURFACE UTILITY ENGINEERING (SUE)

The purpose of this prequalification is to determine if a firm has the capability to perform the engineering processes associated with accurately and comprehensively identifying, characterizing, locating, and mapping overhead and underground utility facilities to minimize risk to the transportation project. SUE activities may include utility records research, mapping, designating, utility impact analysis, field locating, and data management. These activities shall be coordinated with utility owners and KYTC personnel to provide high quality utility information for use during project development, and delivery. All SUE activities shall conform to standards and guidelines as described in ASCE 38-22 *Standard Guidelines for the Depiction of Existing Subsurface Utility Data* and current KYTC standards, guidelines, and processes.

The firm shall submit a stand-alone prequalification document or a distinct separate section of a prequalification document addressing the following requirements:

1. Personnel

- a. The firm must demonstrate that the current staff has the knowledge and skills to perform SUE work for KYTC.
- b. The firm must have at least the following staff assignment for SUE (please denote specific individuals assigned these roles):
 - i. one (1) land surveyor licensed in Kentucky, with documented experience in subsurface utility engineering
 - ii. one (1) professional civil engineer licensed in Kentucky with documented experience in subsurface utility engineering
 - iii. one (1) utility designator with documented experience in subsurface utility engineering
 - iv. one (1) staffer with a strong working knowledge of KYTC's current Plans Development Process
 - v. one (1) draftsman
- c. Provide a resume for each individual that should be considered for this category, which includes all performing work. Each resume should contain the following:
 - i. Educational history
 - ii. Professional certifications
 - iii. Applicable training courses
 - iv. Applicable skills
 - v. SUE projects worked on in the last five (5) years with current or former firm. For each project include:
 1. Project location, route, and description
 2. Firm name (if other than applicant)
 3. Specific SUE scope, individual's responsibility and roles
- d. The company shall provide its firm's Kentucky State Board Professional Engineers and Professional Land Surveyors' License numbers.
- e. If the company uses UAS (Unmanned Aircraft Systems) to map, then list number of certified UAS pilots, and all certifications that go along with UAS operations. Any use of this technology will follow FAA (Federal Aviation Administration) regulations. Also, list the drone brand(s) and model(s) being used for the mapping.

2. Equipment

- a. Document the equipment available and readily accessible to the firm for:
 - i. Performing the full range of Subsurface Utility Investigations. This inventory shall include minimal and non-destructive utility locating equipment necessary to achieve Quality Level A and B designating in accordance with ASCE 38-22.
 - ii. Provide digital data and computer graphics necessary for modern surveying practices must be available. In this submittal, list all major company assets that are available to complete surveying projects for KYTC. A firm is to make a recommendation to the KYTC Project Manager for the best surveying procedure to use on a per project basis. A firm may use mobile LIDAR for point cloud collection if feasible. The firm will discuss scope with KYTC Project Manager before any work commences.
 - iii. Prepare engineering plans, reports and specifications in both electronic and certified hard copy deliverables.

3. Projects

- a. The firm shall provide a minimum of three (3) projects completed within the last five (5) years demonstrating skills to perform SUE projects for KYTC. The information for each project shall include the following:
 - i. If the project was a roadway:
 - 1. Location
 - 2. Route
 - 3. Linear Miles
 - ii. If the project was a site:
 - 1. Location
 - 2. Site
 - 3. Size of site in Acres
 - iii. If the project is out of state:
 - 1. Include the contact information for an individual within that client that was directly responsible for that project.
 - 2. The following is optional:
 - a. Performance evaluation documents
 - b. Letters from the agency addressing past performance or other similar documents
 - iv. For all SUE projects:
 - 1. Quality Levels and Scope
 - 2. Description of Company`s work
 - 3. Method of surveying
 - 4. Estimated Completion date
 - 5. Brief description of project
 - 6. Company`s Role: Prime or Subcontractor
 - 7. Cost
 - 8. Client

If any other firm is hired to subcontract any associated scope and activities, it is required that firm be on the KYTC prequalification list.

(ADDED 12/2023)

Division of Structural Design (502-564-4560)

All work submitted to the Kentucky Transportation Cabinet is required to follow current approved design methodology and specified quality control guidance. Complete up to date criteria for Structural Design Services can be found in the current Structural Design Guidance Manual - Section SD-104.

