

## ENGINEERING SERVICES AGREEMENT

THIS IS AN AGREEMENT made as of \_\_\_\_\_ between the LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT (OWNER) and **GRW Engineers, Inc.** (CONSULTANT). OWNER intends to proceed with the **Man o' War Boulevard Intersection Improvements Project**, as described in the attached Scope of Services document. The services include a design and preparation of complete construction plans and specifications to construct specific turn lane modifications at the Man o' War intersections with Alumni Drive, Richmond Road and Pink Pigeon Parkway. It also includes all work associated with preparing permit applications to facilitate the construction. The services are hereinafter referred to as the "Project".

OWNER and CONSULTANT in consideration of their mutual covenants herein agree with respect to the performance of professional engineering services by CONSULTANT and the payment for those services by OWNER as set forth below.

CONSULTANT shall provide professional consulting services for OWNER in all phases of the Project to which this Agreement applies, serve as OWNER'S professional engineering representative for the Project as set forth below and shall give professional consultation and advice to OWNER during the performance of services hereunder.

### **SECTION 1 - BASIC SERVICES OF CONSULTANT**

#### **1.1. General**

CONSULTANT shall perform professional services as hereinafter stated that include customary planning and civil engineering services, and customary surveying services incidental thereto.

#### **1.2. Final Design Phase**

After written authorization to proceed with the design, CONSULTANT shall:

- 1.2.1. On the basis of the "Scope of Services" per attached Exhibit A, conduct field surveys and gather other necessary data or information, prepare final design documents consisting of final design drawings, specifications and estimate of probable cost.
- 1.2.2. Prepare such documents, design data and permit applications as may be required to obtain approvals of such governmental authorities as have jurisdiction over design criteria applicable to the Project, or jurisdiction over existing natural elements that will be impacted by construction and assist the OWNER in obtaining such approvals by negotiations with appropriate authorities.
- 1.2.3. Furnish copies of the design documents to OWNER and to any utilities that could potentially be impacted, at approximately 60 percent completion and again at 90 percent complete. After OWNER'S detailed review, attend conference with OWNER to discuss OWNER'S comments.

- 1.2.4. Advise **OWNER** of any adjustments to the latest estimate of probable Project cost caused by changes in extent or design requirements of the Project or construction costs and furnish a revised estimate of probable Project cost based on the Drawings and Specifications.
- 1.2.5. Prepare for review and approval by **OWNER**, required Local Public Agency (LPA) documents, contract agreement forms, general conditions and supplementary conditions, bid forms, invitations to bid, instructions to bidders, addenda and other related documents.
- 1.2.6. Furnish copies as indicated in the Scope of Services of the above documents and present them in person to **OWNER**. After **OWNER'S** detailed review, attend conference with **OWNER** to discuss **OWNER'S** comments.

**NOTE:** The duties and responsibilities of **CONSULTANT** during Right of Way and Final Design phases are amended and supplemented as indicated in Exhibit A "SCOPE OF SERVICES"

### 1.3. **Bidding Phase**

After written authorization to proceed with the Bidding Phase, **CONSULTANT** shall:

- 1.3.1. Finalize all documents, including addenda, in a format suitable for reproduction and distribution to bidders and deliver originals to the location directed by **OWNER**.
- 1.3.2. Assist **OWNER** in evaluating bids or proposals by prime contractors.
- 1.3.3. Consult with and advise **OWNER** as to the acceptability of subcontractors and other persons and organizations proposed by the prime contractors (hereinafter called "Contractors") for those portions of the work as to which such acceptability is required by the bidding documents.
- 1.3.4. Consult with and advise **OWNER** as to the acceptability of substitute materials and equipment proposed by Contractor(s) when substitution prior to the award of contracts is allowed by the bidding documents.

### 1.4. **Construction Phase**

During the Construction Phase, **CONSULTANT** shall:

- 1.4.1. Consult with and advise **OWNER** as requested.
- 1.4.2. When requested by **OWNER**, make visits to the site as an experienced and qualified design professional to determine that work is proceeding in accordance with the Contract Documents. **CONSULTANT** shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of such work.
- 1.4.3. Review and approve (or take other appropriate action in respect of) Shop Drawings and samples, the results of tests and inspections and other data which each Contractor is required to submit, but only for conformance with the design concept of the Project and compliance with the information given in the Contract

Documents (but such review and approval or other action shall not extend to means, methods, sequences, techniques or procedures of construction or to safety precautions and programs incidental thereto); determine the acceptability of substitute materials and equipment proposed by Contractor(s).

- 1.4.4. Conduct an inspection, with **OWNER**, to determine if the Project has been completed in accordance with the Contract Documents and if each Contractor has fulfilled all of his obligations thereunder.

## **SECTION 2 - EXTRA WORK BY CONSULTANT**

- 2.1. The **OWNER** may desire to have the **CONSULTANT** perform work or render services in connection with this Project other than provided by the expressed intent of this Agreement. Such work shall be considered as "Extra Work", subject to a change order, supplemental to this Agreement, setting forth the character and scope thereof and the compensation therefore. Work under such change order shall not proceed until the **OWNER** gives written authorization. Should the **OWNER** find it desirable to have previously satisfactorily completed and accepted plans or parts thereof revised, the **CONSULTANT** shall make such revisions as directed, in writing, by the **OWNER**. This work shall be considered as "Extra Work" and shall be paid as such.
- 2.2. All "Extra Work" is subject to prior written authorization of **OWNER** and necessary appropriations made by the Urban County Council.

## **SECTION 3 - OWNER'S RESPONSIBILITIES**

### **OWNER shall:**

- 3.1. Provide criteria and information as to **OWNER'S** requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations.
- 3.2. Assist **CONSULTANT** by placing at his disposal available information pertinent to the Project.
- 3.3. Examine all studies, reports, sketches, drawings, specifications, proposals and other documents presented by **CONSULTANT**, and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of **CONSULTANT**.
- 3.4. Designate in writing a person to act as **OWNER'S** representative with respect to the services to be rendered under this Agreement. Such person shall have complete authority to transmit instructions, receive information, interpret and define **OWNER'S** policies and decisions with respect to materials, equipment, elements and systems pertinent to **CONSULTANT'S** services.

- 3.5. Give written notice to **CONSULTANT** whenever **OWNER** observes or otherwise becomes aware of any development that affects the scope or timing of **CONSULTANT'S** services, or any defect in the work of Contractor(s).
- 3.6. Furnish, or direct **CONSULTANT** to provide, necessary Extra Work as stipulated in Section Two (2) of this Agreement or other services as required.

#### **SECTION 4 - PERIOD OF SERVICES**

- 4.1. Time is of the essence.
- 4.2. The provisions of this Section Four and the various rates of compensation for **CONSULTANT'S** services provided for elsewhere in this Agreement have been agreed to in anticipation of the orderly and continuous progress of the Project through completion.

If delays result by reason of acts of the **OWNER** or approving agencies, which are beyond the control of the **CONSULTANT**, an extension of time for such delay will be considered. If delays occur, the **CONSULTANT** shall within 30 days from the date of the delay apply in writing to the **OWNER** for an extension of time for such reasonable period as may be mutually agreed upon between the parties, and if approved, the Project schedule shall be revised to reflect the extension. Such extension of time to the completion date shall in no way be construed to operate as a waiver on the part of the **OWNER** of any of its rights in the Agreement. Section 6.5, under DISPUTES, of this Agreement, shall apply in the event the parties cannot mutually agree upon an extension of time.

In the event that the overall delay resulting from the above described causes is sufficient to prevent complete performance of the Agreement within six (6) months of the time specified therein, the Agreement fee or fees shall be subject to reconsideration and possible adjustment. Section 6.5 of this Agreement shall apply in the event the parties cannot mutually agree upon an adjustment of fee.

#### **SECTION 5 - PAYMENTS TO CONSULTANT**

##### **5.1 Methods of Payment for Services of CONSULTANT**

###### **5.1.1 For Basic Services**

**OWNER** shall pay **CONSULTANT** for Basic Services rendered a fee not exceeding **\$209,108.00**.

###### **5.1.2. For Extra Work**

"Extra Work" shall be paid for by the **OWNER** on the basis of a fixed fee, the amount of which shall be determined by negotiation. The **OWNER** shall have the



right to negotiate alternate methods of payment for "Extra Work" if the **OWNER** determines that the fixed fee basis is not feasible. In the event the **OWNER** and the **CONSULTANT** are unable to agree upon the amount of payment for "Extra Work", then the amount of such payment shall be determined as set forth in Section 6.5, "DISPUTES" of this Agreement.

