

## **ENGINEERING SERVICES AGREEMENT**

**THIS IS AN AGREEMENT** made as of \_\_\_\_\_, 2024, between the LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT (**OWNER**) and Third Rock Consultants, LLC, 2526 Regency Rd, Ste 180, Lexington, Ky 40503 (**CONSULTANT**). **OWNER** intends to proceed with the Engineering Services for Design of New Water Quality Feature as described in the attached Exhibit A, “**RFP #52-2023.**”

**OWNER** and **CONSULTANT** in consideration of their mutual covenants herein agree in respect of 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 civil, geotechnical, structural, mechanical, electrical and sanitary engineering services incidental thereto.

#### **1.2. Project Phase**

After written authorization to proceed, **CONSULTANT** shall:

- 1.2.1.** Notify the **OWNER** in writing of its authorized representative who shall act as Project Engineer and liaison representative between the **CONSULTANT** and the **OWNER**.
- 1.2.2.** The **CONSULTANT** **must perform all duties** necessary to fully complete the deliverables described in attached Exhibit A "Engineering Services for Design of Water Quality Feature RFP #52-2023" (including Appendices A & B), and attached Exhibit C the "Proposal of Engineering Services and Related Matters" (the **CONSULTANT's** response to RFP #52-2023, including revised scope and fee dated 2-13-24)"

To the extent of any conflict among the provisions of these documents and/or this Agreement, the provisions of this Agreement shall control, followed by the provisions of **EXHIBIT A, and then EXHIBIT C.**

- 1.2.3** The **CONSULTANT** shall provide written documentation of all meetings and be responsible for incorporating all comments and changes resulting therefrom in final work product.

- 1.2.4. The **CONSULTANT** shall post all initial draft work products on the project document management portal. If the project document management portal is not functional on the draft posting date, the **CONSULTANT** shall submit five (5) copies (hardcover) of all initial draft final work products for this **PROJECT**. The copies of the initial draft final reports are submitted for review and comment by the **OWNER**, and should be presented in person to the **OWNER**.
- 1.2.5. After the **OWNER'S** detailed review, the **CONSULTANT** will revise the initial draft final for all work products for this **PROJECT**, and the **CONSULTANT** shall post all draft final work products on the project document management portal. If the project document management portal is not functional on the draft posting date, the **CONSULTANT** shall five (5) copies (hardcover). One electronic copy of the all work products for this **PROJECT**, including all appendices, shall be provided and prepared in such a manner that it can readily be converted to a quick-link accessible form for the **OWNER'S** Website. The **OWNER** shall have ten (10) business days within which to accept or deny each such final draft. If is denied, the **OWNER** shall provide a detailed explanation in writing for the basis of such denial. Once the **OWNER** accepts the draft as final, a total of ten (10) final copies (hardcover) are required in addition to an electronic copy.
- 1.2.6 Immediately notify **OWNER** of any delay in the delivery of a work product or deliverable, regardless of cause. Give written notice to **OWNER** within five (5) business days whenever **CONSULTANT** 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).

## **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 in the performance of this Agreement. See attached Exhibit C "Proposal of Engineering Services and Related Matters" for the project schedule.
- 4.2. The provisions of this Section Four (4) 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.
- 4.3. If a delay results from the acts of **OWNER** or another entity that is required to permit or approve the work or services, an extension of time for such delay will be considered by **OWNER**.
  - 4.3.1. If the above type of delay occurs and **CONSULTANT** wants an extension of time, it must, within ten (10) days from the date of the delay, apply in writing to **OWNER** for an extension of time for a reasonable period, which must be agreed upon by **OWNER**.
  - 4.3.2. If the extension of time is approved by **OWNER**, the **PROJECT** schedule/Final Task Order 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 **OWNER** of any of its other rights in the Agreement.
  - 4.3.3. If the above type of delay would prevent complete performance of the **PROJECT**/Final Task Order within ninety (90) days of the time specified therein, **OWNER** shall have the option of cancelling the **PROJECT**/Final Task Order or otherwise adjusting the scope of the services or work and any related fees.
  - 4.3.4. If the parties cannot mutually agree to an extension of time or an adjustment, Section 6.5 under "DISPUTES" of this Agreement shall apply.
- 4.4. If delays result solely by reason of acts of the **CONSULTANT**, the **CONSULTANT** must immediately notify the **OWNER** in the event of such delay, and provide the **OWNER** a written action plan within five (5) business days on how it will reasonably attempt to resolve the delay. If the parties cannot mutually agree to an extension of time or an adjustment, Section 6.5 under "DISPUTES" of this Agreement shall apply. If the above type of delay would prevent complete performance of the **PROJECT**/Final Task Order within ninety (90) days of the time

specified therein, **OWNER** shall have the option of cancelling the **PROJECT**/Final Task Order or otherwise adjusting the scope of the services or work and any related fees.

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

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

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

**OWNER** shall issue a purchase order for in the amount of \$128,200 for work performed under this Agreement by **CONSULTANT** or its sub-consultant/s per **EXHIBIT C**.

### **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 for which it has not already been paid 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 for which it has not already been paid, and the amount to be paid shall be determined by the **OWNER**.

## **SECTION 6 - GENERAL CONSIDERATIONS**

### **6.1. Termination**

**6.1.1. CONSULTANT may only terminate this Agreement** due to **OWNER'S** material breach of the terms hereof which breach causes **CONSULTANT** to be unable to perform its duties and responsibilities under this Agreement and upon forty-five (45) days written advance notice to **OWNER**.

**6.1.2.** The **OWNER** may terminate this Agreement for cause upon seven (7) business days written advance notice to the **CONSULTANT**. The **OWNER** reserves the right to terminate the Agreement for any reason whatsoever, with or without cause, at any time upon thirty (30) days written advance notice to the **CONSULTANT**.

### **6.2. Ownership and Reuse of Documents**

All documents, including raw data, reports, 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 that 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. Except as otherwise provided in this Agreement, 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 applicable provisions of the Kentucky Revised Statutes, and that venue of any legal action shall be a court of appropriate jurisdiction in Fayette County, Kentucky. The parties further agree that Kentucky law shall apply with respect to the interpretation of any provision of this Agreement.
- 6.3.4.** The **CONSULTANT** understands that this Agreement is being paid in whole or in part by a federal grant (PON2 129 240000129) awarded to the **OWNER** by the Kentucky Division of Water (23-07). The Commonwealth of Kentucky Contract is attached hereto and incorporated herein by reference as **EXHIBIT A**.

### **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. **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 of the work. 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 hereunder may be resolved by agreement of the **OWNER'S** Agent (Section 8.1.1) and the **CONSULTANT**. In the absence of such an agreement, the dispute shall be submitted to the **OWNER'S** Commissioner, Department of Environmental Quality & Public Works, whose decision 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, even though raw data, reports, Drawings and Specifications have been accepted by the **OWNER**, and it shall make any necessary revisions or corrections resulting from its errors and/or omissions for no additional compensation. By submission of reports, soils and subsurface information, quantities estimates, calculations and Drawings and Specifications to the **OWNER**, the **CONSULTANT** has made an incontrovertible representation that the information is accurate within the appropriate standard of skill and care. Failure on the part of **CONSULTANT** to provide the expected level of accuracy may be grounds for the **OWNER** to terminate this Agreement.

## **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** unless required by law

## **6.8. Access to Records**

The **CONSULTANT** and his sub-consultants shall maintain all books, documents, papers, and accounting records, and make such materials available at their respective offices at all reasonable times during the Agreement period and for five (5) years from the date of final payment under the Agreement for inspection by the **OWNER**, and copies thereof shall be furnished if requested. Failure to maintain such records for five (5) years after the date of final payment may be grounds for the **OWNER** to disqualify the **CONSULTANT** from consideration for future consultant engineering Agreements, and **CONSULTANT** agrees to indemnify **OWNER**, as provided in Section 6.9.2. due to **CONSULTANT'S** failure to maintain records as required by this Section.

## **6.9. Risk Management Provisions, Insurance and Indemnification**

### 6.9.1. DEFINITIONS

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

As used in these Risk Management Provisions, the terms “**CONSULTANT**” and “**OWNER**” 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. **OWNER** means the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, boards, assigns, volunteers, and successors in interest.

### 6.9.2. INDEMNIFICATION AND HOLD HARMLESS PROVISION

- a. 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.
- b. **CONSULTANT** shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter “**OWNER**”) from and against 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 that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by **CONSULTANT**’s performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the **CONSULTANT**; and (b) not caused solely by the active negligence or willful misconduct of **OWNER**.
- c. Notwithstanding, the foregoing, with respect to any professional services performed by **CONSULTANT** hereunder (and to the fullest extent permitted by law), **CONSULTANT** shall indemnify, save, hold harmless and defend **OWNER** 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.

- d. In the event **OWNER** is alleged to be liable based upon the above, **CONSULTANT** shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by **OWNER**, which approval shall not be unreasonably withheld.
- e. These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- f. **OWNER** is a political subdivision of the Commonwealth of Kentucky. **CONSULTANT** acknowledges and agrees that **OWNER** is unable to provide indemnity or otherwise save, hold harmless, or defend the **CONSULTANT** in any manner.

### 6.9.3. FINANCIAL RESPONSIBILITY

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

### 6.9.4. INSURANCE REQUIREMENTS

#### 6.9.4.1. Required Insurance Coverage

**CONSULTANT** shall procure and maintain for the duration of this Agreement the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to **OWNER** in order to protect **OWNER** 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 **CONSULTANT**. The cost of such insurance shall be included in any proposal:

<u>Coverage</u>	<u>Limits</u>
General Liability (Insurance Services Office Form CG 00 01)	\$1 million per occurrence \$2 million aggregate or \$2 million combined single limit
Commercial Automobile Liability (Insurance Services Office Form CA 0001)	combined single, \$1 million per occurrence



Professional Liability	\$1 million per occurrence, \$2 million aggregate
Worker's Compensation	Statutory
Employer's Liability	\$500,000.00

The policies above shall contain the following conditions:

- a. **OWNER** shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by **OWNER**.
- c. The General Liability Policy shall include Business Interruption coverage.
- d. The Contractor shall carry Builders Risk coverage at a level sufficient to cover the replacement cost of any equipment or machinery used at the work site, if applicable.
- e. The General Liability Policy shall include a Pollution Liability endorsement and/or Environmental Casualty coverage unless it is deemed not to apply by **OWNER**.
- f. The General Liability Policy shall have a Professional Liability endorsement (including Errors and Omissions), which shall include Business interruption coverage and this policy or endorsement shall include Environmental Casualty coverage for any services performed pursuant to the contract, and/or a separate Professional Liability Policy shall be obtained unless it is deemed not to apply by **OWNER**. (**OWNER** does not need to be named as additional insured).
- g. **OWNER** shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- h. The Professional Liability policy shall be maintained for a minimum of three years beyond the completion date of the project, to the extent commercially available. If not commercially available, **CONSULTANT** shall notify **OWNER** and obtain similar insurance that is commercially available and acceptable to **OWNER**.
- i. Said coverage shall be written by insurers acceptable to **OWNER** and shall be in a form acceptable to **OWNER**. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.

#### 6.9.4.2. Renewals

After insurance has been approved by **OWNER**, evidence of renewal of an expiring policy must be submitted to **OWNER**, 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.

#### **6.9.4.3. Right to Review, Audit and Inspect**

**CONSULTANT** understands and agrees that **OWNER** may review, audit and inspect any and all of **CONSULTANT'S** records and operations to insure compliance with these Insurance Requirements.

#### **6.9.5. SAFETY AND LOSS CONTROL**

**CONSULTANT** shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and **OWNER**.

#### **6.9.6. DEFINITION OF DEFAULT**

**CONSULTANT** understands and agrees that the failure to comply with any of these provisions shall constitute default under this Agreement. **CONSULTANT** also agrees that **OWNER** 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 Agreement.

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

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

**7.1.** The **CONSULTANT** will not discriminate against any employee or application for employment because of race, color, religion, national origin, sex, age, or handicap. The **CONSULTANT** will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, sex, age, or handicap. Such action shall include, but not be limited to the following: employment upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for 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.

**7.2.1.** The **CONSULTANT** will, in all solicitations or advertisements for employees placed

by or on behalf of the **CONSULTANT**, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, sex, age (between forty and seventy), or handicap.

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

- 8.1.** This Agreement is subject to the following provisions.
- 8.1.1.** Pursuant to subparagraph 3.4 of this Agreement, **OWNER** has assigned Jennifer Carey, P.E., Director of the Division of Environmental Services (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.** This Agreement, together with the Incorporated Documents (Section 1.2) constitutes the entire Agreement between **OWNER** and **CONSULTANT** and supersedes all prior written or oral understandings. This Agreement and **EXHIBITS A, B, and C** and any related schedules or documents may only be amended, supplemented, modified or canceled by a duly executed written instrument.
- 8.3. NO THIRD PARTY RIGHTS.** This agreement does not create a contractual relationship with or right of action in favor of a third party against either **OWNER** or **CONSULTANT**.
- 8.4 UNENFORCEABLE TERMS/SURVIVABILITY.** If any term or provision of this Agreement shall be found to be illegal or unenforceable, this Agreement shall remain in full force and such term or provision shall be deemed stricken. The provisions of Section 6 of this Agreement shall survive its termination.
- 8.5. NON-WAIVER.** The failure of either party to enforce any right reserved to it in this Agreement shall not be a waiver of any such right to which the party is entitled.