1. Firms qualifying for Standard Structures do not qualify for work on any structure in Spans less than 500 feet or Spans over 500 feet.
2. Firms qualifying for Spans less than 500 feet automatically qualify for Standard Structures but do not qualify for work on any structure in Spans greater than 500 feet.
3. Firms qualifying for Spans over 500 feet automatically qualify for Spans less than 500 feet and Standard Structures.

Firms applying for a higher prequalification category (as numbered above) do not need to submit review materials for lower numbered categories.

STANDARD STRUCTURES
(Structures Using Standard Drawings or Structures Designed by Manufacturer)

A firm must employ a minimum of either two (2) full-time licensed professional engineers or one (1) full-time licensed professional engineer and one (1) certified engineer in training. Full-time employment is defined by eligibility to participate in the firm's benefits programs. Part time employees shall not be used to address the basic requirements for full time staff. At least one licensed professional engineer shall be experienced in the use of standard drawings or layout of manufacturer designed structures.

This prequalification classification shall be used for the following structure types that do not require structural design computations (knowledge of computation of elevations may still be required) including, but not limited to:

- KYTC standard drawing bridge components (superstructure and substructures)
- KYTC standard drawing culvert components
- Precast box culverts designed by manufacturer
- Precast concrete arch structures and wingwall components
- Metal box, pipe, or arch structures
- Pedestrian bridges designed by manufacturer that are not on or over KYTC right of way
- Retaining wall systems designed by manufacturer

One (1) of the full-time employees must be a professional engineer licensed in Kentucky. The engineer submitted for prequalification must be directly involved in structure layout with the firm. The licensed professional engineer must have experience in structure layout of the above listed structures as demonstrated by the successful design completion of at least five (5) projects in the last 10 years. Submit a copy of five (5) different sets of plans and any special notes for those plans that may have been required for the structures finished in the past 10 years showing the Engineer's name in the title block of the title sheet as the main design engineer for the project. It is preferable to show experience with different types of structures rather than 5 projects of the same structure type.

The second full time employee must be an Engineer in Training (EIT) or, preferably, a registered professional engineer. Submit proof of EIT certification or PE licensure (State of Registration and Registration Number). Submit at least three (3) separate plan sets and special notes for those plans regarding structures completed in the past six (6) years with descriptions of significant work completed on the projects. Checking design work for someone else as shown in title blocks may be considered adequate.

Required Submittals:

1. Resumes for the two (2) required full-time employees along with proof of licensure or a valid Engineer in Training Certificate.
2. Copies (.pdf) of the five (5) different plan sets discussed above for the Professional Engineer Licensed in Kentucky.
3. Copies (.pdf) of the three (3) different plan sets discussed above for the second full time employee along with a detailed description of the work that was performed. If the name in the title block designated as the main designer is that of the second employee the detailed description is not needed.
4. All additional forms and information required by the Division of Professional Services.

Firms will be required to submit plans every two (2) years for prequalification. If either of the named employees leaves the firm, immediately notify the Division of Professional Services of the change and resubmit an updated application for consideration. Do not submit more than the required number of plan sets.

Plans will preferably be submitted electronically via CD, flash drive, or a link to an FTP site. Electronic Plan sets should be in a .pdf format. Plans may be submitted in hard copy format but electronic files are preferred.

(ADDED 12/23)

SPANS LESS THAN 500 FEET (Including Culvert and Retaining Wall Design)

This category is for structures that require structural design calculations for reinforced concrete design or steel design in accordance with AASHTO LRFD and is not a structure typically designed by the manufacturer.

A firm must employ a minimum of either two (2) full-time licensed professional engineers or one (1) full-time licensed professional engineer and one (1) certified engineer in training that are directly involved in structural design for the firm. Full-time employment is defined by eligibility to participate in the firm's benefits programs. Part-time employees may not be used to address the basic requirements for full-time staff but may be shown as a part of the total staff size.