**5.2. Times of Payment**

**5.2.1.** **CONSULTANT** shall submit monthly statements for Basic Services and Extra Work rendered. The Statements will be based upon **CONSULTANT'S** estimate of the proportion of the total services actually completed at the time of billing. **OWNER** shall respond to **CONSULTANT'S** monthly statements within thirty (30) days, either denying payment or making payment.

**5.3. Other Provisions Concerning Payments**

**5.3.1.** In the event the Agreement is terminated by the **OWNER** without fault on the part of the **CONSULTANT**, the **CONSULTANT** shall be paid for the work performed or services rendered an amount bearing the same ratio to the total Agreement fee as the amount of work completed or partially completed and delivered to the **OWNER** is to the total amount of work provided for herein, as determined by mutual agreement between the **OWNER** and the **CONSULTANT**.

**5.3.2.** In the event the services of the **CONSULTANT** are terminated by the **OWNER** for fault on the part of the **CONSULTANT**, the **CONSULTANT** shall be paid reasonable value of the work performed or services rendered and delivered, and the amount to be paid shall be determined by the **OWNER**.

**5.3.3.** In the event the **CONSULTANT** shall terminate the Agreement because of gross delays caused by the **OWNER**, the **CONSULTANT** shall be paid as set forth in Section 5.3.1 above.

**SECTION 6 - GENERAL CONSIDERATIONS**

**6.1. Termination**

**6.1.1.** The obligation to provide further services under this Agreement may be terminated by either party upon seven (7) days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party.

**6.1.2.** The **OWNER** reserves the right to terminate the Agreement at any time upon seven (7) days written notice to the **CONSULTANT**.

**6.2. Ownership and Reuse of Documents**

All documents, including Drawings and Specifications, prepared by the **CONSULTANT** pursuant to this Agreement shall be delivered to and become the property of the **OWNER**. The **OWNER** shall have the right to reuse same without restriction or limitation, but without liability or legal exposure to **CONSULTANT**.

**6.3. Legal Responsibilities and Legal Relations**

**6.3.1.** The **CONSULTANT** shall familiarize himself with and shall at all times comply with all federal, state and local laws, ordinances, and regulations which in any manner affect the services of this Agreement.

**6.3.2.** In performing the services hereunder, the **CONSULTANT** and its **CONSULTANTS**, employees, agents and representatives shall not be deemed or construed to be employees of **OWNER** in any manner whatsoever. The **CONSULTANT** shall be acting as an independent contractor. The **CONSULTANT** shall not hold itself out as, nor claim to be, an officer or employee of **OWNER** by reason hereof and shall not make any claim, demand or application to or for any right or privilege applicable to an officer or employee of **OWNER**. The **CONSULTANT** shall be solely responsible for any claims for wages or compensation by **CONSULTANT'S** employees, agents and representatives, including **CONSULTANTS**, and shall save and hold **OWNER** harmless therefrom.

**6.3.3.** The parties hereto agree that causes of actions between the parties shall be governed by Kentucky law, and venue shall lie in a court of competent jurisdiction in Fayette County, Kentucky.

**6.4. Successors and Assigns**

**6.4.1.** **CONSULTANT** binds itself and his partners, successors, executors, administrators, assigns and legal representatives to this Agreement in respect to all covenants, agreements and obligations of this Agreement. **CONSULTANT** shall not assign any interest, obligation or benefit in this Agreement nor transfer any interest in the same, whether by assignment or novation, without prior written consent of **OWNER**.

**6.4.2.** The **CONSULTANT** shall not subcontract more than fifty percent (50%) of the work, based upon dollar value, to be provided under this Agreement. The **CONSULTANT** shall obtain written approval prior to subletting or assigning any services contained in this Agreement, and consent to sublet or assign any part of this Agreement shall not be construed to relieve the **CONSULTANT** of any responsibility for compliance with the provisions of this Agreement.

**6.4.3.** Nothing herein shall be construed to give any rights or benefits hereunder to anyone other than **OWNER** and **CONSULTANT**.

**6.5. Disputes**

Except as otherwise provided in this Agreement, any dispute concerning the amount of payment due the **CONSULTANT** or any dispute concerning any question of fact of any act to be performed under this Agreement, which is not disposed of by agreement between the Urban County Engineer's Office and the **CONSULTANT**, shall be submitted to the Commissioner, Department of Planning, Preservation and Development, Lexington-Fayette Urban County Government for review. The decision of the Commissioner as to the determination of such dispute shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, capricious, arbitrary or so grossly erroneous as necessarily to imply bad faith. Pending a final decision of a dispute hereunder, the **CONSULTANT** shall proceed diligently with the performance of the Agreement in accordance with the directions of the **OWNER**.

**6.6. Accuracy of CONSULTANT'S Work**

The **CONSULTANT** shall be required to perform this Agreement in accordance with the degree of ordinary and reasonable skill and care usually exercised by professional engineers prevailing at the time, place and under similar conditions as the services hereunder are rendered.

The **CONSULTANT** shall be responsible for the accuracy of all work, within the limits of the paragraph above, even though Drawings and Specifications have been accepted by the **OWNER**, and upon notice to the **CONSULTANT**, shall make any necessary revisions or corrections resulting from errors and/or omissions on the part of the **CONSULTANT**, without additional compensation. By submission of reports, soils and subsurface information, quantities estimates, calculations and Drawings and Specifications to the **OWNER**, the **CONSULTANT** has made a representation that the information is accurate within the limits of the paragraph above. Failure on the part of **CONSULTANT** to provide the expected level of accuracy, as described above, may be grounds for the **OWNER** to disqualify **CONSULTANT** from consideration for future **CONSULTANT** engineering contracts.

**6.7. Security Clause**

The **CONSULTANT** certifies that he shall not at any time release or divulge any information concerning the services covered by this Agreement to any person or any public or private organization except the **OWNER** without prior approval of the **OWNER**.

**6.8. Access to Records**

The **CONSULTANT** and any subconsultant shall maintain all books, documents, papers, and accounting records, and make such materials available at their

respective offices at all reasonable times during the contract period and for three years from the date of final payment under the contract for inspection by the **OWNER**, and copies thereof shall be furnished if requested. Failure to maintain such records for three years after the date of final payment may be grounds for the **OWNER** to disqualify the **CONSULTANT** from consideration for future **CONSULTANT** engineering contracts.

**6.9. Resident Services During Construction.**

The **OWNER** will furnish a Resident Project Inspector.

**6.10. Required Risk Management Provisions.**

**6.10.1 GENERAL**

The **CONSULTANT** understands and agrees that the Risk Management Provisions of this contract define the responsibilities of the **CONSULTANT** to the **ENTITY**.

As used in these Risk Management Provisions, the terms "**CONSULTANT**" and "**ENTITY**" shall be defined as follows:

- a. **CONSULTANT** means the **CONSULTANT** and its employees, agents, servants, owners, principals, licensees, assigns and subcontractors of any tier.
- b. **ENTITY** means the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, boards, consultants, assigns, volunteers and successors in interest.

**6.10.2 INDEMNITY**

**6.10.2.1** It is understood and agreed by the parties that **CONSULTANT** hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of **CONSULTANT** or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "**CONSULTANT**") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby. **CONSULTANT** shall indemnify, save, hold harmless and defend **ENTITY** from and against any and all liability, damages and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees, for any damage due to death or injury to any person or injury to any property (including the loss of use resulting therefrom) to the extent

arising out of, pertaining to or relating to the negligence, recklessness or willful misconduct of **CONSULTANT** in the performance of this agreement.

- 6.10.2.2** Prior to and including the contract commencement date, owner shall have the right to examine and inspect the job sites, at any time during reasonable business hours. **ENTITY** reserves the right to have its own engineers inspect the job sites for environmental compliance, but such right shall in no event relieve **CONSULTANT** of its obligations hereunder.