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

BY: \_\_\_\_\_  
LINDA GORTON, MAYOR

CONSULTANT:

Third Rock Consultants, LLC

BY: \_\_\_\_\_  
*[Signature]*

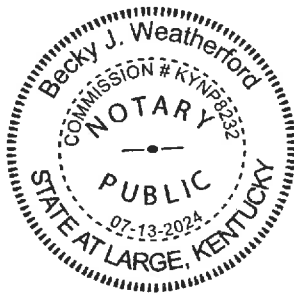
ATTEST:

\_\_\_\_\_  
URBAN COUNTY COUNCIL CLERK  
COMMONWEALTH OF KENTUCKY )  
)  
COUNTY OF FAYETTE )

The foregoing Agreement was subscribed, sworn to and acknowledged before me by Molly F Cummings, as the duly authorized representative for and on behalf of Third Rock Consultants, on this the 16th day of March, 2024.

My commission expires: 7-13-2024.

*[Signature]*  
NOTARY PUBLIC



**EXHIBIT A**

**REQUEST FOR PROPOSALS FOR  
ENGINEERING SERVICES FOR DESIGN OF  
NEW WATER QUALITY FEATURE**

**RFP #52-2023**



# Lexington-Fayette Urban County Government

## Request for Proposals

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The Lexington-Fayette Urban County Government hereby requests proposals for **RFP #52-2023 Engineering Services for Design of New Water Quality Feature** to be provided in accordance with terms, conditions and specifications established herein.

Sealed proposals will be received through Ion Wave until **2:00 PM**, prevailing local time, on **January 18, 2024**. All forms and information requested in RFP must be included and attached in Response Attachments tab in Ion Wave.

Proposals received after the date and time set for opening proposals will not be accepted. It is the sole responsibility of the Proposer to assure that his/her proposal is submitted in Ion Wave before the date and time set for opening proposals.

Proposals, once submitted, may not be withdrawn for a period of ninety (90) calendar days.

The Lexington-Fayette Urban County Government reserves the right to reject any or all proposals, and to waive technicalities and informalities when such waiver is determined by the Lexington-Fayette Urban County Government to be in its best interest.

Signature of this proposal by the Proposer constitutes acceptance by the Proposer of terms, conditions and requirements set forth herein.

Minor exceptions may not eliminate the proposal. Any exceptions to the specifications established herein shall be listed in detail on a separate sheet and attached hereto. The Lexington-Fayette Urban County Government shall determine whether any exception is minor.

The Lexington-Fayette Urban County Government encourages the participation of minority- and women-owned businesses in Lexington-Fayette Urban County Government contracts. This proposal is subject to Affirmative Action requirements attached hereto.

***Please do not contact any LFUCG staff member or any other person involved in the selection process other than the designated contact person(s) regarding the project contemplated under this RFP while this RFP is open and a selection has not been finalized. Any attempt to do so may result in disqualification of the firm's submittal for consideration.***

## **Laws and Regulations**

All applicable state laws, municipal ordinances and regulations of all authorities having jurisdiction over the project shall apply to the contract, and shall be deemed to be incorporated herein by reference.

## **Equal Employment Opportunity**

The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, religion, sex (including pregnancy, sexual orientation or gender identity), national origin, disability, age, genetic information, political affiliation, or veteran status, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.

## **Kentucky Equal Employment Opportunity Act**

The Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any "county, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

"During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, or national origin;
- (2) The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, or national origin;
- (3) The contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provision of the nondiscrimination clauses required by this section; and
- (4) The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses."

The Act further provides:

"KRS 45.610. Hiring minorities -- Information required

- (1) For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetables.
- (2) Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to

his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.

KRS 45.620. Action against contractor -- Hiring of minority contractor or subcontractor

(1) If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.

(2) If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 to 45.640.

(3) The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.

KRS 45.630 Termination of existing employee not required, when

Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that employee was employed prior to the date of the contract.

KRS 45.640 Minimum skills

Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job."

It is recommended that all of the provisions above quoted be included as special conditions in each contract. In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his workforce in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.



## **LFUCG Non-Appropriation Clause**

Contractor acknowledges that the LFUCG is a governmental entity, and the contract validity is based upon the availability of public funding under the authority of its statutory mandate.

In the event that public funds are unavailable and not appropriated for the performance of the LFUCG's obligations under this contract, then this contract shall automatically expire without penalty to the LFUCG thirty (30) days after written notice to Contractor of the unavailability and non-appropriation of public funds. It is expressly agreed that the LFUCG shall not activate this non-appropriation provision for its convenience or to circumvent the requirements of this contract, but only as an emergency fiscal measure during a substantial fiscal crisis, which affects generally its governmental operations.

In the event of a change in the LFUCG's statutory authority, mandate and mandated functions, by state and federal legislative or regulatory action, which adversely affects the LFUCG's authority to continue its obligations under this contract, then this contract shall automatically terminate without penalty to the LFUCG upon written notice to Contractor of such limitation or change in the LFUCG's legal authority.

## **Contention Process**

Vendors who respond to this invitation have the right to file a notice of contention associated with the RFP process or to file a notice of appeal of the recommendation made by the Director of Central Purchasing resulting from this invitation.

Notice of contention with the RFP process must be filed within 3 business days of the bid/proposal opening by (1) sending a written notice, including sufficient documentation to support contention, to the Director of the Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his/her contention with the RFP process. After consulting with the Commissioner of Finance the Chief Administrative Officer and reviewing the documentation and/or hearing the vendor, the Director of Central Purchasing shall promptly respond in writing findings as to the compliance with RFP processes. If, based on this review, a RFP process irregularity is deemed to have occurred the Director of Central Purchasing will consult with the Commissioner of Finance, the Chief Administrative Officer and the Department of Law as to the appropriate remedy.

Notice of appeal of a RFP recommendation must be filed within 3 business days of the RFP recommendation by (1) sending a written notice, including sufficient documentation to support appeal, to the Director, Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his appeal. After reviewing the documentation and/or hearing the vendor and consulting with the Commissioner of Finance and the Chief Administrative Officer, the Director of Central Purchasing shall in writing, affirm or withdraw the recommendation.

## AMERICAN RESCUE PLAN ACT

### AMENDMENT 1 — CERTIFICATION OF COMPLIANCE FOR EXPENDITURES USING FEDERAL FUNDS, INCLUDING THE AMERICAN RESCUE PLAN ACT

The Lexington-Fayette Urban County Government (“LFUCG”) may use Federal funding to pay for the goods and/or services that are the subject matter of this bid. That Federal funding may include funds received by LFUCG under the American Rescue Plan Act of 2021. Expenditures using Federal funds require evidence of the contractor’s compliance with Federal law. Therefore, by the signature below of an authorized company representative, you certify that the information below is understood, agreed, and correct. Any misrepresentations may result in the termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims.

**The bidder (hereafter “bidder,” or “contractor”) agrees and understands that in addition to all conditions stated within the attached bid documents, the following conditions will also apply to any Agreement entered between bidder and LFUCG, if LFUCG uses Federal funds, including but not limited to funding received by LFUCG under the American Rescue Plan Act (“ARPA”), toward payment of goods and/or services referenced in this bid. The bidder also agrees and understands that if there is a conflict between the terms included elsewhere in this Request for Proposal and the terms of this Amendment 1, then the terms of Amendment 1 shall control. The bidder further certifies that it can and will comply with these conditions, if this bid is accepted and an Agreement is executed:**

1. Any Agreement executed as a result of acceptance of this bid may be governed in accordance with 2 CFR Part 200 and all other applicable Federal law and regulations and guidance issued by the U.S. Department of the Treasury.

2. Pursuant to 24 CFR § 85.43, any Agreement executed as a result of acceptance of this bid can be terminated if the contractor fails to comply with any term of the award. This Agreement may be terminated for convenience in accordance with 24 CFR § 85.44 upon written notice by LFUCG. Either party may terminate this Agreement with thirty (30) days written notice to the other party, in which case the Agreement shall terminate on the thirtieth day. In the event of termination, the contractor shall be entitled to that portion of total compensation due under this Agreement as the services rendered bears to the services required. However, if LFUCG suspects a breach of the terms of the Agreement and/or that the contractor is violating the terms of any applicable law governing the use of Federal funds, LFUCG may suspend the contractor’s ability to receive payment by giving thirty (30) days’ advance written notice. Further, either party may terminate this Agreement for cause shown with thirty (30) days written notice, which shall explain the party’s cause for the termination. If the parties do not reach a settlement before the end of the 30 days, then the Agreement shall terminate on the thirtieth day. In the event of a breach, LFUCG reserves the right to pursue any and all applicable legal, equitable, and/or administrative remedies against the contractor.

3. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

- (1) Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including

apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part, and the contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

Provided, however, that in the event a contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

4. If fulfillment of the contract requires the contractor to employ mechanic's or laborers, the contractor further agrees that it can and will comply with the following:

- (1) *Overtime requirements: No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such a workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such a workweek.*

- (2) *Violation: liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.*
- (3) *Withholding for unpaid wages and liquidated damages. LFUCG shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.*
- (4) *Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower-tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.*

*5. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.*

*6. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency Regional Office.*

*7. The contractor shall include these requirements in numerical paragraphs 5 and 6 in each subcontract exceeding \$100,000 financed in whole or in part with Federal funding.*

*8. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 et seq.*

*9. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency Regional Office.*

*10. The contractor shall include these requirements in numerical paragraphs 8 and 9 in each subcontract exceeding \$100,000 financed in whole or in part with Federal funds.*

*11. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 et seq.*

*12. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency regional office.*

*13. The contractor shall include these requirements in numerical paragraphs 11 and 12 in each subcontract exceeding \$100,000 financed in whole or in part with American Rescue Plan Act funds.*

14. The contractor shall include this language in any subcontract it executes to fulfill the terms of this bid: “the sub-grantee, contractor, subcontractor, successor, transferee, and assignee shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury’s Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract (or agreement). Title VI also includes protection to persons with ‘Limited English Proficiency’ in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury’s Title VI regulations, 31 CFR Part 22, and herein incorporated by reference and made a part of this contract or agreement.”

15. *Contractors who apply or bid for an award of \$100,000 or more shall file the required certification that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier, up to the recipient. The required certification is included here:*

- a. The undersigned certifies, to the best of his or her knowledge and belief, that:
  - (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
  - (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.
  - (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.
- b. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

16. The contractor acknowledges and certifies that it has not been debarred or suspended and further acknowledges and agrees that it must comply with regulations regarding debarred or suspended entities in accordance with 24 CFR § 570.489(l). Funds may not be provided to excluded or disqualified persons.

17. The contractor agrees and certifies that to the greatest extent practicable, it will prefer the purchase, acquisition, and use of all applicable goods, products or materials produced in the United States, in

conformity with 2 CFR 200.322 and/or section 70914 of Public Law No. 117-58, §§ 70901-52, also known as the Infrastructure Investment and Jobs Act, whichever is applicable.

18. The contractor agrees and certifies that all activities performed pursuant to any Agreement entered as a result of the contractor's bid, and all goods and services procured under that Agreement, shall comply with 2 C.F.R. § 200.216 (Prohibition on certain telecommunications and video surveillance services and equipment) and 2 C.F.R. 200 § 200..323 (Procurement of recovered materials), to the extent either section is applicable.

19. If this bid involves construction work for a project totaling \$10 million or more, then the contractor further agrees that all laborers and mechanics, etc., employed in the construction of the public facility project assisted with funds provided under this Agreement, whether employed by contractor, or contractor's contractors, or subcontractors, shall be paid wages complying with the Davis-Bacon Act (40 U.S.C. 3141-3144). Contractor agrees that all of contractor's contractors and subcontractors will pay laborers and mechanics the prevailing wage as determined by the Secretary of Labor and that said laborers and mechanics will be paid not less than once a week. The contractor agrees to comply with the Copeland Anti- Kick Back Act (18 U.S.C. § 874) and its implementing regulations of the U.S. Department of Labor at 29 CFR part 3 and part 5. The contractor further agrees to comply with the applicable provisions of the Contract Work Hours and Safety Standards Act (40 U.S.C. Section 327-333), and the applicable provisions of the Fair Labor Standards Act of 1938, as amended (29 U.S.C. et seq.). Contractor further agrees that it will report all suspected or reported violations of any of the laws identified in this paragraph to LFUCG.

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Signature

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Date

## SELECTION CRITERIA:

**Project Team Outline (30 Points):** Specialized experience and technical competence of the persons or firm(s) (including a joint venture or association (e.g., team)) with the type of service requested:

- The proposal should clearly identify the following primary project team members, with their discipline(s) and office location of primary residence. Disciplines/Expertise may reside in one or multiple persons/firms.
  - a) Project Manager
  - b) Principal Project Engineer(s) licensed in the Commonwealth of Kentucky
  - c) Geotechnical Engineer licensed in the state of Kentucky (dam evaluation)
  - d) Hydrologic & Hydraulics Modeler
  - e) Registered Land Surveyor
  - f) Botanist or Plant Specialist
  - g) Hydrogeologist / geomorphologist with training and experience in natural channel stream design.

The proposal should contain only those resumes of the primary project team members or those providing measurable services to project delivery. Include the office location of primary residence (e.g., Lexington, KY) for each individual. The content of those resumes should be limited to one page each per person, and only include experience directly relevant to the services requested in this proposal

**Statement of Qualifications (30 Points):** Capacity of the person, firm, or team to perform the work, including any specialized services, within the time limitations.