One (1) of the full-time employees must be a professional engineer licensed in Kentucky. The engineer submitted for prequalification must be directly involved in structural design with the firm. The licensed professional engineer must have experience in structure design as demonstrated by the successful design completion of at least five (5) projects in the last 10 years. Submit a copy of five (5) different sets of bridge, retaining wall, or culvert plans finished in the past 10 years showing the Engineer's name in the title block of the title sheet as the main design engineer for the project. At least two (2) of those sets of plans must show bridge beam design experience. At least one (1) of the plan submittals must show retaining wall experience. It is preferable that one (1) of the plan submittals show culvert design experience.

The second full time employee must be an Engineer in Training (EIT) or, preferably, a registered professional engineer. Submit proof of EIT certification or PE licensure (State of Registration and Registration Number). Submit at least three (3) separate plan sets completed in the past six (6) years with descriptions of significant work completed on the projects. Checking design work for someone else as shown in title blocks may be considered adequate.

Required Submittals:

1. Resumes for the two (2) required full-time employees along with proof of licensure or a valid Engineer in Training Certificate.
2. Copies (.pdf) of the five (5) different plan sets discussed above for the Professional Engineer Licensed in Kentucky.
3. Copies (.pdf) of the three (3) different plan sets discussed above for the second full time employee along with a detailed description of the work that was performed. If the name in the title block designated as the main designer is that of the second employee the detailed description is not needed.

Firms will be required to submit plans every two (2) years for prequalification. If either of the named employees leaves the firm, immediately notify the Division of Professional Services of the change and resubmit an updated application for consideration. Do not submit more than the required number of plan sets.

Plans will preferably be submitted electronically via CD, flash drive, or a link to an FTP site. Electronic Plan sets should be in a .pdf format. Plans can be submitted in hard copy format but that is not preferred.

(REVISED 12/23)

SPANS GREATER THAN 500 FEET

A firm will employ a minimum of four (4) full-time licensed professional engineers that are directly involved in structural design. Full-time employment is defined by eligibility to participate in the firm's benefits programs. Part-time employees may not be used to address those basic requirements for full-time staff but may be shown as a part of the total staff size.

Two (2) of the full-time employees must be professional engineers licensed in Kentucky.

The professional engineers submitted for prequalification must be those that will be directly involved in the design of any spans greater than 500 feet. Some combination (one or more) of the licensed professional engineers responsible for the main span must have experience in structure design as demonstrated by the successful design completion of at least two (2) projects with spans greater than 500 feet in the past 15 years. Submit at least two (2) sets of bridge plans with 500+ foot spans clearly showing the name in the title block of the title sheet as the main span design engineer for the project as one of the four (4) engineers submitted for prequalification. Submit at least two (2) different sets of any other bridge plans showing any reasonably applicable experience for each of the four (4) engineers. This will be required every other year. Please do not submit more than eight (8) sets of bridge plans (two per engineer). Prequalification for Spans Greater than 500 Feet automatically qualifies the firm for prequalification for Spans Less than 500 feet. Alternate justification for complicated structural design experience (in lieu of sufficient experience in 500 foot spans) may be considered on a case-by-case basis. The final determination in review of the relative complexity of the design and its applicability to this prequalification is up to the Division of Structural Design

Required Submittals:

1. Resumes for the four (4) required engineers along with proof of licensure in Kentucky for at least two (2) of the engineers and proof of licensure in another state(s) for the other two (2) engineers.
2. Copies (.pdf) of the two (2) different plan sets for spans greater than 500 feet discussed above for the Professional Engineer(s) and copies (.pdf) of the six (6) different plan sets of less complex structures discussed above. There will be a total of eight (8) plan sets submitted (two per engineer) in .pdf format.
3. All additional forms and information required by the Division of Professional Services.

Firms will be required to submit plans every two (2) years for prequalification. If any of the named employees leaves the firm, immediately notify the Division of Professional Services of the change and resubmit an updated application for consideration.

(REVISED 12/23)

Division of Structural Design - Geotechnical Branches (502-564-2374)

Complete up to date criteria for Geotechnical Services can be found in the Geotechnical Guidance Manual - Section GT 902

GEOTECHNICAL DRILLING

EXPERIENCE: The vendor must provide evidence of experience in the last five (5) years performing drilling services for highway projects (roadways and bridges).