### **6.10.3 FINANCIAL RESPONSIBILITY**

The **CONSULTANT** understands and agrees that the **CONSULTANT** shall, prior to final acceptance of the **CONSULTANT'S** bid and the commencement of any work, demonstrate the ability to assure compliance with the Indemnity Agreement and other provisions of this Contract.

### **6.10.4 INSURANCE REQUIREMENTS**

#### **6.10.4.1** Required Insurance Coverages

**CONSULTANT** shall procure and maintain for the duration of the Contract, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the **CONSULTANT**. Any/all insurance shall be written on an "occurrence form" for limits not less than those specified below or as required by law, whichever is greater. Below are minimum insurance requirements set to protect the **ENTITY** interest in this agreement. However, it does not limit the **CONSULTANT'S** liability and necessary additional limits of coverage are at the **CONSULTANT'S** discretion. SEE "EVIDENCE OF INSURABILITY" FORM FOR SUBMISSION OF BID.

- 6.10.4.1.1** Professional Liability providing coverage of at least \$1 million per occurrence, \$2 million aggregate.
- a. Endorsement naming as additional insured "The Lexington-Fayette Urban County Government, its elected and appointed officials, employees, agents, boards, consultants, assigns, volunteers and successors in interest".
  - b. Endorsement that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice, to Lexington-Fayette Urban County Government, 200 East Main Street, Lexington, Kentucky 40507.

**6.10.4.1.2**      Commercial General Liability Insurance providing coverage at least as broad as Insurance Services Office Form CG-0001 (10/01) with:

- a.      Combination of primary and umbrella coverage limits of not less than \$2,000,000 per occurrence for bodily injury and property damage.
- b.      Business Interruption Coverage must be included.
- c.      Endorsements naming as additional insured "The Lexington-Fayette Urban County Government, its elected and appointed officials, employees, agents, boards, consultants, assigns, volunteers and successors in interest."
- d.      Endorsement that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice, to Lexington-Fayette Urban County Government, 200 East Main Street, Lexington, Kentucky 40507

**6.10.4.1.3**      Comprehensive Automobile Liability Insurance providing coverage at least as broad as Insurance Service Office Form Number CA 0001 (10/01), code 1 "any auto" with:

- a.      Combined Single Limits not less than \$1,000,000 per occurrence.
- b.      Endorsement naming as additional insured "The Lexington-Fayette Urban County Government, its elected and appointed officials, employees, agents, Boards, consultants, assigns, volunteers and successors in interest."
- c.      Endorsement that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, to Lexington-Fayette Urban County Government, 200 East Main Street, Lexington, Kentucky 40507.

**6.10.4.1.4**      Worker's Compensation Insurance as required by the Kentucky Revised Statutes, and Employer Liability Coverage with:

- a.      Endorsement that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior notice by certified mail, return receipt requested to Lexington-Fayette Urban County Government, 200 East Main Street, Lexington, Kentucky 40507.

**6.10.4.2**      Acceptability of Insurers



Insurance is to be placed with insurers with a rating classification of no less than Excellent (A or better) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide.

**6.10.4.3. Notice of Coverage Renewals for Expiration**

After insurance has been approved by **ENTITY**, evidence of renewal of an expiring policy must be submitted to **ENTITY**, at the Division of Law, 200 East Main Street Lexington, Kentucky 40507 and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

**6.10.4.4. Self-Insured Programs**

IF **CONSULTANT** INTENDS TO SUBMIT SELF-INSURANCE PLAN FOR BID, THIS MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, Suite 925, 200 East Main Street, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO BID OPENING DATE. Self-insurance programs, deductibles, and self-insured retention in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government, upon review of evidence of **CONSULTANT'S** financial capacity to respond to claims. Any such programs or retention must provide **ENTITY** with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverages. If **CONSULTANT** satisfies any portion of the insurance requirements through deductibles, self-insurance programs, or self-insured retention, **CONSULTANT** agrees to provide Lexington-Fayette Urban County Government, the following data prior to the final acceptance of bid and the commencement of any work:

- a. **CONSULTANT'S** latest audited financial statement, including auditor's notes;
- b. Any records of any self-insured trust fund plan or policy related accounting statements;
- c. Actuarial funding reports or retained losses;
- d. **CONSULTANT'S** Risk Management Manual or a description of **CONSULTANT'S** self-insurance and risk management program;
- e. A claim loss run summary for the previous five (5) years.
- f. Self Insured Associations will be considered.

**6.10.4.5. Verification of Coverage**

Within thirty (30) days following signing of Contract, **CONSULTANT** agrees to furnish **ENTITY** with all applicable Certificates of Insurance; and **CONSULTANT**

shall provide **ENTITY** copies of all bonds and make available for review upon request any insurance policies, including all endorsements.

**6.10.4.6. Right to Review, Audit and Inspect**

**CONSULTANT** understands and agrees that **ENTITY** may review, audit and inspect any and all of **CONSULTANT'S** records and operations to insure compliance with these Insurance Requirements in addition to any other proof of insurance required to obtain a license to perform the job stated herein.

**6.10.5 SAFETY AND LOSS CONTROL**

**6.10.5.1** **CONSULTANT** agrees to adhere to and comply with William-Steiger Act, enacted December, 1970, and all other federal, state and local safety health, sanitation and environmental laws, regulations and ordinances. The **CONSULTANT** shall provide all safeguards, safety devices and protective equipment, and take any other action necessary to protect the life, health and safety and property of all persons on the job site, the public and the owner.

**6.10..5.2** The current Kentucky Occupational Safety and Health Standards of the Construction Industry 29 CFR Part 1926 adopted by 803 KAR 2:400 and the Kentucky Occupational Safety and Health Standard for General Industry 29 CFR Part 1910 as adopted by KAR 2:300, and as promulgated by the Kentucky Occupational Safety and Health Standards Board and as amended or modified, are hereby incorporated into and made an integral part of the Contract with full compliance the responsibility solely of the **CONSULTANT**.

**6.10.5.3.** The **CONSULTANT** understands and agrees that the **ENTITY** shall be permitted but not obligated, to inspect the work place, operations, machinery and equipment involved in this contract and review and audit any and all **CONSULTANT'S** records and documents as deemed necessary by the **ENTITY** to assure compliance with any and all of the provisions of this Contract and maximize the protection of the **ENTITY**. Safety on the job, however, remains solely the responsibility of the **CONSULTANT**.

**6.10.6 DEFINITION OF DEFAULT**

**CONSULTANT** understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default under this Contract. **CONSULTANT** also agrees that **ENTITY** may elect as its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging **CONSULTANT** for any such insurance premiums purchased, or suspending or terminating this Contract.

**CONSULTANT** understands and agrees that the Risk Management provisions of this Contract define its responsibilities and those of its employees, agents, owners, principals, licensees, assigns, and subcontractors of any tier to the **ENTITY**, its elected and appointed officials, employees, agents, boards, consultants, assigns, volunteers and successors in interest.

#### **6.10.7 RIGHT TO REVIEW, AUDIT AND INSPECT**

**CONSULTANT** understands and agrees that upon reasonable notice **ENTITY** may review, audit, and inspect any and all of the **CONSULTANT'S** records and operations relative to the **SERVICES** performed under this Agreement to assure compliance with the Risk Management provisions of the Agreement.

### **SECTION 7 - EQUAL EMPLOYMENT OPPORTUNITY**

During the performance of this contract, the **CONSULTANT** agrees as follows:

- 7.1. **CONSULTANT** agrees to comply with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, Executive Order 11063, and with Executive Order 11246 as amended by Executive Order 11375 and 12086.
- 7.2. **CONSULTANT** will not discriminate against any employee or applicant for employment because of race, religion, color, national origin, sex, age, disability or other handicap. The **CONSULTANT** shall take affirmative action to insure that applicants are employed, and that employees are treated during their employment, without regard to their race, religion, color, national origin, sex, age, disability or other handicap. **CONSULTANT** will take affirmative action to insure that all employment practices include, but are not limited to, the following: employment, hiring, upgrading, demotion, transfer, recruitment, recruitment advertising, layoff, termination, rates of pay or other forms of compensation, and selection of training, including apprenticeships. The **CONSULTANT** agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this non-discrimination clause.
- 7.3. A Compliance with Civil Rights Act of 1964. During the performance of this AGREEMENT, the **CONSULTANT** agrees as follows:
  - A. **CONSULTANT** will comply with the regulations relative to nondiscrimination in federally assisted programs of the U.S. Department of Transportation (Title 49, Code of Federal Regulations, Part 21, hereinafter referred to as the REGULATIONS), which are herein incorporated by reference and made a part of this AGREEMENT.