The proposal should include descriptions of up to three (3) similar projects successfully completed by the proposed project team members and/or firm(s). Provide contacts for references on each project.

Past record and performance on contracts with the Urban County Government or other governmental agencies and private industry with respect to such factors as control of cost, quality of work, ability to meet schedules, and successful submission of BMP Implementation Plans or similar capital improvement action plans to regulatory agencies (USEPA, KY Division of Water, etc.).

**Proposed Cost for Services (35 Points):** Using the table following Section 6 below, list the total estimated cost of services shall be broken down by Task as defined in Section 2: Scope of Work and by project (BMP #48 & BMP #49) and include unit costs for additional stakeholder meetings. Additional cost savings shall be noted where tasks for these projects overlap.

**Degree of local employment (5 Points):** the level of local employment to be used by the person or firm in performance of this contract.

Proposals shall contain the appropriate information necessary to evaluate based on these criteria. A committee composed of government employees as well as representatives of relevant user groups will evaluate the proposals.

**Questions shall be submitted via IonWave at: <https://lexingtonky.ionwave.net>**

## Affirmative Action Plan

All vendors must submit as a part of the proposal package the following items to the Urban County Government:

1. Affirmative Action Plan for his/her firm;
2. Current Work Force Analysis Form;

Failure to submit these items as required may result in disqualification of the submitter from award of the contract. All submissions should be directed to:

Director, Division of Central Purchasing  
Lexington-Fayette Urban County Government  
200 East Main Street, 3rd Floor  
Lexington, Kentucky 40507

All questions regarding this proposal must be directed to the Division of Central Purchasing, (859)-258-3320.



**AFFIDAVIT**

Comes the Affiant, \_\_\_\_\_, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is \_\_\_\_\_ and he/she is the individual submitting the proposal or is the authorized representative of \_\_\_\_\_, the entity submitting the proposal (hereinafter referred to as "Proposer").

2. Proposer will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.

3. Proposer will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.

4. Proposer has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.

5. Proposer has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Proposer will not violate any provision of the campaign finance laws of the Commonwealth.

6. Proposer has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."

**Continued on next page**

7. Proposer acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught.

\_\_\_\_\_

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The foregoing instrument was subscribed, sworn to and acknowledged before me

by \_\_\_\_\_ on this the \_\_\_\_\_ day

of \_\_\_\_\_, 20\_\_.

My Commission expires: \_\_\_\_\_

\_\_\_\_\_  
NOTARY PUBLIC, STATE AT LARGE

## EQUAL OPPORTUNITY AGREEMENT

### Standard Title VI Assurance

The Lexington Fayette-Urban County Government, (hereinafter referred to as the "Recipient") hereby agrees that as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation, it will comply with Title VI of the Civil Rights Act of 1964, 78Stat.252, 42 U.S.C. 2000d-4 (hereinafter referred to as the "Act"), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, (49 CFR, Part 21) Nondiscrimination in Federally Assisted Program of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the "Regulations") and other pertinent directives, no person in the United States shall, on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance from the U.S. Department of Transportation, including the Federal Highway Administration, and hereby gives assurance that will promptly take any necessary measures to effectuate this agreement. This assurance is required by subsection 21.7(a) (1) of the Regulations.

### The Law

- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- Section 503 of the Rehabilitation Act of 1973 states:

*The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.*

- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.
- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

*The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.*

\*\*\*\*\*

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

*I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped and aged persons.*

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*Signature*

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*Name of Business*

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**WORKFORCE ANALYSIS FORM**

Name of Organization: \_\_\_\_\_

Categories	Total	White (Not Hispanic or Latino)		Hispanic or Latino		Black or African- American (Not Hispanic or Latino)		Native Hawaiian and Other Pacific Islander (Not Hispanic or Latino)		Asian (Not Hispanic or Latino)		American Indian or Alaskan Native (not Hispanic or Latino)		Two or more races (Not Hispanic or Latino)		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
<b>Administrators</b>																	
<b>Professionals</b>																	
<b>Superintendents</b>																	
<b>Supervisors</b>																	
<b>Foremen</b>																	
<b>Technicians</b>																	
<b>Protective</b>																	
<b>Para-</b>																	
<b>Office/Clerical</b>																	
<b>Skilled Craft</b>																	
<b>Service/Maintena</b>																	
<b>Total:</b>																	

Prepared by: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

*(Name and Title)*

*Revised 2015-Dec-15*

**DIRECTOR, DIVISION OF CENTRAL PURCHASING  
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT  
200 EAST MAIN STREET  
LEXINGTON, KENTUCKY 40507**

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITIES AND DBE CONTRACT PARTICIPATION**

Notice of requirement for Affirmative Action to ensure Equal Employment Opportunities and Disadvantaged Business Enterprises (DBE) Contract participation. Disadvantaged Business Enterprises (DBE) consists of Minority-Owned Business Enterprises (MBE) and Woman-Owned Business Enterprises (WBE).

The Lexington-Fayette Urban County Government has set a goal that not less than ten percent (10%) of the total value of this Contract be subcontracted to Disadvantaged Business Enterprises, which is made up of MBEs and WBEs. The Lexington Fayette Urban County Government also has set a goal that not less than three percent (3%) of the total value of this Contract be subcontracted to Veteran-owned Small Businesses. The goal for the utilization of Disadvantaged Business Enterprises as well Veteran –owned Small Businesses as subcontractors is a recommended goal. Contractor(s) who fail to meet such goal will be expected to provide written explanations to the Director of the Division of Purchasing of efforts they have made to accomplish the recommended goal, and the extent to which they are successful in accomplishing the recommended goal will be a consideration in the procurement process. Depending on the funding source, other DBE goals may apply.

For assistance in locating Disadvantaged Business Enterprises Subcontractors contact:

Sherita Miller, MPA, Division of Central Purchasing  
Lexington-Fayette Urban County Government  
200 East Main Street, 3rd Floor, Room 338  
Lexington, Kentucky 40507  
[smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov)

Firm Submitting Proposal: \_\_\_\_\_

Complete Address: \_\_\_\_\_  
Street City Zip

Contact Name: \_\_\_\_\_ Title: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Email address: \_\_\_\_\_

**Lexington-Fayette Urban County Government**  
**MWDBE PARTICIPATION GOALS**

**A. GENERAL**

- 1) The LFUCG request all potential contractors to make a concerted effort to include Minority-Owned (MBE), Woman-Owned (WBE), Disadvantaged (DBE) Business Enterprises and Veteran-Owned Small Businesses (VOSB) as subcontractors or suppliers in their bids.
- 2) Toward that end, the LFUCG has established 10% of total procurement costs as a Goal for participation of Minority-Owned, Woman-Owned and Disadvantaged Businesses on this contract.
- 3) **It is therefore a request of each Bidder to include in its bid, the same goal (10%) for MWDBE participation and other requirements as outlined in this section.**
- 4) The LFUCG has also established a 3% of total procurement costs as a Goal for participation for of Veteran-Owned Businesses.
- 5) **It is therefore a request of each Bidder to include in its bid, the same goal (3%) for Veteran-Owned participation and other requirements as outlined in this section.**

**B. PROCEDURES**

- 1) The successful bidder will be required to report to the LFUCG, the dollar amounts of all payments submitted to Minority-Owned, Woman-Owned or Veteran-Owned subcontractors and suppliers for work done or materials purchased for this contract. (See Subcontractor Monthly Payment Report)
- 2) Replacement of a Minority-Owned, Woman-Owned or Veteran-Owned subcontractor or supplier listed in the original submittal must be requested in writing and must be accompanied by documentation of Good Faith Efforts to replace the subcontractor / supplier with another MWDBE Firm; this is subject to approval by the LFUCG. (See LFUCG MWDBE Substitution Form)
- 3) For assistance in identifying qualified, certified businesses to solicit for potential contracting opportunities, bidders may contact:
  - a) The Lexington-Fayette Urban County Government, Division of Central Purchasing (859-258-3320)
- 4) The LFUCG will make every effort to notify interested MWDBE and Veteran-Owned subcontractors and suppliers of each Bid Package, including information on the scope of work, the pre-bid meeting time and location, the bid date, and all other pertinent information regarding the project.

**C. DEFINITIONS**

- 1) A Minority-Owned Business Enterprise (MBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by persons of African American, Hispanic, Asian, Pacific Islander, American Indian or Alaskan Native Heritage.
- 2) A Woman-Owned Business Enterprise (WBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by one or more women.



- 3) A Disadvantaged Business (DBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by a person(s) that are economically and socially disadvantaged.
- 4) A Veteran-Owned Small Business (VOSB) is defined as a business which is certified as being at least 51% owned, managed and controlled by a veteran and/or a service disabled veteran.
- 5) Good Faith Efforts are efforts that, given all relevant circumstances, a bidder or proposer actively and aggressively seeking to meet the goals, can reasonably be expected to make. In evaluating good faith efforts made toward achieving the goals, whether the bidder or proposer has performed the efforts outlined in the Obligations of Bidder for Good Faith Efforts outlined in this document will be considered, along with any other relevant factors.

#### D. OBLIGATION OF BIDDER FOR GOOD FAITH EFFORTS

- 1) **The bidder shall make a Good Faith Effort to achieve the Participation Goal for MWDBE and Veteran-Owned subcontractors/suppliers. The failure to meet the goal shall not necessarily be cause for disqualification of the bidder; however, bidders not meeting the goal are required to furnish with their bids written documentation of their Good Faith Efforts to do so.**
- 2) Award of Contract shall be conditioned upon satisfaction of the requirements set forth herein.
- 3) The Form of Proposal includes a section entitled "MWDBE Participation Form". The applicable information must be completed and submitted as outlined below.
- 4) **Failure to submit this information as requested may be cause for rejection of bid or delay in contract award.**

#### E. DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS

- 1) Bidders reaching the Goal are required to submit only the MWDBE Participation Form." The form must be fully completed including names and telephone number of participating MWDBE firm(s); type of work to be performed; estimated value of the contract and value expressed as a percentage of the total Lump Sum Bid Price. The form must be signed and dated, and is to be submitted with the bid.
- 2) Bidders not reaching the Goal must submit the "MWDBE Participation Form", the "Quote Summary Form" and a written statement documenting their Good Faith Effort to do so. If bid includes no MWDBE and/or Veteran participation, bidder shall enter "None" on the subcontractor / supplier form). In addition, the bidder must submit written proof of their Good Faith Efforts to meet the Participation Goal:
  - a. Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.
  - b. Included documentation of advertising in the above publications with the bidders good faith efforts package

- c. Attended LFUCG Central Purchasing Economic Inclusion Outreach event
- d. Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned businesses of subcontracting opportunities
- e. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses.
- f. Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).
- g. Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.
- d. Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs and/or Veteran-Owned businesses soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.
- e. Followed up initial solicitations by contacting MWDBEs and Veteran-Owned Businesses to determine their level of interest.
- j. Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.
- k. Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce
- l. Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.
- m. Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.
- n. Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

o. Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

p. Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

q. Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE and Veteran participation.

**Note: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to review by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.**



## MINORITY BUSINESS ENTERPRISE PROGRAM

Sherita Miller, MPA  
Minority Business Enterprise Liaison  
Division of Central Purchasing  
Lexington-Fayette Urban County Government  
200 East Main Street  
Lexington, KY 40507  
[smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov)  
859-258-3323

**OUR MISSION:** The mission of the Minority Business Enterprise Program is to facilitate the full participation of minority and women owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long term economic viability of Lexington-Fayette Urban County Government.

To that end the city council adopted and implemented Resolution 484-2017 – A Certified Minority, Women and Disadvantaged Business Enterprise ten percent (10%) minimum goal and a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and Certified Service Disabled Veteran – Owned Businesses for government contracts.

The resolution states the following definitions shall be used for the purposes of reaching these goals (a full copy is available in Central Purchasing):

***Certified Disadvantaged Business Enterprise (DBE)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a person(s) who is socially and economically disadvantaged as defined by 49 CFR subpart 26.

***Certified Minority Business Enterprise (MBE)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by an ethnic minority (i.e. African American, Asian American/Pacific Islander, Hispanic Islander, Native American/Native Alaskan Indian) as defined in federal law or regulation as it may be amended from time-to-time.

***Certified Women Business Enterprise (WBE)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a woman.

***Certified Veteran-Owned Small Business (VOSB)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

***Certified Service Disabled Veteran Owned Small Business (SDVOSB)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a disabled veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

The term “Certified” shall mean the business is appropriately certified, licensed, verified, or validated by an organization or entity recognized by the Division of Purchasing as having the appropriate credentials to make a determination as to the status of the business.