The evidence shall include projects illustrating this type of experience, with references (agency, project engineer, or consultant), addresses and phone numbers.

EQUIPMENT: The vendor must provide a list of available equipment (drill rigs and accessories) for soil sampling and rock coring. The vendor must have at least one (1) drill rig equipped with an automatic hammer in order to be prequalified.

PERSONNEL: Drill crew supervisors must be experienced in the obtaining rock cores for rock cut slope and bridge foundation design, performing rock line soundings, performing standard penetration tests, obtaining thin-walled tube samples, obtaining disturbed soil samples, and installing cased observation wells.

Evidence must be provided that the drill crew supervisors have a minimum of three (3) years' experience in the above-mentioned operations for highway projects (roadways and bridges). A drill crew supervisor is defined as the person on the drill crew field party who is responsible for the drilling operations mentioned above.

INSURANCE: Worker's Compensation and Liability Insurance as required by the Division of Professional Services.

APPLICATION REQUIREMENTS:

1. Complete Pages 2 – 4 of [TC 66-209 form](#). Pages 3 and 4 should reflect equipment and personnel that will be used on Kentucky highway projects. Provide resumes for drill crew supervisors included on Page 4.
2. Attach proof of above-referenced insurances.

(REVISED 1/17)

GEOTECHNICAL ENGINEERING

FIRM REQUIREMENTS:

- A firm permit issued by the Kentucky Board of Licensure for Professional Engineers and Land Surveyors.
- Sufficient geotechnical engineering experience by the firm, as demonstrated by having performed geotechnical engineering on a minimum of three (3) transportation projects (or other projects where related engineering tasks were performed) in the last five (5) years.
- CADD software as specified in current KYTC CADD Standards ([CADD Standards | KYTC](#))
- Possess capacity to transmit and archive data through LIMS (laboratory information management system) software such as gINT or OpenGround when required by KYTC policy. This capability may be provided through partnership with other prequalified firms.
- Maintain capacity to complete "conventional" geotechnical engineering tasks outlined on page 3 of the TC 66-210 form through analysis software and/or appropriate professional means and methods (additional details provided in personnel requirements below).

PERSONNEL REQUIREMENTS:

- At least one (1) Professional Engineer licensed in Kentucky who is an in-house employee of the firm with a minimum of three (3) years of geotechnical engineering experience applicable to the design and/or construction of highway facilities (demonstrated by performing tasks included on Page 3 of the [TC 66-210 form](#)). The firm will be required to assign at least one full-time in-house employee meeting these requirements to actively participate in KYTC geotechnical projects in the capacity of Project Manager, Project Engineer, etc.
- At least one (1) Professional Geologist licensed in Kentucky who is an in-house employee of the firm with a minimum of three (3) years' of engineering geology experience applicable to the design and/or construction of highway facilities (demonstrated by performing tasks included on Page 3 of the [TC 66-210 form](#)).
- Staff with sufficient experience to perform geotechnical engineering tasks for KYTC, as demonstrated by experience in a minimum of nine (9) of the 12 areas of "conventional" experience included on Page 3 of the [TC 66-210 form](#). (Seismic experience is not required.)
- A minimum of one (1) CADD technician proficient with CADD software as specified in current KYTC CADD Standards ([CADD Standards | KYTC](#)). Professional Engineers or Professional Geologists may not be used to satisfy this requirement.

APPLICATION REQUIREMENTS:

1. Complete Page 2 of the [TC 66-210 form](#) and provide supplemental detailed project descriptions for a minimum of three (3) of the projects completed by the firm included in the summary.
2. Complete Page 3 of the [TC 66-210 form](#) and provide resumes of personnel needed to meet the minimum requirements above. All personnel experience need not be with the current employer.
3. A firm may subcontract laboratory testing and/or field drilling operations to firms prequalified in the applicable area(s). A firm may also subcontract specialty work

- in areas not covered by prequalification. All subcontracting is subject to the prior approval of the Division of Professional Services and the Geotechnical Branches.
4. For details regarding Licensure and Firm Permits, refer to:
 - Kentucky Board of Licensure for Professional Engineers and Land Surveyors, which can be found at the following website: <https://kyboels.ky.gov/>
 - Kentucky Board of Registration for Professional Geologists, which can be found at the following website: <https://bpg.ky.gov/>

(REVISED 12/23)

GEOTECHNICAL LABORATORY TESTING

LABORATORY REQUIREMENTS: Accreditation by the AASHTO re:source (formerly AMRL) for the following AASHTO test Methods: R58, T88, T89, T90, T99, T100, T193, T208, and T265. The Geotechnical Branches will verify accreditation on the AASHTO re:source website during the prequalification review.