- B. Nondiscrimination: The **CONSULTANT** with regard to the work performed by it after award and prior to completion of the **AGREEMENT** work will not discriminate on the ground of race, color, or national origin in the selection and retention of subcontractors including procurement of materials and leases of equipment. The **CONSULTANT** will not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the **REGULATIONS**, including employment practices when the **AGREEMENT** covers a program set forth in Appendix B of the **REGULATIONS**.
- C. Solicitations for Subcontractors, including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiations made by the **CONSULTANT** for work to be performed under a subcontract including procurement of materials or equipment, each potential subcontractor or supplier shall be notified by the **CONSULTANT** or the **CONSULTANT'S** obligations under this **AGREEMENT** with the **REGULATIONS** relative to nondiscrimination on the ground of race, color, or national origin.
- D. Information and Reports: the **CONSULTANT** will provide all information and reports required by the **REGULATIONS**, or orders and instructions issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information and its facilities as may be determined by the **GOVERNMENT** to be pertinent to ascertain compliance with such **REGULATIONS** orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the **CONSULTANT** will so certify to the **GOVERNMENT** as appropriate, and shall set forth what efforts it has made to obtain the information.
- E. Sanctions for Noncompliance: In the event of the **CONSULTANT'S** noncompliance with the nondiscrimination provisions of this **AGREEMENT**, the **GOVERNMENT** will impose such contract sanctions as it may determine to be appropriate, including but not limited to:
  - 1) Withholding payment to the **CONSULTANT** under the **AGREEMENT** until the **CONSULTANT** complies; and/or
  - 2) Cancellation, termination or suspension of the **AGREEMENT**, in whole or in part.

7.4 It is the policy of the U.S. Department of Transportation that disadvantaged business enterprises as defined in 49 CFR Part 23 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal funds under this **AGREEMENT**. Consequently the DBE requirements of 49 CFR Part 23 apply to this **AGREEMENT**.

7.5 The **CONSULTANT** or its subcontractors agree to ensure that disadvantaged business enterprises as defined in 49 CFR Part 23 have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds provided under this AGREEMENT. In this regard the **CONSULTANT** or subcontractors shall take all necessary and reasonable steps in accordance with 49 CFR Part 23 to ensure that disadvantaged business enterprises have the maximum opportunity to compete for and perform contracts. The **CONSULTANT** and the subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of U. S. DOT – assisted contracts.

The **CONSULTANT** will make every effort to locate DBEs to purchase materials and services for use in this AGREEMENT. The **CONSULTANT** shall document the steps it has taken to obtain DBE participation, including, but not limited to the following:

- A. The names, addresses, and telephone numbers of DBEs that were contacted;
- B. A description of the information provided to DBEs regarding the type of work to be performed.

## **SECTION 8 - SPECIAL PROVISIONS, EXHIBITS AND SCHEDULES**

8.1. This Agreement is subject to the following provisions.

Pursuant to subparagraph 3.4 of this Agreement, **OWNER** has assigned Bob Bayert (the "**OWNER'S** Agent"), as the authorized agent of **OWNER**, to monitor, direct and review the performance of work of the **CONSULTANT**. Documents, data, reports and all matters associated with carrying out this Agreement shall be addressed to the **OWNER'S** Agent or his designee. Questions by the **CONSULTANT** regarding interpretations of the terms, provisions and requirements under this Agreement shall be addressed to the **OWNER'S** Agent or his designee. The **CONSULTANT** shall look only to the **OWNER'S** Agent or his designee for direction in its performance under this Agreement; no other direction shall be binding upon **OWNER**. **OWNER** shall respond to written requests by **CONSULTANT** within thirty (30) days.

8.2. The following Exhibits are attached to and made a part of this Agreement:

8.2.1. Exhibit A-"Scope of Services".

8.2.2. Exhibit B - "Certificates of Insurance".

8.3. This Agreement, together with the Exhibits identified above constitutes the entire Agreement between **OWNER** and **CONSULTANT** and supersedes all prior written or oral understandings. This Agreement and said Exhibits may only be amended, supplemented, modified or canceled by a duly executed written instrument.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the day and year first above written.

**OWNER:**

Lexington-Fayette Urban County Government

200 East Main Street

Lexington, Kentucky 40507


The Honorable Jim Gray – Mayor

**CONSULTANT:**

GRW Engineers, Inc.

801 Corporate Drive

Lexington, Kentucky 40503

  
Principal



**EXHIBIT A**  
**SCOPE OF SERVICES**

# MAN O' WAR CONGESTION MANAGEMENT INTERSECTION IMPROVEMENT PROJECTS

## Engineering Design Services Scope of Services

### Intro/Background

The construction of Man o' War Boulevard during the 1970's and 1980's provided a core transportation facility that supported development of thousands of acres of land for residential and commercial facilities. As it continued to encircle eastern, southern and southwestern Lexington, Man o' War attracted more traffic, serving both as a limited access beltway and as a surface street providing neighborhood access. As a transportation facility, its success has resulted in current ADT's in the 40,000's along its eastern reach, and projected to be as high as 70,000 by 2030. This level of usage results in the congestion and safety issues we recognize today.

The Lexington Area Metropolitan Planning Organization (LAMPO), in its ongoing mission to improve transportation conditions within Fayette and Jessamine Counties, has undertaken two recent congestion management studies, in 2005 and 2007. Both studies identified numerous congestion mitigation projects for Man o' War Boulevard. The LAMPO subsequently added two suggested projects to the Transportation Improvement Program, with the intent to move from the study stage to implementation. Together with a third location also known to cause congestion due to its geometrics, this scope is offered for consideration of the design community.

### Project Overview

The Lexington Fayette Urban County Government is contracting with GRW Engineers, Inc. to provide professional engineering services to prepare design plans for improvements to three Man o' War Boulevard intersections.

The goal of the project is to increase safety and reduce congestion at these locations, by providing additional capacity for various turning movements, mitigating backup impacts to through traffic. The work will result in engineered drawings and specifications for construction of improvements at the targeted intersections.

GRW is KYTC pre-qualified in Urban Roadway Design and Traffic Engineering has demonstrated the experience necessary to design these public improvements, while fulfilling LPA Project Guide and NEPA requirements.

## **The locations**

*Site #1* is the intersection of Man o' War Boulevard and Pink Pigeon Parkway, where modifications are anticipated in the center medians on Man o' War and Pink Pigeon. Planning level estimates indicate approximately 800 feet of the Man o' War median south of the intersection will be impacted to introduce a second left turn lane for northbound traffic turning onto Pink Pigeon. Modifications to Pink Pigeon will be needed, at the intersection, probably continuing up to Alysheba Way.

*Site #2* is the intersection of Man o' War Boulevard and Alumni Drive. Three portions of the intersection are being considered for improvements. The right turn lane for southbound Man o' War traffic turning onto westbound Alumni Drive has been targeted for lengthening. Add at least 600' of storage and a 75' taper. Termination should be based on topographic constraints. The median for the west leg of Alumni would be reworked to maximize the left turn lane length for the movement to northbound Man o' War. Third, the left turn lane from northbound Man o' War to westbound Alumni would be lengthened by approximately 600'.

*Site #3* is the intersection of Man o' War Boulevard and Richmond Road, where the concept is to lengthen the southbound Man o' War right turn lane to inbound Richmond Road, by 400 feet – 500 feet.

### **1. Design Criteria:**

All designs and plans must be approved by the LFUCG Division of Engineering, KYTC and FHWA when required.

- a. Prepare typical sections depicting existing and proposed conditions.
- b. Unless otherwise specifically acknowledged and approved, design shall conform to LFUCG Standard Drawings.
- c. The preparation of an Erosion and Sediment Control Plan including a Storm Water Pollution Prevention Plan (SWPPP) integrating the non-structural and structural practices and procedures of the Stormwater Manual is a requirement for all construction projects and is the responsibility of the Contractor; however Consultant shall prepare a generalized plan. The plan shall be prepared and submitted to the LFUCG Division of Engineering for approval.
- d. Intersection improvements shall be ADA compliant. Design shall comply with the AASHTO green book and the Manual of Uniform Traffic Control Devices.
- e. Plans for the Alumni Drive intersection should include consideration of reconstructing pedestrian crossings to all four corners. Crossing considerations at other intersections will be confined to the quadrants being disturbed, where possible.