We have compiled the list below to help you locate certified MBE, WBE and DBE certified businesses. Below is a listing of contacts for LFUCG Certified MWDBEs and Veteran-Owned Small Businesses in (<https://lexingtonky.ionwave.net>)

<b>Business</b>	<b>Contact</b>	<b>Email Address</b>	<b>Phone</b>
<b>LFUCG</b>	Sherita Miller	<a href="mailto:smiller@lexingtonky.gov">smiller@lexingtonky.gov</a>	859-258-3323
<b>Commerce Lexington – Minority Business Development</b>	Tyrone Tyra	<a href="mailto:ttyra@commercelexington.com">ttyra@commercelexington.com</a>	859-226-1625
<b>Tri-State Minority Supplier Diversity Council</b>	Susan Marston	<a href="mailto:smarston@tsmsdc.com">smarston@tsmsdc.com</a>	502-365-9762
<b>Small Business Development Council</b>	Shawn Rogers UK SBDC	<a href="mailto:shawn.rogers@uky.edu">shawn.rogers@uky.edu</a>	859-257-7666
<b>Community Ventures Corporation</b>	Phyllis Alcorn	<a href="mailto:palcorn@cvky.org">palcorn@cvky.org</a>	859-231-0054
<b>KY Transportation Cabinet (KYTC)</b>	Melvin Bynes	<a href="mailto:Melvin.bynes2@ky.gov">Melvin.bynes2@ky.gov</a>	502-564-3601
<b>KYTC Pre-Qualification</b>	Shella Eagle	<a href="mailto:Shella.Eagle@ky.gov">Shella.Eagle@ky.gov</a>	502-782-4815
<b>Ohio River Valley Women’s Business Council (WBENC)</b>	Sheila Mixon	<a href="mailto:smixon@orvwbc.org">smixon@orvwbc.org</a>	513-487-6537
<b>Kentucky MWBE Certification Program</b>	Yvette Smith, Kentucky Finance Cabinet	<a href="mailto:Yvette.Smith@ky.gov">Yvette.Smith@ky.gov</a>	502-564-8099
<b>National Women Business Owner’s Council (NWBOC)</b>	Janet Harris-Lange	<a href="mailto:janet@nwbo.org">janet@nwbo.org</a>	800-675-5066
<b>Small Business Administration</b>	Robert Coffey	<a href="mailto:robertcoffey@sba.gov">robertcoffey@sba.gov</a>	502-582-5971
<b>LaVoz de Kentucky</b>	Andres Cruz	<a href="mailto:lavozdeky@yahoo.com">lavozdeky@yahoo.com</a>	859-621-2106
<b>The Key News Journal</b>	Patrice Muhammad	<a href="mailto:production@keynewsjournal.com">production@keynewsjournal.com</a>	859-685-8488



**LFUCG MWDBE PARTICIPATION FORM**

**Bid/RFP/Quote Reference # \_\_\_\_\_**

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to Central Purchasing for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWDBE Company, Name, Address, Phone, Email	MBE WBE or DBE	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1.				
2.				
3.				
4.				

The undersigned company representative submits the above list of MWDBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

\_\_\_\_\_  
Company

\_\_\_\_\_  
Company Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title



**LFUCG MWDBE SUBSTITUTION FORM**

**Bid/RFP/Quote Reference # \_\_\_\_\_**

The substituted MWDBE and/or veteran subcontractors listed below have agreed to participate on this Bid/RFP/Quote. These substitutions were made prior to or after the job was in progress. These substitutions were made for reasons stated below and are now being submitted to Central Purchasing for approval. By the authorized signature of a representative of our company, we understand that this information will be entered into our file for this project.

SUBSTITUTED MWDBE Company Name, Address, Phone, Email	MWDBE Formally Contracted/ Name, Address, Phone, Email	Work to Be Performed	Reason for the Substitution	Total Dollar Value of the Work	% Value of Total Contract
1.					
2.					
3.					
4.					

The undersigned acknowledges that any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

\_\_\_\_\_  
Company

\_\_\_\_\_  
Company Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title



**MWDBE QUOTE SUMMARY FORM**

Bid/RFP/Quote Reference # \_\_\_\_\_

The undersigned acknowledges that the minority and/or veteran subcontractors listed on this form did submit a quote to participate on this project. Failure to submit this form may cause rejection of the bid.

Company Name	Contact Person
Address/Phone/Email	Bid Package / Bid Date

MWDBE Company Address	Contact Person	Contact Information (work phone, Email, cell)	Date Contacted	Services to be performed	Method of Communication (email, phone meeting, ad, event etc)	Total dollars \$\$ Do Not Leave Blank (Attach Documentation)	MBE * AA HA AS NA Female	Veteran

(MBE designation / AA=African American / HA= Hispanic American/AS = Asian American/Pacific Islander/ NA= Native American)

The undersigned acknowledges that all information is accurate. Any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

\_\_\_\_\_  
Company

\_\_\_\_\_  
Company Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title





## LFUCG SUBCONTRACTOR MONTHLY PAYMENT REPORT

The LFUCG has a 10% goal plan adopted by city council to increase the participation of minority and women owned businesses in the procurement process. The LFUCG also has a 3% goal plan adopted by cited council to increase the participation of veteran owned businesses in the procurement process. In order to measure that goal LFUCG will track spending with MWDBE and Veteran contractors on a monthly basis. By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentation may result in termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims. Please submit this form monthly to the Division of Central Purchasing/ 200 East Main Street / Room 338 / Lexington, KY 40507.

**Bid/RFP/Quote #** \_\_\_\_\_

**Total Contract Amount Awarded to Prime Contractor for this Project** \_\_\_\_\_

<b>Project Name/ Contract #</b>	<b>Work Period/ From:</b> _____ <b>To:</b> _____
<b>Company Name:</b>	<b>Address:</b>
<b>Federal Tax ID:</b>	<b>Contact Person:</b>

Subcontractor Vendor ID (name, address, phone, email)	Description of Work	Total Subcontract Amount	% of Total Contract Awarded to Prime for this Project	Total Amount Paid for this Period	Purchase Order number for subcontractor work (please attach PO)	Scheduled Project Start Date	Scheduled Project End Date

By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentations may result in the termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims.

\_\_\_\_\_  
**Company**

\_\_\_\_\_  
**Company Representative**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Title**

## LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # \_\_\_\_\_

By the signature below of an authorized company representative, we certify that we have utilized the following Good Faith Efforts to obtain the maximum participation by MWDBE and Veteran-Owned business enterprises on the project and can supply the appropriate documentation.

\_\_\_\_\_ Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.

\_\_\_\_\_ Included documentation of advertising in the above publications with the bidders good faith efforts package

\_\_\_\_\_ Attended LFUCG Central Purchasing Economic Inclusion Outreach event

\_\_\_\_\_ Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned Businesses of subcontracting opportunities

\_\_\_\_\_ Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses

\_\_\_\_\_ Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

\_\_\_\_\_ Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.

\_\_\_\_\_ Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

\_\_\_\_\_ Followed up initial solicitations by contacting MWDBEs and Veteran-Owned businesses to determine their level of interest.

\_\_\_\_\_ Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.

\_\_\_\_\_ Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items

into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce

\_\_\_\_\_ Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.

\_\_\_\_\_ Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

\_\_\_\_\_ Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

\_\_\_\_\_ Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

\_\_\_\_\_ Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

\_\_\_\_\_ Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE and Veteran participation.

**NOTE: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to approval by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.**

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

\_\_\_\_\_  
Company

\_\_\_\_\_  
Company Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title

## **GENERAL PROVISIONS**

1. Each Respondent shall comply with all Federal, State & Local regulations concerning this type of service or good.

The Respondent agrees to comply with all statutes, rules, and regulations governing safe and healthful working conditions, including the Occupational Health and Safety Act of 1970, *29 U.S.C. 650 et. seq.*, as amended, and KRS Chapter 338. The Respondent also agrees to notify the LFUCG in writing immediately upon detection of any unsafe and/or unhealthful working conditions at the job site. The Respondent agrees to indemnify, defend and hold the LFUCG harmless from all penalties, fines or other expenses arising out of the alleged violation of said laws.

2. Failure to submit ALL forms and information required in this RFP may be grounds for disqualification.
3. Addenda: All addenda and IonWave Q&A, if any, shall be considered in making the proposal, and such addenda shall be made a part of this RFP. Before submitting a proposal, it is incumbent upon each proposer to be informed as to whether any addenda have been issued, and the failure to cover in the bid any such addenda may result in disqualification of that proposal.
4. Proposal Reservations: LFUCG reserves the right to reject any or all proposals, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.
5. Liability: LFUCG is not responsible for any cost incurred by a Respondent in the preparation of proposals.
6. Changes/Alterations: Respondent may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the proposal, and received by LFUCG prior to the scheduled closing time for receipt of proposals, will be accepted. The proposal, when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of proposal".
7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from a Respondent.
8. Bribery Clause: By his/her signature on the bid, Respondent certifies that no employee of his/hers, any affiliate or Subcontractor, has bribed or attempted to bribe an officer or employee of the LFUCG.

9. Additional Information: While not necessary, the Respondent may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the Respondent's response. Additional documentation shall not serve as a substitute for other documentation which is required by this RFP to be submitted with the proposal,
10. Ambiguity, Conflict or other Errors in RFP: If a Respondent discovers any ambiguity, conflict, discrepancy, omission or other error in the RFP, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.
11. Agreement to Bid Terms: In submitting this proposal, the Respondent agrees that it has carefully examined the specifications and all provisions relating to the work to be done attached hereto and made part of this proposal. By acceptance of a Contract under this RFP, proposer states that it understands the meaning, intent and requirements of the RFP and agrees to the same. The successful Respondent shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to Respondent shall be authorized for services or expenses reasonably covered under these provisions that the proposer omits from its Proposal.
12. Cancellation: If the services to be performed hereunder by the Respondent are not performed in an acceptable manner to the LFUCG, the LFUCG may cancel this contract for cause by providing written notice to the proposer, giving at least thirty (30) days notice of the proposed cancellation and the reasons for same. During that time period, the proposer may seek to bring the performance of services hereunder to a level that is acceptable to the LFUCG, and the LFUCG may rescind the cancellation if such action is in its best interest.

A. Termination for Cause

- (1) LFUCG may terminate a contract because of the contractor's failure to perform its contractual duties
- (2) If a contractor is determined to be in default, LFUCG shall notify the contractor of the determination in writing, and may include a specified date by which the contractor shall cure the identified deficiencies. LFUCG may proceed with termination if the contractor fails to cure the deficiencies within the specified time.
- (3) A default in performance by a contractor for which a contract may be terminated shall include, but shall not necessarily be limited to:
  - (a) Failure to perform the contract according to its terms, conditions and specifications;
  - (b) Failure to make delivery within the time specified or according

- to a delivery schedule fixed by the contract;
- (c) Late payment or nonpayment of bills for labor, materials, supplies, or equipment furnished in connection with a contract for construction services as evidenced by mechanics' liens filed pursuant to the provisions of KRS Chapter 376, or letters of indebtedness received from creditors by the purchasing agency;
  - (d) Failure to diligently advance the work under a contract for construction services;
  - (e) The filing of a bankruptcy petition by or against the contractor; or
  - (f) Actions that endanger the health, safety or welfare of the LFUCG or its citizens.

#### B. At Will Termination

Notwithstanding the above provisions, the LFUCG may terminate this contract at will in accordance with the law upon providing thirty (30) days written notice of that intent, Payment for services or goods received prior to termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the LFUCG. Payment for those goods and services shall not be unreasonably withheld.

13. **Assignment of Contract:** The contractor shall not assign or subcontract any portion of the Contract without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.
14. **No Waiver:** No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this Contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.
15. **Authority to do Business:** The Respondent must be a duly organized and authorized to do business under the laws of Kentucky. Respondent must be in good standing and have full legal capacity to provide the services specified under this Contract. The Respondent must have all necessary right and lawful authority to enter into this Contract for the full term hereof and that proper corporate or other action has been duly taken authorizing the Respondent to enter into this Contract. The Respondent will provide LFUCG with a copy of a corporate resolution authorizing this action and a letter from an attorney confirming that the proposer is authorized to do business in the State of Kentucky if requested. All proposals must

be signed by a duly authorized officer, agent or employee of the Respondent.

16. **Governing Law:** This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this Contract, the Parties agree that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division. All parties expressly consent to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to this Contract or any rights or obligations arising thereunder. Service of process may be accomplished by following the procedures prescribed by law.
17. **Ability to Meet Obligations:** Respondent affirmatively states that there are no actions, suits or proceedings of any kind pending against Respondent or, to the knowledge of the Respondent, threatened against the Respondent before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of Respondent to perform its obligations under this Contract, or which question the legality, validity or enforceability hereof or thereof.
18. Contractor understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Contractor is an independent contractor at all times during the performance of the services specified.
19. If any term or provision of this Contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.
20. Contractor [or Vendor or Vendor's Employees] will not appropriate or make use of the Lexington-Fayette Urban County Government (LFUCG) name or any of its trade or service marks or property (including but not limited to any logo or seal), in any promotion, endorsement, advertisement, testimonial or similar use without the prior written consent of the government. If such consent is granted LFUCG reserves the unilateral right, in its sole discretion, to immediately terminate and revoke such use for any reason whatsoever. Contractor agrees that it shall cease and desist from any unauthorized use immediately upon being notified by LFUCG.

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Signature

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Date

**RISK MANAGEMENT PROVISIONS  
INSURANCE AND INDEMNIFICATION**

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**INDEMNIFICATION AND HOLD HARMLESS PROVISION**

- (1) It is understood and agreed by the parties that Contractor 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 Contractor or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "CONTRACTOR") 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.
- (2) CONTRACTOR shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "LFUCG") from and against 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 that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by CONTRACTOR's performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the CONTRACTOR; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.
- (3) In the event LFUCG is alleged to be liable based upon the above, CONTRACTOR shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by LFUCG, which approval shall not be unreasonably withheld.
- (4) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- (5) LFUCG is a political subdivision of the Commonwealth of Kentucky. CONTRACTOR acknowledges and agrees that LFUCG is unable to provide indemnity or otherwise save, hold harmless, or defend the CONTRACTOR in any manner.
- (6) Notwithstanding, the foregoing with respect to any professional services performed by CONTRACTOR hereunder (and to the fullest extent permitted by law), CONTRACTOR shall indemnify, save, hold harmless and defend LFUCG 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 CONTRACTOR in the performance of this agreement.