Management and staff meeting the requirements for AASHTO R18 accreditation and with experience performing all the above-referenced tests.

A loading device with a movable head or base such that it is capable of applying a compressive load up to 60,000 lb. (267 kN), as required for the compaction portion of KM 64-501 (the Kentucky Method for performing the California Bearing Ratio Test).

APPLICATION REQUIREMENTS:

1. Complete page 2 of the [TC 66-211 form](#) and provide resumes of key personnel identified in the laboratory's Quality Manual (e.g. Technical Manager, Supervising Laboratory Technician, and Quality Manager).
2. Identify the location(s) of lab(s) to be used on KYTC Projects.
3. Provide a description and laboratory location of the above-referenced loading device. Include the make, model, load capacity, etc., and a statement that it meets the requirements above. This device must be located at a laboratory that is accredited for AASHTO T193.
4. In addition to the above-referenced test methods, the Geotechnical Branches consider AASHTO re:source accreditation for T216, T296, and T297, and the capacity to perform the Unconfined Compressive Strength of Rock, Slake Durability, and Jar Slake tests to be highly desirable. Although these tests are not required for prequalification, the Geotechnical Branches strongly recommends that labs be accredited for and/or have the ability to perform these tests.
5. The Resilient Modulus Test (AASHTO T 307) is optional for prequalification. This test is being phased in as the preferred subgrade test as part of the transition to the new KYTC Pavement Design Method. All test requirements will be in accordance with KYTC design policy. Additional guidance will be forthcoming.
6. Although not generally required to be submitted for prequalification, the Geotechnical Branches may request accreditation documents such as Quality Manual, On-Site Assessment Reports, Proficiency Sample Test Results, etc. Please be prepared to provide such documents upon request.
7. For detail regarding laboratory accreditation, refer to:
 - AASHTO re:source, which can be found at the following website:
<http://aashtoresource.org>

(REVISED 12/23)

Division of Traffic Operations (502-564-3020)

TRAFFIC ENGINEERING

The firm must have a minimum of one (1) licensed professional engineer licensed in Kentucky who can demonstrate experience in the field of traffic engineering. The following is a list of subjects in which a qualified traffic engineer would be knowledgeable:

- Traffic Flow Theory
- Urban Operations
- Geometric Design
- Crash Analysis
- Transportation Site Impact Analysis
- Isolated Traffic Signal and Signal System Operations
- Highway Capacity
- Parking Studies and Characteristics
- Intersection Control (Non-Signalized and Signalized)

Prospective firms shall provide proof of past experience in the subjects identified in the above list. Additionally, they must provide evidence of ownership of traffic engineering software that demonstrates the firm's capabilities relative to this discipline. Firms are encouraged to list training that individuals identified as Traffic Engineers have taken that is relevant to the field of Traffic Engineering.

In an effort to ensure better quality and consistency in traffic impact studies, firms seeking prequalification in Traffic Engineering Services shall be required to enroll and successfully complete a **mandatory** course offered by the Kentucky Transportation Center (KTC). Consultants wishing to be prequalified in Traffic Engineering Services will have to submit proof that at least one (1) licensed professional engineer, identified by the firm as a Traffic Engineer, has completed the Traffic Impact Study course.

Effective January 1, 2022, consultants will be required to renew their certification in the KTC Traffic Impact Study course every four (4) years in order to maintain their prequalification status in Traffic Engineering Services. Firms will also be required to submit their course completion certificate when submitting a traffic impact study to the Cabinet for review.