- f. Preparation of all required LPA-related documents, including the Project Development Checklist (PDC) and the LPA Design Review Checklist (LDRC).
- g. Preparation of a traffic control plan for construction of improvements at each site.
- h. It is anticipated that Kentucky Transportation Cabinet Production-Hour Worksheets (TC 61-4) will be completed by the consultant and by LFUCG, to solidify work elements and to negotiate contract manhours.

The consultant shall refer to the applicable state requirements listed in the Federal-Aid Highway Project Development Guide for Local Public Agencies (LPA Project Guide) and any future revisions for preparation of the plans and required submittals.

Upon completion of the Preliminary Plan Review, the Consultant shall incorporate all significant comments into the preliminary plans and submit the revised plans to LFUCG Division of Engineering and KYTC District 7.

Upon acceptance of the Final Plans and Specifications, the Consultant will submit reproducibles and an electronic copy of the revised plans to LFUCG Division of Engineering and KYTC in acceptable format including a “dwg” and “shape” file formats.

The Consultant will be responsible for providing all necessary exhibits and for attending meetings with all elected officials, either local, state or federal, all affected neighbors, and businesses. The Consultant will be responsible for providing minutes of each meeting.

### **3. Field Survey**

The Consultant shall complete a field survey prior to design. The minimum requirements of the field survey shall include, but are not limited to, the following items:

- a. Location of existing sidewalks;
- b. topography showing all existing structures, fences, retaining walls, etc.;
- c. Location of overhead and underground utilities;
- d. Location of storm and sanitary sewers;
- e. Temporary benchmarks for use during construction, set outside construction limits;
- f. Profiles of pertinent existing infrastructure;
- g. Cross sections taken at 50-foot stations, or as otherwise needed;
- h. Location of existing corner monuments and R/W markers
- i. Staking associated with easement acquisition and prior to bidding for construction.
- j. Location of all existing easements in the project area.
- k. Location of significant trees and vegetation

The elevations of utilities, sewers, and other critical items shall be verified during the field survey. Such verification shall be carefully coordinated with the appropriate parties (e.g., utility companies, LFUCG). If digging operations, permission, etc. are necessary in certain instances it shall be the responsibility of the consultant to see to it that they are performed properly and to get appropriate approvals.

#### **4. Environmental Assessment**

The environmental assessment shall conform to the requirements of the Lexington-Fayette Urban County Government, the Kentucky Department of Highways and the U.S. Department of Transportation, Federal Highway Administration. Guidelines shall be as dictated in the FHA Technical Advisory T 6640.8A dated October 30, 1987 and Volume 7, Right-of-Way and Environment; Chapter 7 Environment; Section 1, Environmental Impact and Related Procedures of the Federal-Aid Highway Program Manual.

Completion of the complete Environmental Assessment shall coincide with completion of the final design. All percentage milestones for the final design will apply to the Environmental Assessment.

Project shall conform with:

- National Environmental Policy Act (NEPA)
- Section 4(f) of 49 United States Code (USC) 303
- National Historic Preservation Act
- Section 404 of the Clean Water Act

*This project is believed to fall under a CE Level 1.*

#### **5. Detailed Cost Estimate:**

The Consultant shall prepare detailed cost estimates at each intermediate stage of the design and at the completion of the design. Each total construction cost estimate shall be accompanied by subtotal cost estimates for each design item, total utility relocation, and total right-of-way acquisition.

#### **6. Rights-of-Way and Easements**

A plat shall be prepared, if required for acquisition of right-of-way, and shall meet all requirements of the Lexington-Fayette Urban County Government Planning Commission and Department of Law.

Permanent and temporary easements shall be drawn to sufficient scale to be clear and distinguishable, and such drawings shall meet the requirements of the Lexington-Fayette Urban County Government Division of Engineering.

The Consultant shall provide a legal description for each easement taking.

## **7. Drawing Scales, Units, and Unit Conversion**

All quantities measured, calculated, and specified shall be in English units (e.g., feet, pounds).

All drawings and sheets shall conform to the follow scales unless another option is viable and approved by the Project Manager:

- |                          |   |
|--------------------------|---|
| a. Plan Sheets           | 1" = 20'                                |
| b. Profile sheets        | 1" = 20' horizontal<br>1" = 2' vertical |
| c. Cross sections sheets | 1" = 5' horizontal<br>1" = 5' vertical  |

## **8. Pavement Design**

Pavement design shall match existing pavement.

## **9. Plans, Specifications, and Bid Documents**

Plans, construction specifications, and other pertinent bid documents as required by the Lexington-Fayette Urban County Government shall be prepared by the Consultant and shall be subject to review by the Lexington-Fayette Urban County Government Division of Engineering.

Preliminary plans shall include, but are not limited to: existing topography and infrastructure, street addresses, proposed alignment, proposed profile, typical proposed section, proposed drainage improvements, critical cross sections, line and grade review information, environmental overview and a cost estimate. Preliminary plans shall be so identified; the Consultant shall deliver two paper copies to the Division of Engineering, and the Consultant shall deliver one paper copy to each utility company via certified mail.



Final plans shall contain the completed and approved information provided by the preliminary plans. Final plans shall also include, but are not limited to: a cover sheet, quantities summary, general notes, utility company information, plan and profile sheets, development sheets, cross section sheets, pipe sheets, reference points, detail sheets, typical sections, and right-of-way sheets.

All sheets shall be inked mylar or equivalent and shall be submitted in a common acceptable format including a “dwg” and “shape” file format. The LFUCG owns all rights to data and files associated with project.

The Consultant shall deliver by certified mail one paper copy of the final plans to each utility company. The Consultant shall deliver ten (10) paper copies of the final plans, specifications, and bid documents to the Division of Engineering. After Contractor bids are opened the Consultant shall deliver the final mylar sheets and electronic drawings to the Division of Engineering.

**10. Utility Company Coordination**

There are known utility lines in the vicinity of the project, the Consultant will meet and coordinate with all affected utility companies, as necessary to minimize disturbance to underground lines and to facilitate the Project.

**11. Construction Inspection:**

The Lexington-Fayette Urban County Government will provide routine construction inspections. The Consultant shall be available to advise in matters of intent during construction.

**12. Attendance at Bid Opening**

The Consultant shall attend the bid opening in the offices of the LFUCG Division of Central Purchasing. The Consultant shall obtain copies of all bids, evaluate and prepare a tabulation of bid prices and submit a recommendation of award.

**13. Public Meetings**

The Consultant’s proposal shall outline a Public Participation Plan for each project.

**14. Bid Administration**

The Consultant's scope shall include assisting with Bid Administration. At minimum, this includes responding to technical questions during the bid period, preparing addenda, approving alternates, attending pre-bid meeting (if required) and evaluating bids received.

**15. Schedule and Completion**

The Consultant shall meet deadlines as provided in the following schedule. Calendar days are counted from the date that a written notice to proceed is received by the Consultant. Exact times of meetings shall be arranged by the Consultant; locations of meetings shall be at either the sites of proposed improvements or at the offices of the Division of Engineering, as appropriate.

Project Direction Meeting *	30 days
Submittal of preliminary plans	90 days
Meeting to review preliminary plans	100 days
Submittal of revised preliminary plans (if necessary)	120 days
Submittal of final plans	160 days
Meeting to review final plans	175 days
Submission of completed final plans	210 days

\* Project Direction Meeting is to review base sheet preparation, design assumptions being used, progress of utility contacts, etc.

**16. Method of Invoice and Payment:**

The Consultant may submit monthly invoices for basic services or rendered work, based upon the Consultant's estimate of the portion of the total services actually completed during the billing period. Each invoice shall be accompanied by a breakdown of hours attributed to each design category for both the billing period and the cumulative project period. Payments to DBE's are to be separated. A monthly report (in digital format) and an invoice summary (forms to be provided) are to be submitted with each invoice. Each invoice must be submitted at a meeting with the Division of Engineering in which the content of and basis for the invoice are reviewed. The Division of Engineering shall respond to the invoice within thirty (30) days, either denying or approving payment. Specific project time sheets and other payroll information may be subject to reviews and audits by the LFUCG.