**FINANCIAL RESPONSIBILITY**

BIDDER/CONTRACTOR understands and agrees that it shall demonstrate the ability to assure compliance with the above Indemnity provisions and these other risk management provisions prior to final acceptance of its bid and the commencement of any work or provision of goods.

**INSURANCE REQUIREMENTS**

YOUR ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW, AND YOU MAY NEED TO CONFER WITH YOUR INSURANCE AGENTS, BROKERS, OR CARRIERS TO DETERMINE IN ADVANCE OF SUBMISSION OF A RESPONSE THE AVAILABILITY OF THE INSURANCE COVERAGES AND ENDORSEMENTS REQUIRED HEREIN. IF YOU FAIL TO COMPLY WITH THE INSURANCE REQUIREMENTS BELOW, YOU MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

Required Insurance Coverage

BIDDER/CONTRACTOR shall procure and maintain for the duration of this contract the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to LFUCG in order to protect LFUCG 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 CONTRACTOR. The cost of such insurance shall be included in any bid:

<u>Coverage</u>	<u>Limits</u>
General Liability aggregate (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million or \$2 million combined single limit
Auto Liability	\$1 million per occurrence
Worker's Compensation	Statutory
Employer's Liability	\$100,000
Professional (E&O Liability)	\$1 million per claim

The policies above shall contain the following conditions:

- a. All Certificates of Insurance forms used by the insurance carrier shall be properly filed and approved by the Department of Insurance for the Commonwealth of Kentucky (DOI). LFUCG shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy using the Kentucky DOI approved forms.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by LFUCG.
- c. LFUCG shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- d. Said coverage shall be written by insurers acceptable to LFUCG and shall be in a form acceptable to LFUCG. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most

current Best's Key Rating Guide shall be deemed automatically acceptable.

### Renewals

After insurance has been approved by LFUCG, evidence of renewal of an expiring policy must be submitted to LFUCG, 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.

### Deductibles and Self-Insured Programs

**IF YOU INTEND TO SUBMIT A SELF-INSURANCE PLAN IT MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, DIVISION OF RISK MANAGEMENT, 200 EAST MAIN STREET, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE RESPONSE DATE.** Self-insurance programs, deductibles, and self-insured retentions in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government's Division of Risk Management, upon review of evidence of BIDDER/CONTRACTOR's financial capacity to respond to claims. Any such programs or retentions must provide LFUCG with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverage

### Safety and Loss Control

CONTRACTOR shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and LFUCG.

### Verification of Coverage

BIDDER/CONTRACTOR agrees to furnish LFUCG with all applicable Certificates of Insurance signed by a person authorized by the insurer to bind coverage on its behalf prior to final award, and if requested, shall provide LFUCG copies of all insurance policies, including all endorsements.

### Right to Review, Audit and Inspect

CONTRACTOR understands and agrees that LFUCG may review, audit and inspect any and all of its records and operations to insure compliance with these Insurance Requirements.

### **DEFAULT**

BIDDER/CONTRACTOR understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default and that LFUCG may elect at 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 BIDDER/CONTRACTOR for any such insurance premiums purchased, or suspending or terminating the work.

## ENGINEERING SERVICES AGREEMENT

**THIS IS AN AGREEMENT** made as of \_\_\_\_\_, 2022, between the **LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT**, an urban county government of the Commonwealth of Kentucky pursuant to KRS Chapter 67A (“**OWNER**”) and \_\_\_\_\_ with offices located at \_\_\_\_\_ (“**CONSULTANT**”).

**OWNER** intends to proceed with the \_\_\_\_\_ as described in the attached **EXHIBIT A**, Scope of Engineering Services and Related Matters RFP # (the “**PROJECT**”). The **CONSULTANT** shall perform professional engineering services and deliverables as described in **EXHIBIT A** which include customary master planning, civil, geotechnical, electrical, mechanical, structural, programming, water quality and sanitary engineering services as related to providing the deliverables specific to this agreement—that will assist the **OWNER** in successfully implementing the **PROJECT** and complying with any requirements which are related to the Consent Decree entered in a case styled *United States & Commonwealth of Kentucky v. Lexington Fayette Urban County Government*, United States District Court for the Eastern District of Kentucky, Civil Action No. 5:06-cv-386-KSF (the “**CONSENT DECREE**”). The services are hereinafter referred to as the **PROJECT**. **The primary goal of the PROJECT is to provide the OWNER with the technical support necessary to successfully meet the obligations and deadlines of the CONSENT DECREE.** **OWNER** and **CONSULTANT** in consideration of their mutual covenants herein agree in respect of 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 civil, geotechnical, structural, mechanical, electrical and sanitary engineering services incidental thereto.

#### **1.2. Incorporated Documents**

The following documents are incorporated by reference as part of this Agreement:

1. The **CONSENT DECREE**, as may be amended, including all appendices.
2. **EXHIBIT A** – Scope of Engineering Services and Related Matters RFP # (Including Addendums).
3. **EXHIBIT B** – Certificate of Insurance and Evidence of Insurability.
4. **EXHIBIT C** – Proposal of Engineering Services and Related Matters (the **CONSULTANT**'s response to RFP #).
5. **EXHIBIT D** – Further Description of Basic Engineering Services and Related Matters.

To the extent of any conflict among the provisions of these documents and/or this Agreement, the provisions of this Agreement shall control, followed by the provisions of **EXHIBIT A**, then **EXHIBIT D**, and then **EXHIBIT C**.

### **1.3 Project Phase**

A complete description of the duties and responsibilities of the **CONSULTANT** are as indicated in **EXHIBIT A**, Scope of Engineering Services and Related Matters RFP #, **EXHIBIT C** Proposal of Engineering Services and Related Matters, and **Exhibit D** Further Description of Basic Engineering Services and Related Matters. After written authorization to proceed from the **OWNER**, **CONSULTANT** shall:

- 1.3.1.** Notify the **OWNER** in writing of its authorized representative who shall act as Project Engineer and liaison representative between the **CONSULTANT** and the **OWNER**. **OWNER** has the right to approve the Project Engineer, or any change thereto, which approval shall not be unreasonably withheld.
- 1.3.2.** The **CONSULTANT** **must perform all duties necessary to fully complete the deliverables as further described in attached EXHIBIT A**, Scope of Engineering Services and Related Matters RFP #, attached **EXHIBIT C**, Proposal of Engineering Services and Related Matters, and attached **EXHIBIT D** Further Description of Basic Engineering Services and Related Matters **unless otherwise agreed to in writing by the parties**.
- 1.3.3** The **CONSULTANT** shall provide written documentation of all meetings and be responsible for incorporating all comments and changes resulting therefrom in final work product.
- 1.3.4.** The **CONSULTANT** shall submit five (5) copies (hardcover) of all initial draft final work products for this **PROJECT** unless otherwise described in Exhibit A. The copies of the initial draft final reports are submitted for review and comment by the **OWNER**, and should be presented in person to the **OWNER**.
- 1.3.5.** After the **OWNER'S** detailed review, the **CONSULTANT** will revise the initial draft final for all work products for this **PROJECT**, and the **CONSULTANT** shall submit five (5) copies (hardcover) unless otherwise described in Exhibit A. One electronic copy of the all work products for this **PROJECT**, including all appendices, shall be provided and prepared in such a manner that it can readily be converted to a quick-link accessible form for the **OWNER'S** Website. The **OWNER** shall have ten (10) business days within which to accept or deny each such final draft. If it is denied, the **OWNER** shall provide a detailed explanation in writing for the basis of such denial. Once the **OWNER** accepts the draft as final, a total of ten (10) final copies (hardcover) are required in addition to an electronic copy unless otherwise described in Exhibit A.
- 1.3.6** Immediately notify **OWNER** of any delay in the delivery of a work product or deliverable, regardless of cause. Give written notice to **OWNER** within five (5) business days whenever **CONSULTANT** 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).

## **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 provide written approval or disapproval thereof 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 agent with respect to the services to be rendered under this Agreement (see Section 8.1.1.). 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 **CONSULTANT**.
- 3.6. Furnish or direct **CONSULTANT** to provide, 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 in the performance of this Agreement. **CONSULTANT** is aware that the **OWNER** is subject to penalties for non-compliance with the **CONSENT DECREE** deadlines. See attached **EXHIBIT A** for the overall current project schedule.
- 4.2. The provisions of this Section Four (4) 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.
- 4.3. If a delay results from the acts of **OWNER** or another entity that is required to permit or approve the work or services, an extension of time for such delay will be considered by **OWNER**.

- 4.3.1. If the above type of delay occurs and **CONSULTANT** wants an extension of time, it must, within ten (10) days from the date of the delay, apply in writing to **OWNER** for an extension of time for a reasonable period, which must be agreed upon by **OWNER**.
  - 4.3.2. If the extension of time is approved by **OWNER**, 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 **OWNER** of any of its other rights in the Agreement.
  - 4.3.3. If the above type of delay would prevent complete performance of the **PROJECT** within sixty (60) days of the time specified therein, **OWNER** shall have the option of cancelling the **PROJECT** or otherwise adjusting the scope of the services or work.
  - 4.3.4. If the parties cannot mutually agree to an extension of time or an adjustment, Section 6.5 under “DISPUTES” of this Agreement shall apply.
- 4.4. If delays result solely by reason of acts of the **CONSULTANT**, the **CONSULTANT** shall be held liable for any financial penalties incurred by the **OWNER** as a result of the delay, **including but not limited to those assessed pursuant to the CONSENT DECREE**. Section 6.5 of this Agreement (**Disputes**), shall apply in the event the parties cannot mutually agree upon the cause(s) associated with delays in completing project deliverables. The **CONSULTANT** must immediately notify the **OWNER** in the event of such delay, and provide the **OWNER** a written action plan within five (5) business days on how it will attempt to resolve the delay.

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

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

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

**OWNER** shall issue individual task orders for each work assignment performed under this Agreement by **CONSULTANT** or its sub-consultant/s. Each task order shall contain scope of work, fee, and schedule for performance of the work. Individual task orders shall be of the form included in **EXHIBIT D**.

**5.1.1.a** Fee payable to **CONSULTANT** under individual task order shall be developed using hourly rates included in **EXHIBIT D** or as amended in accordance with provisions therein.

**5.1.1.b** Terms of payment to **CONSULTANT** shall be specified in each task order. For assignments with defined scope, lump sum task orders shall be issued. Otherwise, task orders shall include time and materials payment terms.

**5.1.1.c** Each task order issued shall receive prior written approval of **OWNER** prior to **CONSULTANT** proceeding with said work. The **OWNER's** designated agent in Section 8.1.1. shall be the only person authorized to provide such approval.

**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 pursuant to Section 6.5 (**Disputes**).

**5.2. Times of Payment**

**5.2.1** **CONSULTANT** shall submit to **OWNER** detailed 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 for which it has not already been paid in 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 for which it has not already been paid, and the amount to be paid shall be determined by the **OWNER**.

**SECTION 6 - GENERAL CONSIDERATIONS**

**6.1. Termination**

**6.1.1.** **CONSULTANT** may only terminate this Agreement due to **OWNER'S** material breach of the terms hereof which breach causes **CONSULTANT** to be unable to perform its duties and responsibilities under this Agreement and upon forty-five (45) days written advance notice to **OWNER**.

**6.1.2.** The **OWNER** may terminate this Agreement for cause upon seven (7) business days written advance notice to the **CONSULTANT**. The **OWNER** reserves the right to terminate the Agreement for any reason whatsoever, with or without cause, at any time upon thirty (30) days written advance notice to the **CONSULTANT**.

## **6.2. Ownership and Reuse of Documents**

All documents, including raw data, reports, 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 itself with and shall at all times comply with the **CONSENT DECREE** and all federal, state, and local laws, ordinances, and regulations that 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. Except as otherwise provided in this Agreement, 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 applicable provisions of the Kentucky Revised Statutes, and that venue of any legal action shall be a court of appropriate jurisdiction in Fayette County, Kentucky. The parties further agree that Kentucky law shall apply with respect to the interpretation of any provision of this Agreement.

## **6.4. Successors and Assigns**

- 6.4.1.** **CONSULTANT** binds itself and its partners, successors, assigns and legal representatives to this Agreement. **CONSULTANT** shall not assign any interest in this Agreement without prior written consent of **OWNER**. **OWNER'S** consent shall not relieve the **CONSULTANT** of any responsibility for compliance with the provisions of this Agreement.
- 6.4.2.** **In no event shall** the **CONSULTANT** subcontract more than fifty percent (50%) of the work, based upon dollar value of the work.
- 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 hereunder may be resolved by agreement of the **OWNER'S** Agent (Section 8.1.1) and the **CONSULTANT**. In the absence of such an agreement, the dispute shall be submitted to the **OWNER'S** Commissioner, Department of Environmental Quality, whose decision 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**

**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. **CONSULTANT** shall be responsible for the accuracy of all work, even though raw data, reports, Drawings and Specifications have been accepted by **OWNER**, and it shall make any necessary revisions or corrections resulting from its errors and/or omissions for no additional compensation. By submission of reports, soils and subsurface information, quantities estimates, calculations and Drawings and Specifications to **OWNER**, **CONSULTANT** has made an incontrovertible representation that the information is accurate within the appropriate standard of skill and care. Failure on the part of **CONSULTANT** to provide the expected level of accuracy may be grounds for **OWNER** to terminate this Agreement

#### **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 without prior approval of the **OWNER** unless otherwise required by law

#### **6.8. Access to Records**

The **CONSULTANT** and its sub-consultants shall maintain all books, documents, papers, and accounting records, and make such materials available at their respective offices at all reasonable times during the Agreement period and for three (3) years from the date of final payment under the Agreement for inspection by the **OWNER**, and copies thereof shall be furnished if requested. Failure to maintain such records for three (3) years after the date of final payment may be grounds for the **OWNER** to disqualify the **CONSULTANT** from consideration for future consultant engineering Agreements.