This mandatory course is currently offered by the Technology Transfer (T2) Program at the University of Kentucky. This class will be a "virtual" class offering and will be available one (1) week per month throughout each calendar year. There is no minimum class size requirement. Information regarding scheduling for this training course can be obtained by visiting www.kyt2.com or by calling (800) 432-0719 or (859) 421-2567.

(REVISED 12/21)

ELECTRICAL ENGINEERING TRAFFIC SIGNALS

The firm must have a minimum of one (1) professional engineer licensed in Kentucky who can demonstrate experience in the design of traffic signals (span wire and mast-arm). Qualifying experience must be within the last five (5) years. Projects included in the firm's list of experience that were not completed for the Kentucky Transportation Cabinet shall include contact information for an individual from the organization for whom the plans were prepared. Any performance evaluations/documentation received at the conclusion of the project shall also be included.

Firms shall be required to submit traffic signal plans previously designed by the professional engineer on record. Submitted plans and supporting documentation shall include one (1) span-wire design and one (1) mast-arm design (in PDF format). Each one of the plans shall be stamped by the professional engineer on record. Submit only PDFs which pertain to traffic signals of detail sheets, plan view sheets, and sheets stamped by the engineer. Additionally, they must submit a list of employees who will be using SALSA. Please note new users as well as deletions to user list.

If the firm does not have experience in either span-wire and/or mast-arm design, the firm may submit sample projects to show that they have the ability to perform satisfactory traffic signal design. The firm can contact the Division of Traffic Operations to discuss details of the sample projects before (re)submission to Professional Services. This option may also be utilized if the Division of Traffic Operations deems that the span-wire and/or mast-arm plans initially submitted by the firm are not adequate. The sample designs and documentation shall be turned in with the (re)submittal to Professional Services.

(REVISED 12/23)

ELECTRICAL ENGINEERING ROADWAY LIGHTING

A firm must have a minimum of one (1) professional engineer licensed in Kentucky who can demonstrate experience in the design of roadway lighting (conventional and high-mast) including, but not limited to: lighting layout, photometric analysis, and voltage drop calculations. Qualifying experience must be within the last five (5) years. Projects included in the firm's list of experience that were not completed for the Kentucky Transportation Cabinet shall include contact information for an individual from the organization for whom the plans were prepared. Any performance evaluations or other documentation received at the conclusion of the project shall also be included.

Firms shall be required to submit roadway lighting plans previously designed by the professional engineer on record. Submitted plans shall include one (1) conventional lighting design and one (1) high-mast lighting design (in PDF format). Each one of the plans shall be stamped by the professional engineer on record. Submit only PDFs which pertain to roadway lighting of detail sheets, plan view sheets, and sheets stamped by the engineer.

If the firm does not have experience in either conventional and/or high-mast lighting design, the firm may submit sample projects to show that they have the ability to perform satisfactory lighting design. The firm can contact the Division of Traffic Operations to discuss details of the sample projects before (re)submission to Professional Services. This option may also be utilized if the Division of Traffic Operations deems that the lighting plans initially submitted by the firm are not adequate. The sample designs and documentation shall be turned in with the (re)submittal to Professional Services.

Firms shall verify ownership of the latest available version of AGI32 software by Lighting Analysts Incorporated. Firms will be required to submit documentation for AGI32 software training that the professional engineer registered in Kentucky with demonstrated experience in roadway lighting design has attended a minimum of seven (7) hours of training in AGI32 software in the past, and either the licensed engineer or another member of the firm's technical staff has attended the required AGI32 software training hours (minimum of 7 hours) within five (5) years of the renewal date.

(REVISED 12/23)

**Office of Transportation Delivery
(502-564-7433)**

TRANSIT TECHNICAL STUDIES, MANAGEMENT, AND MARKETING/ADVERTISING

A firm must reflect experience and/or knowledge (listing current or past projects) in the area of public transportation and/or mass transit operations such as fixed/deviated fixed or demand route systems (rural and urban populations) general public and specialized; technical transit planning, transit advertising/marketing, transit management, planning onboard and intercept surveys, scheduling/modeling; area wide and route planning, transit environmental assessments, transit studies. The firm must demonstrate financial capacity and identify key staff who will work on transit projects.

(REVISED 1/17)