Regardless of the invoices submitted by the Consultant, the Division of Engineering shall not approve a greater percentage of payment than outlined in the following schedule, as based upon the completion schedule of Section 15:

Project Direction Meeting: 15%

Submittal of preliminary plans: 40%

Submittal of final plans: 75%

Submittal of completed final plans: 90%

Submittal of bid tabulations and award recommendation: 100%

# DESCRIPTION OF ITEMS PRODUCTION-HOUR WORKSHEET

## SURVEY

### RECONNAISSANCE

**1 Control (existing)**

A field and record search for any existing control that may be utilized, including controls established for aerial photogrammetry. Sources of any existing control need to be identified.

**2 Utilities (identify & contact)**

Identify all utility companies to be involved with the project. Contact utility companies and other sources for mapping or other information concerning the location of any utilities. Check with local governments for GIS databases and for other sources of information.

**3 Drainage - (sink holes, streams, pipes, etc.)**

Identify drainage features that may require consideration in design and that are necessary to be documented on the plans.

### CONTROL

**4 Horizontal**

Establish any new or additional horizontal coordinate control including the monumentation. All control information, including pre-established, shall be documented in a survey report and submitted to the KTC Project Manager. Additional control points set shall use iron pins.

**5 Vertical**

Establish any new or additional vertical control, including benchmarks, and including the monumentation. All control information, including pre-established, shall be documented in a survey report and submitted to the Project Manager.

**6 Process data**

Process data obtained from field survey and check for accuracy and closure. Preparation of survey report of coordinate controls and bench marks.

*Note: A complete coordinate control report including existing and new control point information, with traverse information confirming coordinate control accuracy and a bench level report shall be prepared and submitted to the KTC Project Manager.*

## **PLANIMETRIC SURVEY**

### **7 Planimetric location**

Locate and/or identify all necessary planimetric features. On projects with aerial photogrammetry available this would require only identification of planimetric features and pick-up of areas not covered by the available photogrammetry, if required. For Phase 2 design this would be for the update of the topography due to new or changed planimetric features since the original survey or aerial photogrammetry was obtained.

*There is no available aerial photogrammetry and the extent of work required is for complete planimetric location. GRW will utilize point cloud data collected with LIDAR (Optech Lynx MTLs) to extract horizontal and vertical locations of pertinent site features, to include above ground utilities, edge of pavement, lane striping, and crown of road, as well as driveways or crossing roadways, etc.*

### **8 Utilities location**

Locate, identify, and provide elevations (when necessary) of all utility items (underground, overhead, etc.). The consultant shall obtain verification of utility locations from the appropriate utility company, arranging to have utilities uncovered and located when necessary. Includes surveying flags and markings placed by the individual utility companies.

*Note: The specific extent of work required will be determined at the Predesign Conference. This item of work does **not** include vacuum excavation. If vacuum excavation or location of underground utilities is required it will be paid for as a "direct cost" and production hours for the survey crew under the surveying as a miscellaneous item.*

### **9 Process data**

Process all necessary data to produce a planimetric map and submit electronic files to the designer.

## **TERRAIN SURVEY**

### **10 DTM data collection**

Collect general terrain data for project (when general terrain data is not already available).

*Note: Items 11-18 should not be required if general terrain data is to be collected.*

### **11 Verify terrain model accuracy**

Check for accuracy of breaklines, random points, contours, etc., including terrain model obtained from aerial photogrammetry.

*Note: The density of points taken in the field to check the DTM will be determined at the Predesign Conference.*

### **12 Tie-ins**

Field verification of all field data necessary for tying of project to existing features

pavements etc. Include all road approaches. Entrances are not generally required and will only be performed if specifically directed by the KTC Project Manager.

- 13 **Drainage situation survey (Bridge)**  
Obtain all necessary field data to represent situation survey for bridges, including stream profile and necessary terrain data to merge into the existing terrain model.
- 14 **Drainage situation survey (Culvert)**  
Obtain all necessary field data to represent situation survey for culverts.
- 15 **Drainage pipe section (non-situation size)**  
Obtain all necessary field data to define the accuracy of the existing flowlines and inlet and outlet location and elevations of cross drains.  
*Note: Does not include entrance pipes.*
- 16 **Flood plain data**  
Collect field data necessary for flood plain analysis.
- 17 **Railroad Surveys**  
Obtain all necessary terrain data to represent railroad survey (top of rail, ballast, ditches, fills, cuts, RR milepost, etc.).
- 18 **Additional necessary DTM data**  
Collect other necessary data to produce an accurate digital terrain model (obscured areas, field checked areas, areas needing greater accuracy, etc.).
- 19 **Process data**  
Process all pertinent data necessary to generate digital terrain models and submit electronic files to the designer.

## **ESTABLISH PROPERTY LINES & OWNERSHIP**

### **20 Contact & Interview Property Owners**

Contact property owners requesting permission for access and discuss general scope of project, locations of property lines, septic system, drainage and any other pertinent information. A report is to be generated with a copy of the contact letter and all completed contact information forms from property owners, upon request.

*Note: The contact letter and information form is to be reviewed and approved by the KTC Project Manager prior to contacting the property owners. The contact letter shall include the name of a person from the consultant that may be contacted in case of problems and the KTC Project Manager.*

### **21 Field tie property lines/corners**

Locate all monuments (rebars, pins, etc.) and other evidence of property lines (fences, tree



lines, drains, etc.).

## **STAKING**

### **22 Stake centerlines, approaches, detours**

Accurately stake centerline at intervals determined at the Predesign Conference and process data.

### **23 Stake core holes - structures**

Stake or locate all geotechnical borings required for structural design and process data.

*NOTE: The unit is per individual structure, NOT per hole.*

### **24 Stake core holes - roadway**

Stake or locate all geotechnical borings required for geotechnical soil/rock analysis and process data.

*NOTE: The unit is per individual core hole.*

## **SURVEY MISCELLANEOUS**

### **25 Determine Roadway Elevations (Crown and EP)**

This would be necessary on widening and overlay projects where the terrain model is developed from aerial photogrammetry and accurate pavement elevations are required and includes processing data. *There is no available aerial photogrammetry and terrain data is not available. GRW will utilize point cloud data collected with LIDAR (Optech Lynx MTLs) to extract horizontal and vertical data.*

*NOTE: Unit is per mile of individual roadway sections.*

### **26 Environmental areas**

Locate and identify areas and feature that may be considered environmental issues and includes processing data.

27-29 Reserved for additional miscellaneous survey items required

## **PRELIMINARY LINE AND GRADE**

30-59 Reserved for additional miscellaneous PL&G items required – *Not Required*

## **RIGHT OF WAY**

### **60 Deed research**

Research of all documents necessary to determine property lines, existing easements,

encumbrances and ownership including a copy of the deed with deed book and page number and available plats.

**61 Establish property and ownership**

Using field evidence and research documentation to accurately establish property lines, existing R/W, existing easements, owner names, lessee names, and parcel numbers. Document on plans.

**62 Calculate R/W**

Calculate lines and areas of all proposed right of way and easement takings for each parcel. Depict all right of way and easements, including metes and bounds, on plans.

**63 Prepare legal descriptions**

Prepare and check legal descriptions for each area of taking.

64 Prepare R/W summary sheet

Complete right of way summary sheet including all affected parcels.

**65 Generate right of way strip map**

Prepare right of way strip map covering all affected parcels. Generate individual strip map sheets.

**66 Prepare R/W Plans Submittal**

Generate the computer files of the R/W Plans, plot the original mylars, prepare electronic submittal of plans and deeds and submit plans, computer files, source deeds and proposed deed descriptions to the District Office. Detour runarounds or other maintenance of traffic plans that have impacts to the right of way or utilities shall be included in the Right of Way Plans. A set of prints of drainage and cross sections may also be required to be included in the submittal.

*Note: A set of prints is to be submitted to the KTC Project Manager for review prior to submittal of R/W Plans, if requested.*

**67 R/W revisions after R/W submittal**

Prepare R/W plan revisions as necessary. Post R/W Plan submittal and prior to the final construction plan submittal. Includes re-submittal of revised plans (mylars), 1 set of prints with changes marked in red, plats, deed descriptions and electronic files.