#### **6.9. Risk Management Provisions, Insurance and Indemnification**

##### **6.9.1. DEFINITIONS**

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

As used in these Risk Management Provisions, the terms “**CONSULTANT**” and “**OWNER**” 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. **OWNER** means the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, boards, assigns, volunteers, and successors in interest.

#### 6.9.2. INDEMNIFICATION AND HOLD HARMLESS PROVISION

- a. 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.
- b. **CONSULTANT** shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "**OWNER**") from and against 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 that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by **CONSULTANT**'s performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the **CONSULTANT**; and (b) not caused solely by the active negligence or willful misconduct of **OWNER**.
- c. Notwithstanding, the foregoing, with respect to any professional services performed by **CONSULTANT** hereunder (and to the fullest extent permitted by law), **CONSULTANT** shall indemnify, save, hold harmless and defend **OWNER** 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.
- d. In the event **OWNER** is alleged to be liable based upon the above, **CONSULTANT** shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by **OWNER**, which approval shall not be unreasonably withheld.

- e. These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- f. **OWNER** is a political subdivision of the Commonwealth of Kentucky. **CONSULTANT** acknowledges and agrees that **OWNER** is unable to provide indemnity or otherwise save, hold harmless, or defend the **CONSULTANT** in any manner.

**6.9.3. DAMAGES RELATED TO NONPERFORMANCE OR DELAY BY CONSULTANT**

In the event that **CONSULTANT'S** delay or other nonperformance of its obligations hereunder results in the imposition of penalties against the **OWNER** pursuant to the **CONSENT DECREE**, or the **OWNER** otherwise suffers damage as a result of such delay or nonperformance, **CONSULTANT** shall be solely liable to **OWNER** for any and all such damages, including any costs and attorney's fees.

**6.9.4. FINANCIAL RESPONSIBILITY**

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

**6.9.5. INSURANCE REQUIREMENTS**

**6.9.5.1. Required Insurance Coverage**

**CONSULTANT** shall procure and maintain for the duration of this Agreement the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to **OWNER** in order to protect **OWNER** 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 **CONSULTANT**. The cost of such insurance shall be included in any proposal:

<u>Coverage</u>	<u>Limits</u>
General Liability (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million aggregate or \$2 million combined single limit
Commercial Automobile Liability (Insurance Services Office Form CA 0001)	combined single, \$1 million per occurrence
Professional Liability	\$1 million per occurrence,

	\$ 2 million aggregate
Worker's Compensation	Statutory
Employer's Liability	\$500,000.00

The policies above shall contain the following conditions:

- a. **OWNER** shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by **OWNER**.
- c. The General Liability Policy shall include Business Interruption coverage.
- d. The Contractor shall carry Builders Risk coverage at a level sufficient to cover the replacement cost of any equipment or machinery used at the work site, if applicable.
- e. The General Liability Policy shall include a Pollution Liability endorsement and/or Environmental Casualty coverage unless it is deemed not to apply by **OWNER**.
- f. The General Liability Policy shall have a Professional Liability endorsement (including Errors and Omissions), which shall include Business interruption coverage and this policy or endorsement shall include Environmental Casualty coverage for any services performed pursuant to the contract, and/or a separate Professional Liability Policy shall be obtained unless it is deemed not to apply by **OWNER**. (**OWNER** does not need to be named as additional insured).
- g. **OWNER** shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- h. The Professional Liability policy shall be maintained for a minimum of three years beyond the completion date of the project, to the extent commercially available. If not commercially available, **CONSULTANT** shall notify **OWNER** and obtain similar insurance that is commercially available and acceptable to **OWNER**.
- i. Said coverage shall be written by insurers acceptable to **OWNER** and shall be in a form acceptable to **OWNER**. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.

#### 6.9.5.2. Renewals

After insurance has been approved by **OWNER**, evidence of renewal of an expiring policy must be submitted to **OWNER**, 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.

### **6.9.5.3. Right to Review, Audit and Inspect**

**CONSULTANT** understands and agrees that **OWNER** may review, audit and inspect any and all of **CONSULTANT'S** records and operations to insure compliance with these Insurance Requirements.

### **6.9.6. SAFETY AND LOSS CONTROL**

**CONSULTANT** shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and **OWNER**.

### **6.9.7. 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 Agreement.

**CONSULTANT** also agrees that **OWNER** 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 Agreement.

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

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

- 7.1.** The **CONSULTANT** will not discriminate against any employee or application for employment because of race, color, religion, national origin, sex, age, or handicap. The **CONSULTANT** will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, sex, age, or handicap. Such action shall include, but not be limited to the following: employment upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for 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.
- 7.2.** The **CONSULTANT** will, in all solicitations or advertisements for employees placed by or on behalf of the **CONSULTANT**, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, sex, age (between forty and seventy), or handicap.

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

**8.1.** This Agreement is subject to the following provisions.

**8.1.1.** Pursuant to subparagraph 3.4 of this Agreement, **OWNER** has assigned Charles H. Martin, P.E., Director of the Division of Water Quality (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.** This Agreement, together with the Incorporated Documents (Section 1.2) constitutes the entire Agreement between **OWNER** and **CONSULTANT** and supersedes all prior written or oral understandings. This Agreement and **EXHIBITS A, B, C and D** and any related schedules or documents may only be amended, supplemented, modified or canceled by a duly executed written instrument.

**8.3. NO THIRD PARTY RIGHTS.** This agreement does not create a contractual relationship with or right of action in favor of a third party against either **OWNER** or **CONSULTANT**.

**8.4 UNENFORCEABLE TERMS/SURVIVABILITY.** If any term or provision of this Agreement shall be found to be illegal or unenforceable, this Agreement shall remain in full force and such term or provision shall be deemed stricken. The provisions of Section 6 of this Agreement shall survive its termination.

**8.5. NON-WAIVER.** The failure of either party to enforce any right reserved to it in this Agreement shall not be a waiver of any such right to which the party is entitled.

**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**

**CONSULTANT:**  
\_\_\_\_\_

BY: \_\_\_\_\_  
LINDA GORTON, MAYOR

BY: \_\_\_\_\_



DRAFT

**EXHIBIT B**

**Certificate of Insurance**

**and**

**Evidence of Insurability**



DRAFT

**EXHIBIT C**

**Proposal of Engineering Services**

**and**

**Related Matters**

DRAFT

**EXHIBIT D**

**Further Description of Basic Engineering Services**

**and**

**Related Services**

DRAFT

**LFUCG TASK ORDER NO. \_\_\_\_\_**  
**UNDER LFUCG AGREEMENT WITH \_\_\_\_\_ FOR**

---

**CONSULTANT**

**OWNER**

Lexington Fayette Urban County  
Government

<b>Street Address</b>	_____	200 East Main Street
<b>City, State, Zip</b>	_____	Lexington, KY 40507
<b>Contact Person</b>	_____	Charles Martin
<b>Telephone</b>	_____	859-425-2400
<b>Fax</b>	_____	859-254-7787
<b>E-Mail</b>	_____	cmartin@lexingtonky.gov

**Task Order Date:** \_\_\_\_\_

**Task Name:** \_\_\_\_\_

**Task ID:** \_\_\_\_\_

**SCOPE OF WORK/DELIVERABLES**

See Attached

**SCHEDULE OF WORK**

See Attached

**FEE**

See Attached

**ADDITIONAL PROVISIONS**

Because this is a Commonwealth Environmental Project, **CONSULTANT** understands and agrees that the performance of these services is related to the Consent Decree entered in a case styled *United States & Commonwealth of Kentucky v. Lexington Fayette Urban County Government*, United States District Court for the Eastern District of Kentucky, Civil Action No. 5:06-cv-386-KSF (the “**CONSENT DECREE**”), a copy of which has been made available for review by the **CONSULTANT**, and which is incorporated herein by reference. The **CONSULTANT** further agrees that the services performed pursuant to this task order are necessary for the **OWNER** to meet the deadlines of the **CONSENT DECREE** and that the following requirements and conditions, which are in addition to those provided in the Engineering Services Agreement, shall apply to all work and services performed by the **CONSULTANT** under this task order:

1. Time is of the essence in the performance of the work and services. **CONSULTANT** is aware that the **OWNER** is subject to penalties for non-compliance with the **CONSENT DECREE** deadlines.
2. If delays result solely by reason of acts of the **CONSULTANT**, the **CONSULTANT** shall be held liable for any financial penalties incurred by the **OWNER** as a result of the delay, **including but not limited to those assessed pursuant to the CONSENT DECREE**. Section 6.5 of this Engineering Services Agreement (**Disputes**), shall apply in the event the parties cannot mutually agree upon the cause(s) associated with delays in completing project deliverables. The **CONSULTANT** must immediately notify the **OWNER** in the event of such delay, and provide the **OWNER** a written action plan within five (5) business days on how it will

attempt to resolve the delay.

3. In the event that **CONSULTANT'S** delay or other nonperformance of its obligations hereunder results in the imposition of penalties against the **OWNER** pursuant to the **CONSENT DECREE**, or the **OWNER** otherwise suffers damage as a result of such delay or nonperformance, **CONSULTANT** shall be solely liable to **OWNER** for any and all such damages, including any costs and attorney's fees.

**ACCEPTED BY:**

**AUTHORIZED BY:**

\_\_\_\_\_  
Consultant's Authorized Signature

\_\_\_\_\_  
Owner's Authorized Signature

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Date Signed

*Two originals of this work order shall be executed by the Consultant and returned to the Owner \_\_\_\_\_.  
A fully executed copy will be returned to the Consultant.*

**RFP #52-2023**  
**Request for Proposals for Engineering Design Services**  
**Wolf Run Watershed Water Quality Improvements**

The Lexington-Fayette Urban County Government (LFUCG) has received a §319(h) Nonpoint Source Grant (PON2 129 2400000129) through the Kentucky Division of Water (KDOW) (KDOW Project Number 23-07) for water quality improvements to the Wolf Run Creek. There are two projects funded to assist in these improvements: 1) Retrofit the 2201 Regency Road Detention Basin and 2) Implement BMP(s) at the Derby Drive water quality lots (Figure 1).

LFUCG is accepting proposals from interested engineering consulting firms for design and construction oversight of these projects. The selected firm shall perform professional services as hereinafter stated which include project management, technical writing, reporting, geotechnical assessments, stakeholder outreach, stream assessments, surveying, engineering design, coordination with permitting agencies, construction document preparation, bid assistance, and construction administration assistance as it relates to the implementation of this project.

This Scope of Work for Engineering Design Services provides a minimum set of guidelines, tasks, and activities for the design, bidding, and construction administration services.

This project is funded with FY23 319 Federal Clean Water Act funds, and as such, all funds must be fully expended and reports submitted no later than September 30, 2027. See Appendix A for the contract between LFUCG and KDOW which stipulates the goals, objectives, activities, measures of success, and specific timeline requirements.

## **SECTION 1: PROJECT OVERVIEW**

There are two projects identified in the Wolf Run Watershed Management Plan (WRWMP 2013) that have been funded through the above-referenced grant. WRWMP BMP #48 recommends retrofitting a commercial basin located at 2201 Regency Road that drains 22 acres of professional office area, and WRWMP BMP #49 recommends diverting stormwater from the railroad tracks into a filtration basin to capture pollutants/sediment.

Both of these detention areas were included in the Southland Area Storm Drainage Project (2018), and were included in the hydrologic and hydraulic modeling. Refer to the [Southland Area Storm Drainage Project](#) for additional information.

### WRWMP BMP #48 – Regency Road Detention Basin Retrofit (Figure 2)

BMP #48 in the 2013 WRWMP identifies a commercial detention basin at 2201 Regency Rd to be retrofitted to assist in water quality improvements. There is approximately 500 LF of concrete channel running through the basin, of which 280 LF is classified as an ephemeral stream. The goal of this retrofit is to remove the entire concrete channel and create a more natural waterway within the detention basin. This drainage channel will not be a full stream restoration due to constraints and the integrity of the detention basin; however, by removing the concrete channels, it will encourage infiltration, dispersal of stormwater flows across more of the basin bottom, and filtration through the roots systems of native plants and trees. The basin is currently turf mowed, but through this retrofit process, the grass and any invasive species will be

removed and native plants and trees installed. In addition, evaluation of the necessity of the chain-link fence will occur. If possible, this fence will be removed and benches will be placed at the edges of the basin to provide an outdoor setting for passive recreation.

#### WRWMP BMP #49 – Derby Drive Filtration BMP Implementation (Figure 3)

BMP #49 in the 2013 WRWMP identifies the need for a regional stormwater study within the Southland Drive corridor. This plan was completed in 2018 and focused on flooding concerns; however, it did identify significant sediment coming from the railroad tracks in this area. One of the projects identified in this plan suggested that the stormwater be diverted from an existing drainage channel parallel to the railroad tracks (3,200 LF) into a filtration basin (or other recommended BMP) to capture pollutants from this drainage area (21 acres). There is a storm sewer system that captures this drainage area 75ft from the LFUCG-owned water quality lots off Derby Drive. This project proposes to divert this stormwater onto city property, via an existing utility easement, and allow it to flow through a filtration basin prior to it flowing back into the storm sewer system off of Regency Road. This property is within a small neighborhood and to enhance the look, along with function, of these lots, flowering native plants and trees will be installed for color and to encourage pollinator species to use this area. Additionally, educational signage will be installed and this area will be used for BMP tours, passive recreation (bird watching), as a geocaching location, etc.