68 Deed Research for Existing Alignments

Research to see if any back source deeds exist on existing alignments which will not be reconstructed and are not included in Line 60.

69 Deed Research for Existing Parcels

Investigate old recorded deeds that exist and perform actual research for each parcel

necessary to determine property lines, existing easements, encumbrances and ownership including a copy of the deed with deed book and page number and available plats, if any.

- 70 Prepare Legal Descriptions for Right-of-Way Transfer  
Prepare legal deed descriptions for each parcel to be transferred to local government responsibility.
- 71-74 Reserved for additional miscellaneous R/W items required

## FINAL PLAN PREPARATION

- 80 Computer setup  
Load and organize electronic data files (manuscripts, centerline data, coordinates data, terrain models etc.).  
*Note: In most cases much of this work was completed in Phase I.*
- 81 Update existing topography and terrain model  
Using updated field data, modify and update the existing topography and terrain model.
- 82 **Refine alignments (horizontal & vertical)**  
Refine, adjust, and document the preferred horizontal and vertical alignments accommodating greater detail in tie-down points, approaches, detours, etc.
- 83 **Develop pavement design**  
Analyze, document and submit for review and approval the proposed pavement design folder for each roadway, including pavement calculations, life cycle costs, typical sections and pavement details.
- 84 **Finalize templates & transitions**  
Finalize necessary templates and template transitions for all roadways. This includes each instance of a horizontal change in roadway edge of pavement with respect to the centerline.
- 85 **Develop final roadway model**  
Modify the preliminary roadway model or generate a new roadway model incorporating the proposed design into the initial roadway model, including cut/fill slopes, roadside ditches, etc. as necessary to define ditches and disturbed limits and enable the generation of cross-sections for all roadways.

*Note: The extent and degree of accuracy of the "final" roadway model is to correspond with the*

*required guidelines of electronic deliverables. This effort of work is to be discussed at the Predesign Conference.*

**86 Develop proposed design**

Design and depict on the plans (manuscript) all proposed construction details and graphics, including pavement, drainage, construction notes, etc.

**87 Generate plan sheets**

Perform necessary work to create individual plan sheets, including dropping of sheet cells, masking, manipulation of text and notes, etc.

**88 Generate profile sheets**

Perform necessary work to create individual profile sheets, including dropping profile, annotation of profile, drainage, ditches, notes, etc.

*Note: Though depiction of longitudinal storm sewers is generally performed on the profile sheets, they will be paid for as individual pipe sections under Item 92.*

**89 Detail cross sections**

Drop cross sections onto sheet cells; add yardage quantities, details, notes, etc.

*Note: The majority of work required for the development of cross sections is under Item 85.*

90 Design entrances

Determine location, grade, type of entrance, width and quantities and depict on the plans.

91 Revise roadway plans from soils report

Modify the roadway model incorporating geotechnical report recommendations.

*Note: Length is based on expected area requiring changes due to geotechnical report, not entire project length.*

**DRAINAGE**

**92 Develop pipe sections (< 54")**

Create and design pipe sections including quantities, notes and depicting them in the plans.

*Note: Includes cross drains, storm sewer, etc.*

93 Develop drainage system map

Create map describing the proposed drainage system and delineates drainage areas. Includes generating the individual sheets.

94 Develop drainage situation (bridge)

Develop and prepare drawing of alignment, profiles, sections, and plan to represent bridge situation survey.

- 95    **Develop drainage situation (culvert)**  
Develop and prepare drawing of alignment, profiles, sections, and plan to represent culvert situation survey.
- 96    **Develop blue line stream channel changes ( $\Rightarrow$  200')**  
Develop and prepare drawing of alignment, profiles, sections, and plan to represent channel change, including stream mitigation requirements.
- 97    **Drainage analysis (Entrance pipes)**  
Conduct and document drainage analysis to determine frequency flows and required structure size of entrance pipes. Includes completion of forms.
- 98    **Drainage analysis ( $A \leq 200$  acres)**  
Conduct and document drainage analysis to determine frequency flows and required structure size. Includes completion of forms.
- 99    **Drainage analysis ( $200 \text{ acres} < A < 1.0 \text{ sq. mile}$ )**  
Conduct and document drainage analysis to determine frequency flows and required structure size. Includes completion of forms.
- 100-102    **Drainage analysis ( $A \Rightarrow 1.0 \text{ sq. mile}$ ) -- Levels 1, 2, & 3 Analysis**  
Conduct and document drainage analysis to determine frequency flows, required structure size, location, and risk assessment. Includes completion of forms.
- 103    **Special drainage studies**  
Conduct special drainage studies, which may include HEC-1, TR-20, TR-55, Unsteady Flow Models, FESWMS-2DH, Detention Basin Design, Energy Dissipater Design, Dynamic Culvert Design or other Hydrologic/Hydraulic design as deemed appropriate.
- 104    **Roadway ditches and channels**  
Determine hydraulic capacity (ditch size) and necessary channel lining of all ditches and channels. Includes documentation of design calculations and completion of forms.  
*Note: Left and right sides are independent to each other and should be added for a combined total.*
- 105    Develop erosion control plan**  
Determination of required erosion control items and depiction in the plans, including required calculations and generating the individual sheets. Includes documentation of design calculations and completion of forms.  
*Note: Specific scope of work and level of effort is to be discussed at the Predesign Conference*
- 106    **Inlet spacing calculations**  
Conduct necessary calculations to determine structure types, and inlet spacing for the layout and design of storm sewer systems. Includes documentation of design calculations

and completion of forms.

- 107 **Storm sewer calculations**  
Conduct necessary calculations to determine pipe size, storage volumes, etc. for the layout and design of storm sewer systems. Includes documentation of design calculations and completion of forms.
- 108 **Perform scour analysis**  
Perform scour analysis as referenced in the FHWA HEC-18 and HEC-20 and the current Drainage Manual. Includes documentation of design calculations and completion of forms.
- 109 **Assemble preliminary and final drainage folders**  
Copy, fold, bind, and assemble drainage folders.
- 110 **Prepare advanced situation folder - bridge**  
Prepare required documentation, copy, fold, bind, and assemble the folder.  
*Note: Folder contents are to conform to requirements outlined in the Drainage and Bridge Manuals.*
- 111 **Prepare advanced situation folder - culvert**  
Prepare required documentation, copy, fold, bind, and assemble the folder.  
*Note: Folder contents are to conform to requirements outlined in the Drainage and Bridge Manuals.*
- 112-115 Reserved for additional miscellaneous Drainage items required

## **FINAL PLAN CONTINUATION**

- 116 **Prepare layout sheet**  
Prepare layout sheet for the Construction Plans.
- 117 **Prepare typical sections**  
Prepare all typical sections including the proposed pavement design and other necessary details for each roadway, detour, and entrance.
- 118 **Prepare interchange geometric approval sheet**  
Prepare geometric approval sheet, including all required alignments, curve data, coordinates, etc. for requesting approval of the interchange geometrics.
- 119 **Prepare intersection geometric approval sheet**  
Prepare geometric approval sheet, including all required alignments, curve data, coordinates, etc., for requesting approval of the intersection geometrics.

- 120 **Prepare coordinate control sheet**  
Develop all coordinate control information, including proposed centerlines, event points, control points, and benchmarks with appropriate descriptions, and place into the plans in tabular form and generate individual sheets.
- 121 **Prepare elevation developments sheet**  
Prepare elevation development sheets including all geometric data and elevation data necessary.
- 122 **Prepare striping plan**  
Prepare details for striping plans as outlined in the Pre-design Conference.
- 123 **Calculate final quantities**  
Calculate and document all quantities required for the construction of the final roadway and maintenance of traffic during construction, including permanent and temporary items.
- 124 **Complete general summary**
- 125 **Complete paving summary**
- 126 **Complete drainage summary**
- 127 **Complete pavement under-drain summary**
- 128 **Prepare cost estimate**  
Prepare and document cost estimates including bid prices for each item, using best engineering judgement, for inspections, meetings and final plan submittal.
- 129 **Plot/Print copies of plans**  
Plot/print copies of plans including the necessary copies of plans for distribution at project milestones (inspections, meetings, etc.).  
*Note: The number of sets of prints for meetings and inspections shall be determined at the Predesign Conference*
- 130 **Plan revisions**  
Complete any necessary and unexpected plan revisions that arise during the project that are beyond the control of the consultant, including revisions to plans required due to R/W Revisions that are not directly shown on the R/W Plans.
- 131 **Prepare final construction plans submittal**  
Generate the computer files of the final plans, plot the original mylars, prepare electronic submittal of plans and required files and submit plans, computer files and a list of



General Notes to the District Office. Also includes submittal of a set of Review Plans and making any necessary changes identified by the roadway plan review.

### **MAINTAINENCE OF TRAFFIC**

**132 Write maintenance of traffic notes (TCP)**

Write and submit the required Traffic Control Plan, including the construction phasing for the project.

**133 Prepare construction phasing plans**

Prepare plans for maintenance of traffic, construction phasing and/or detours necessary for the construction of the project, including all phasing, special notes, signs, temporary pavement markings and quantities. When maintenance of traffic details have been completed, a Traffic Control Plan shall be prepared and submitted to the KTC Project Manager to obtain the necessary approval signatures. Once approved, the notes and phasing details will be incorporated into the final construction plans.

134 Develop diversion plan sheets

135 Develop diversion profile sheets

136 Develop diversion cross sections

137 Develop temporary drainage

### **FINAL PLANS MISCELLANEOUS**

138 Document available rock quantities

**139 Construction administration assistance**

Respond to technical questions during the bid period, prepare addenda, approve alternates and review and approve initial submittals or shop drawings. Advise in matters of intent during construction.

**140 Prepare bid specifications**

Prepare the project bid specifications in accordance with LFUCG standards and guidance.

**141 Review erosion control plan**

Review and determine appropriateness of the Erosion and Sediment Control Plan prepared by the Contractor integrating the non-structural and structural practices and procedures of the LFUCG Stormwater Manual.

- 142 Prepare lighting plan**  
Prepare lighting plans in coordination with LFUCG Traffic Engineering. LFUCG will provide street light spacing for incorporation into the plans.
- 143 Utility company coordination**  
Meet and coordinate with all affected utility companies, as necessary to minimize disturbance to underground lines and to facilitate the Project.
- 144 Prepare Project Development Checklist (PDC)**
- 145 Retaining Wall Designs (1 wall assumed)**  
Development of culvert plans including: foundation, barrel and wingwall design.

146-149 Reserved for additional miscellaneous Final items required

## MEETINGS

- 150 Preliminary line and grade inspection  
Preparation and attendance by the project engineer and others, if necessary, to the preliminary line and grade inspection and preparation of the inspection report.
- 151 Drainage inspection  
Preparation and attendance by the project engineer and drainage engineer to the drainage inspection and preparation of the inspection report.
- 152 Final inspection  
Preparation and attendance by the project engineer and others, if necessary, to the final inspection and preparation of the inspection report.
- 153 Misc. project coordination meetings**  
Attendance by the project engineer and others, if necessary, to any project coordination meetings scheduled by the Project Manager and preparation of the meeting minutes.
- 154 Project team meetings**  
Attendance by the project engineer and others if necessary, to any project team meetings scheduled by the Project Manager and preparation of the meeting minutes.
- 155 Value Engineering Study

This item is applicable only for a project requiring a VE study or project where the KYTC project manager specifies that a VE study will be done.

Attendance by the project engineer at the project briefing (normally 2 hours). Attendance by the project engineer at the VE recommendations briefing (normally 2 hours). Preparation of presentation for the project briefing. Preparation and compilation of project plans and documents for the VE team. Meeting attendance by the project engineer with KYTC project manager to review VE recommendations for further implementation.

156 **Constructability Review**

This item is applicable to any project for which the KYTC project manager determines a standalone constructability meeting is warranted. The constructability review meeting is scheduled so as to facilitate the design decision making process and the development of final plans. Typical projects are those for which the project engineer anticipates a complicated maintenance of traffic plan or unusual construction work restrictions. Attendees should include the project engineer and others as necessary.

Prepare meeting materials, including any constructability related details (draft phasing, maintenance of traffic, seasonal restrictions, as well as standard plan information) prior to the meeting. Write and distribute minutes after the meeting.

157-159 Reserved for additional miscellaneous Meeting items required

## **PUBLIC INVOLVEMENT**

160 **Develop and maintain mailing list**

Prepare and maintain an up-to-date mailing list consisting of all potential property owners, local officials and other interested individuals.

161 **Prepare for advisory committee/officials meetings**

Preparation and delivery of all necessary materials (project plans, photographs, exhibits, maps, handouts, etc.) to facilitate advisory committee and local officials meetings.

162 **Attend advisory committee/officials meetings**

Attendance by the project engineer and others, if necessary, to the required meetings and preparation of the meeting minutes.

163 **Prepare for public meetings/hearings**

Preparation and delivery of all necessary materials (project plans, photographs, exhibits, maps, handouts, etc.) to facilitate public meetings/hearings.

**164 Attend public meetings/hearings**

Attendance by the project engineer and others, if necessary, to the public meeting.

**165 Prepare and distribute newsletters**

Develop and distribute project newsletters to individuals on the project mailing list and other interested parties.

*Note: The specific extent of the type of newsletter to be prepared will be determined at the Predesign Conference.*

**166 Property owner coordination**

Coordination with property owners with respect to project impacts.

*Note: The specific extent of property owner coordination will be determined at the Predesign Conference.*

167-169 Reserved for additional miscellaneous Public Involvement items required

## QA/QC

*Note: This section is generally ONLY required with large projects that have multiple sections and consultants.*

180 Plan review

181 Structure review

**EXHIBIT B**

**CERTIFICATES OF INSURANCE**



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

05/14/2014

**THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.**

**IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).**

<b>PRODUCER</b> The Underwriters Group, Inc. 1700 Eastpoint Parkway P.O. Box 23790 Louisville, KY 40223	<b>CONTACT NAME:</b> PHONE (A/C No, Ext): 502-244-1343 E-MAIL ADDRESS:	FAX (A/C No): 502-244-1411
	<b>INSURER(S) AFFORDING COVERAGE</b>	
<b>INSURED</b> GRW Engineers Inc. GRW Aerial Surveys, Inc. 801 Corporate Drive Lexington, KY 40503	<b>INSURER A:</b> Charter Oak Fire Insurance Company 25615	
	<b>INSURER B:</b> Travelers Indemnity Company 25658	
	<b>INSURER C:</b> Cincinnati Insurance Company 10677	
	<b>INSURER D:</b> Travelers Casualty Insurance Co of Amer 19046	
	<b>INSURER E:</b> XL Specialty Insurance Company 37885	
	<b>INSURER F:</b> Kentucky Employers' Mutual Insurance 10320	

**COVERAGES**    **CERTIFICATE NUMBER:**    **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSTR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR INSR	WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC	X	X		6808803L858COF14	03/01/2014	03/01/2015	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) \$1,000,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 \$
B	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	X	X		BA8805L391TIA14	03/01/2014	03/01/2015	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
B C	<input checked="" type="checkbox"/> <b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> EXCESS LIAB DED <input checked="" type="checkbox"/> RETENTION \$10,000	X	X		CUP3458T0031447 EXS0065793	03/01/2014 03/01/2014	03/01/2015 03/01/2015	EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000 C-Occ/Aggregate \$5,000,000
D F	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below Professional Liability			Y/N <input type="checkbox"/> N/A	VMPSUB6127Y97A14 361580 (KY only)	03/01/2014 03/01/2014	03/01/2015 03/01/2015	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
E	Professional Liability				DPR9710739	03/01/2014	03/01/2015	Each Claim 5,000,000 Aggregate 5,000,000

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)**

Project: Man o' War Boulevard Intersection Improvements  
 General Liability, Automobile Liability, Umbrella Liability: The Lexington-Fayette Urban County Government, its elected and appointed officials, employees, agents, boards, consultants, assigns, volunteers and successor in interest are included as Additional Insureds for the referenced project.  
 The policies, except for primary umbrella and Ky work comp, are endorsed for 30 days notice of cancellation to the certificate holder.

<b>CERTIFICATE HOLDER</b> Lexington Fayette Urban County Government  200 E. Main Street, 9th Floor  Lexington, KY 40507	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE 
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