#### Effectiveness Monitoring

To determine the effectiveness of these two BMP projects, pre- and post-construction monitoring at the closest downstream manhole from the projects and at the instream outfall on Southland Drive will occur during four (4) wet weather events (2 pre- and 2 post-). These monitoring events will follow the QAPP approved for the LFUCG Watershed-Focused Monitoring Program (Appendix B).

#### Public Engagement

Public input and education is critical for the successful implementation of these BMP projects. As a part of this grant, the Wolf Run Watershed Council (WRWC) will be reactivated to meet, at a minimum, on a quarterly basis to discuss design ideas, educational signs, and monitoring results.

Figure 1 – Project Locations

### Wolf Run Watershed Water Quality Basins and Update Location Map FY2023 Kentucky Nonpoint Source Pollution Management Program

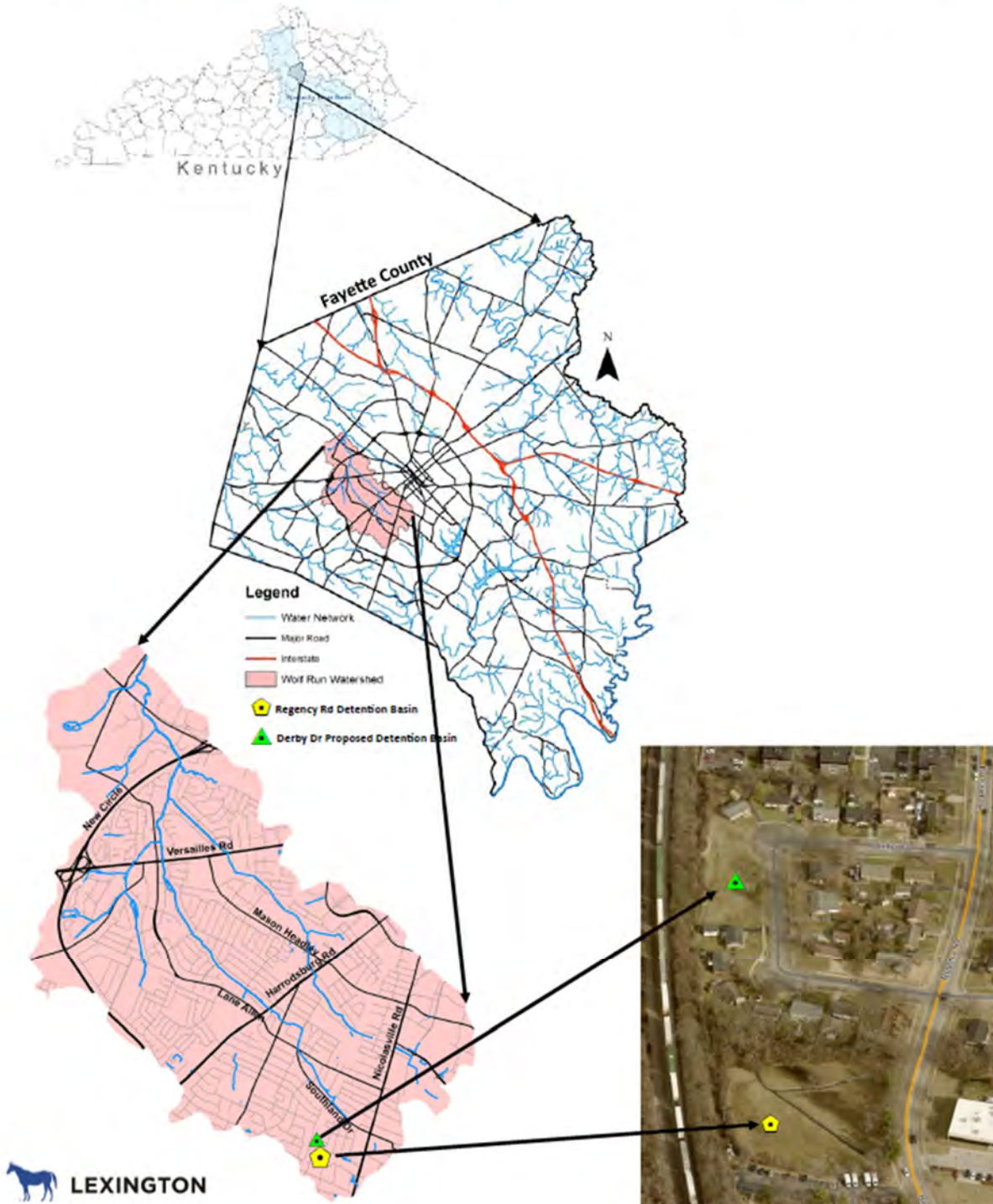




Figure 2 – 2201 Regency Road Project Location

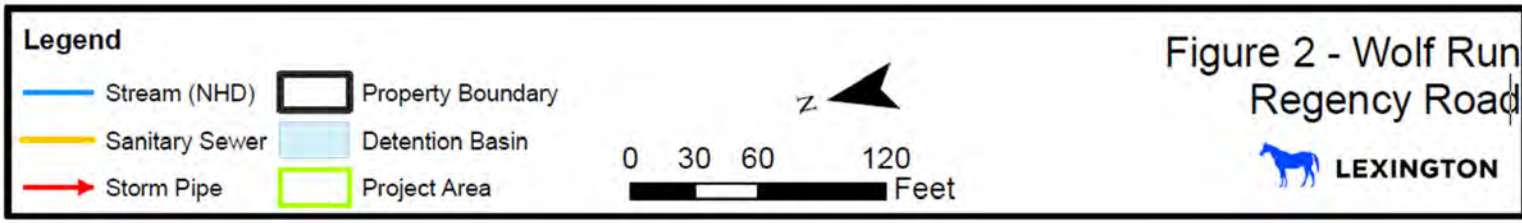







Figure 3 – Derby Drive Project Location




**Legend**

 Stream (NHD)	 Property Boundary
 Sanitary Sewer	 DES Greenspace
 Storm Pipe	

0 20 40 80 Feet

Figure 3 - Wolf Run Derby Drive

 LEXINGTON

## **SECTION 2: SCOPE OF WORK**

The below tasks will be used as a basis to bid on these two projects. Wherever possible, tasks should be combined for efficiency (to be noted in the bid form).

### *Task A: Project Kick-Off & Data Collection*

Perform all necessary site visits and reconnaissance of the area, as necessary, for design and construction. Review all existing documentation including, but not limited to, the following:

- Wolf Run Watershed Management Plan (2013)
- §319(h) Grant Application and Contract
- Southland Area Storm Drainage Project (2018)
- FEMA Floodway/Floodplain Hydrologic and Hydraulic Models
- Lexington Watershed-Focused Monitoring QAPP

### *Task B: Field Survey*

Conduct all field surveying services necessary for design and construction, including, but not limited to, the following activities:

- Obtain location and elevation of physical features, including topography, drainage features, structures, utilities (above and below ground), fencing, and trees, as needed, to provide accurate plan, profile, and cross section information necessary for hydrologic / hydraulic design and construction. Use the following coordinate system:  
*NAD\_1983\_StatePlane\_Kentucky\_North\_NFIPS\_1601\_Feet*. Vertical Datum shall be NAVD 88.
- Locate additional drainage features or utilities outside of the identified project areas that may be necessary for stormwater calculations or design.
- Perform soil sampling, as needed, for design (e.g., particle size distributions for bedload, incoming sediment load, etc.).

### *Task C: Conceptual Design Development*

The conceptual design should take into consideration the goals, objectives, and activities of the grant; requests from the owner/manager of the property and neighboring property owners; and the public input from the Wolf Run Watershed Council. Once a general design and BMPs have been selected, a BMP Implementation Plan shall be approved by KDOW prior to further design.

- Evaluate strategies for water quality improvement by examining existing inlets, outlets, site constraints, infiltration potential, and any other pertinent information.
- Create overview conceptual design and participate in review and discussion with LFUCG, KDOW, Wolf Run Watershed Council, property owners/managers, and any other involved parties.
- Submit BMP Implementation Plan to KDOW (grant requirement) prior to further design.

- Finalize conceptual designs and approximate construction costs per approved BMP Implementation Plan. Budget constraints shall be part of the consideration.
- The final conceptual designs will be used for public education, presentations, signage, brochures, etc. The creation of these documents shall occur by LFUCG concurrent or after the project design.

*Deliverables:* BMP Implementation Plan, conceptual drawings and renderings of the project elements, and approximate construction costs for each of the alternatives.

*Task D: Design & Construction Documents*

Once the conceptual / preliminary design has been approved, the Consultant shall prepare and submit the final design (Construction Documents) and an updated engineer's opinion of probable cost to LFUCG for review and approval. The Construction Documents shall be in a form suitable for bidding. Where applicable, plans and specifications shall meet the requirements of the most current LFUCG Stormwater Manual and the LFUCG Engineering Standard Drawings.

- Provide design submittals one week prior to progress meetings for LFUCG review. The Consultant shall keep notes during the design progress meetings and submit those notes to LFUCG for verification of design items discussed and decisions that were made.
- Coordinate with utilities affected by the project.
- Coordinate and submit plans, specifications, and required permit applications to all required agencies. Revise plans as needed or required based on the comments of those regulatory agencies.
- Prepare final plans and specifications for the project for bidding purposes in both hard copy and standard electronic format compatible with LFUCG equipment and software. A minimum of eight (8) hard copies will be required.
- Furnish design and construction timelines, schedules, and documents to LFUCG in order to meet the grant requirements.

*Deliverables:*

*50% Drawings (5 Hard Copies)*

- 24"x36"-sized plan sheets (1"=20' scale) showing existing features and proposed features including utility relocations if necessary
- Profile sheets (1"=20'H: 1"=2'V)
- Cross-section sheets (1"=5')
- Preliminary Details sheets
- Preliminary Erosion and Sediment Control and Stormwater Pollution Prevention Plan sheets
- Preliminary Technical Specifications
- Preliminary Opinion of Probable Cost
- Preliminary Hydrologic & Hydraulic Analyses Results

*90% Drawings (5 Hard Copies)*

- 24"x36"-sized plan sheets (1"=20' scale) showing existing features and proposed features including utility relocations if necessary
- Profile sheets (1"=20'H: 1"=2'V)
- Cross-section sheets (1"=5')
- Details and Notes sheets
- Erosion and Sediment Control and Stormwater Pollution Prevention Plan sheets
- Technical Specifications
- Engineer's Opinion of Probable Cost
- All sheets and documents shall be signed and sealed by a Professional Engineer and Registered Land Surveyor and stamped "Not For Construction."
- Final Hydrologic & Hydraulic Design Report

*Bidding Documents (8 Hard Copies)*

- 24"x36"-sized plan sheets (1"=20' scale)
- Profile sheets (1"=20'H: 1"=2'V)
- Cross-section sheets (1"=5')
- Details and Notes sheets
- Erosion and Sediment Control and Stormwater Pollution Prevention Plan sheets
- Technical Specifications
- Engineer's Opinion of Probable Cost
- Executed Permits in separate binder (see *Task E*)
- All sheets and documents shall be signed and sealed by a Professional Engineer and Registered Land Surveyor and stamped "For Construction."
- Reproducible digital version of the construction plans, specifications, and contract documents to LFUCG's Division of Procurement prior to bid advertisement.

*Task E: Permitting Services*

The selected consultant shall prepare and perform all work necessary to obtain all permits and approvals required for the project (other than the LFUCG Land Disturbance Permit and the Notice of Intent to KDOW for the KYR10, which are to be obtained by the Contractor). Permits and approvals may include, but are not limited to:

- KDOW Stream Construction/401 Water Quality Certification Permit
- U.S. Army Corps of Engineers 404 Permit

- State Historic Preservation Office Section 106 of National Historic Preservation Act
- U.S. Fish & Wildlife Section 7 Endangered Species Act
- Utility easement encroachment agreements/Memorandums of Understanding

A copy of all submittal applications for required permits shall be submitted to LFUCG electronically and via hard copy.

*Deliverables:* Hard copies of submittal applications for each required permit. Originals of Executed Permits in a separate binder with the bid set contract documents.

#### Task F: Bidding Services

- Coordinate with LFUCG Division of Procurement for advertisement and distribution of bid documents and any addendums. Maintain an up-to-date list of plan holders.
- Attend pre-bid meeting and prepare minutes from the pre-bid meeting to issue as an addendum.
- Respond to questions and issue addenda as necessary. During the bidding phase, address bidder's questions and coordinate responses with the LFUCG Project Manager and Division of Procurement. LFUCG Division of Procurement will issue any addenda.
- Obtain copies of all bids, prepare a tabulation of bid prices, and submit a recommendation of award.
- Provide electronic versions of plans to coordinate with utilities as needed.
- Complete any grant-required paperwork.

*Deliverables:* Hard copy and electronic copies of bid tabs, bid selection criteria summary, recommendation of award.

#### Task G: Construction Administration Assistance

- Review all shop drawings.
- Review and approve Contractor's pay requests.
- Attend meetings as noted in Task H.
- Attend final inspection and compile final punch list.
- Prepare signed and sealed Record Drawings in hard-copy and electronic format compatible with LFUCG software.
- Prepare a Project Certification for LFUCG.
- Complete any grant-required paperwork.

*Deliverables:* One (1) hard copy set of signed and sealed record drawings of project improvements. One (1) digital set of signed and sealed record drawings in .pdf format. Project Certification memorandum.

### Task H: Meetings

- Within ten (10) days of Notice to Proceed, the selected consultant will participate in a project start-up meeting with LFUCG. The purpose of this meeting will be to introduce all members of the project team, review project communications, finalize scope, review schedule, review permitting strategy, and discuss in detail the design milestones and deliverables.
- Schedule and facilitate a conceptual design meeting with LFUCG, Kentucky Division of Water, the Friends of Wolf Run, the Wolf Run Watershed Council, and any other involved parties.
- Schedule and facilitate a permitting meeting with LFUCG, Kentucky Division of Water, Army Corps of Engineers, and any other required entities.
- Conduct design progress meetings at: (1) end of Conceptual Design, (2) 50% submittal, (3) 90% submittal, and (4) 100% submittal. Provide submittals to LFUCG at least one week before each meeting to allow for review and comment.
- Schedule and facilitate construction progress meetings with the Contractor and LFUCG staff on at least a monthly basis. Provide meeting minutes to all attendees which document items and issues discussed and decisions that were made.
- Attend meetings and make presentations to any public or civic groups as requested by the Project Manager. (Assume 4 meetings. Include unit cost per additional meeting in proposal.)
- Complete post-project completion tour with LFUCG, Kentucky Division of Water, the Friends of Wolf Run, the Wolf Run Watershed Council, and any other involved parties.

### Task I: Public Education

- Work with appropriate parties, such as LFUCG's Division of Environmental Services, the Wolf Run Watershed Council, etc. to determine appropriate long-term topics for educational signage.
- Work with LFUCG's Division of Environmental Services to create content for the webpage updates, on LexingtonKY.gov, as needed.
- Design one sign (24"x36") that includes the topics chosen above and review draft of these signs with appropriate parties.
- Signs must be approved by KDOW prior to finalization.
- Finalize signs and forward design files to LFUCG for printing.

*Deliverables:* Submit draft versions and finalized signs to LFUCG in appropriate electronic files.

### Task J: Water Quality Monitoring

To determine the effectiveness of these two BMP projects, pre- and post-construction water quality monitoring at the closest downstream manhole to the projects and at the instream outfall on Southland Drive will occur during four (4) wet weather events (2 pre- and 2 post-). These monitoring events will follow the approved QAPP for the LFUCG Watershed-Focused Monitoring Program (Appendix B). It is the responsibility of the consultant to confirm the QAPP is approved for this project and data gathering.

The consultant shall be responsible for all costs associated with the water quality sampling.

*Deliverables:* Forward final water quality data to LFUCG within ten (10) business days of sample collection.

**SECTION 3: SCHEDULE**

The duration of all activities defined and listed below shall begin as soon as the selected consultant has received a written notice to proceed and shall not exceed the times listed below. Extension of the duration will be at the sole discretion of the Division of Environmental Services, and requests for extensions by the Consultant shall be in writing and considered only for additional major activities not included in this document. The following schedule is provided as a basis for task deadlines and will remain in effect until a replacement schedule is approved in writing by LFUCG.

<b>TASK</b>	<b>START DATE</b>	<b>FINISH DATE</b>
Estimated Notice to Proceed	March 15, 2024	
<u>Task A: Project Kick-Off &amp; Data Collection</u>	March 15, 2024	April 2024
<u>Task B: Field Survey</u>	April 2024	May 2024
<u>Task C: Conceptual Design Development</u>		
Public Meeting	April 2024	April 2024
Submit BMP Implementation Plan to KDOW	April 2024	May 2024
Permitting Agency Meeting	May 2024	May 2024
Finalize Conceptual Design	June 2024	July 2024
<u>Task D: Design &amp; Construction Documents</u>		
50%	July 2024	August 2024
90%	September 2024	November 2024
Bidding Documents	January 2025	March 2025
<u>Task E: Permitting Services</u>	May 2024	November 2024
<u>Task F: Bidding Services</u>	March 2025	April 2025
<u>Task G: Construction Administration Assistance</u>	April 2025	June 2026



<u>Task H: Meetings</u>	On-Going	On-Going
<u>Task I: Public Education</u> Submit Educational Signage to KDOW	On-Going January 2025	On-Going February 2025
<u>Task J: Water Quality Monitoring</u> Submit QAPP with Changes, if needed Pre-Construction Monitoring Post-Construction Monitoring	April 2024 May 2024 July 2026	May 2024 June 2024 August 2026

#### **SECTION 4: PROPOSAL EVALUATION CRITERIA**

The review of all submissions shall be performed by the Selection Workgroup, which shall recommend award to the Urban County Council for approval. In the evaluation of each submission, the Selection Workgroup will apply the following criteria:

##### **1. Project Team Outline (30 points)**

Specialized experience and technical competence of the persons or firm(s) (including a joint venture or association (e.g., team)) with the type of service requested:

- The proposal should clearly identify the following primary project team members, with their discipline(s) and office location of primary residence. Disciplines/Expertise may reside in one or multiple persons/firms.
  - a) Project Manager
  - b) Principal Project Engineer(s) licensed in the Commonwealth of Kentucky
  - c) Geotechnical Engineer licensed in the state of Kentucky (dam evaluation)
  - d) Hydrologic & Hydraulics Modeler
  - e) Registered Land Surveyor
  - f) Botanist or Plant Specialist
  - g) Hydrogeologist / geomorphologist with training and experience in natural channel stream design.
- The proposal should contain only those resumes of the primary project team members or those providing measurable services to project delivery. Include the office location of primary residence (e.g., Lexington, KY) for each individual. The content of those resumes should be limited to one page each per person, and only include experience directly relevant to the services requested in this proposal.

##### **2. Statement of Qualifications (30 Points)**

Capacity of the person, firm, or team to perform the work, including any specialized services, within the time limitations.

- The proposal should include descriptions of up to three (3) similar projects successfully completed by the proposed project team members and/or firm(s). Provide contacts for references on each project.
- Past record and performance on contracts with the Urban County Government or other governmental agencies and private industry with respect to such factors as control of cost, quality of work, ability to meet schedules, and successful submission of BMP Implementation Plans or similar capital improvement action plans to regulatory agencies (USEPA, KY Division of Water, etc.).

### 3. **Proposed Cost of Services (35 Points)**

- Using the table following Section 6 below, list the total estimated cost of services shall be broken down by Task as defined in Section 2: Scope of Work and by project (BMP #48 & BMP #49) and include unit costs for additional stakeholder meetings. Additional cost savings shall be noted where tasks for these projects overlap.

### 4. **Degree of Local Employment (5 Points)**

- Please provide the level of local employment that will be used in performance of this work as a percentage of the total work.

## **SECTION 5: METHOD OF INVOICE AND PAYMENT**

The Consultant may submit monthly invoices for basic services or work rendered, based upon the Consultant's estimate of the portion of the total services actually completed during the billing cycle. Each invoice shall show the amount to be paid, the subtotal of all prior invoices, and the LFUCG Purchase Order Number against which the invoice is to be charged. Each invoice shall also include documentation showing the amount attributed to each Task for both the billing cycle and the cumulative project period and shall include, as a separate document, a monthly progress report based on the approved format. Each invoice shall note the portion of the amount invoiced that is for work performed by a DBE prime contractor or subcontractor. The actual work performed by the DBE shall be included on the monthly progress report.

The Division of Environmental Service's Project Manager will either approve or deny each invoice within fourteen (14) calendar days of receipt. The Consultant shall not invoice more than 95% of the agreed Task amount prior to acceptance of the final documents related to that Task or more than 95% of the total contract amount prior to final acceptance of the recommended design solution or completion of construction of the design solution for projects resulting in construction.

## **SECTION 6: STOP WORK NOTICE**

The Consultant shall at all times monitor time allotted and amounts invoiced for tasks and activities as compared to their original estimates and expectations. The Consultant shall notify the Division Environmental Services immediately upon discovery of facts that may necessitate a change in the contract amount or may extend the contract time. If the amount of the change is expected to exceed ten percent (10%) of the original contract amount, the Consultant shall immediately stop all work related to this Scope of Services. Work shall not recommence without written notification from the Division of Environmental Services. The Consultant shall submit

all requests for changes to the Division of Environmental Services in writing and shall be present when the issue is discussed before the Urban County Council. Failure by LFUCG to endorse the requested change does not relieve the Consultant of the contractual requirements and activities defined by this entire Scope of Services.

LFUCG reserves the right to terminate the contract when a mutually satisfactory agreement cannot be reached in a timely manner. All engineering project data must be submitted to LFUCG upon request. If it is determined that the Consultant failed to notify LFUCG on a timely basis regarding insufficient fee or inadequate schedule, LFUCG reserves the right to terminate the contract at any time thereafter.

**Engineering Design Services Fee Table  
Wolf Run Watershed Water Quality Improvements**

<b>Task</b>	<b>Regency Road Detention Basin Retrofit Fee (Lump Sum)</b>	<b>Derby Drive Filtration BMP Fee (Lump Sum)</b>
Task A – Project Kick-Off & Data Collection		
Task B – Field Survey		
Task C – Conceptual Design		
Task D – Design & Construction Documents		
Task E – Permitting Services		
Task F – Bidding Services		
Task G – Construction Administration		
Task H – Meetings		
Task I – Public Education		
Task J – Water Quality Monitoring		
Total Project Cost for Tasks A-J		
Cost per Meeting for Additional Stakeholder Meetings not included in the RFP		

Value-added combined tasks:

- \_\_\_\_\_
- \_\_\_\_\_

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**Appendix A**  
**Commonwealth of Kentucky Contract for**  
**Wolf Run Watershed Water Quality Basins and Update**



# Commonwealth of Kentucky

## CONTRACT

**DOC ID NUMBER:**

PON2 129 2400000129

Version: 1

Record Date:

Document Description: Wolf Run Watershed Water Quality Basins and Update

 Cited Authority: PL319  
Federal Clean Water Act

Reason for Modification:

**Issuer Contact:**

 Name: MICHAEL REED  
 Phone: 502-782-7046  
 E-mail: Mike.Reed@ky.gov

<b>Vendor Name:</b>	<b>Vendor No.</b>	KY0032969
LEXINGTON FAYETTE URBAN CO GOVERNMENT	<b>Vendor Contact</b>	
	Name:	Demetria Kimball Mehlhorn
200 EAST MAIN STREET	Phone:	8594252554
	Email:	dkimball@lexingtonky.gov
LEXINGTON KY 40507		

Effective From: 11/01/2023

Effective To: 09/30/2027

Line Item	Delivery Date	Quantity	Unit	Description	Unit Price	Contract Amount	Total Price
1		0.00000		Wolf Run Watershed Water Quality Basins and Update	\$0.000000	\$320,000.00	\$320,000.00

**Extended Description:**

Through this project, LFUCG will improve water quality within the Wolf Run Watershed through implementing Best Management Practices (BMPs) and Chapter 7 as recommended by the Wolf Run Watershed Management Plan (WRWMP, 2013). BMP #48 will improve warm water habitat and reduce nonpoint source (NPS) pollution from entering Wolf Run Creek through retrofitting the Regency Road Detention Basin. BMP #49 will improve warm water habitat and reduce NPS pollution from entering Wolf Run Creek through creation of a detention basin, as suggested in the Southland Association's Green Infrastructure Feasibility Study. Implementing Chapter 7 recommendations to update the BMP Table when significant changes have occurred, and new monitoring data has been collected will allow continued momentum in this watershed and new projects to be identified.

Shipping Information:	Billing Information:
Division of Water 300 Sower Blvd, 3rd Floor  Frankfort KY 40601	Division of Water 300 Sower Blvd, 3rd Floor  Frankfort KY 40601

<b>TOTAL CONTRACT AMOUNT:</b>	<b>\$320,000.00</b>
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**Memorandum of Agreement Terms and Conditions**  
Revised October 2020

This Memorandum of Agreement (MOA) is entered into, by and between the Commonwealth of Kentucky, Energy and Environment Cabinet, Department for Environmental Protection, Division of Water (“the Commonwealth”) and the Lexington Fayette Urban County Government (LFUCG) (“the Contractor”) to establish an agreement for the implementation of the “Wolf Run Watershed Water Quality Basins and Update” project. The initial MOA is effective from November 1, 2023 through September 30, 2027.

**I. Scope of Services:**

Through this project, LFUCG will improve water quality within the Wolf Run Watershed through implementing Best Management Practices (BMPs) and Chapter 7 as recommended by the Wolf Run Watershed Management Plan (WRWMP, 2013). BMP #48 will improve warm water habitat and reduce nonpoint source (NPS) pollution from entering Wolf Run Creek through retrofitting the Regency Road Detention Basin. BMP #49 will improve warm water habitat and reduce NPS pollution from entering Wolf Run Creek through creation of a detention basin, as suggested in the Southland Association’s Green Infrastructure Feasibility Study. Implementing Chapter 7 recommendations to update the BMP Table when significant changes have occurred, and new monitoring data has been collected will allow continued momentum in this watershed and new projects to be identified.

LFUCG shall complete the following goals, objectives and activities.

**Goal:** Improve warm water habitat and reduce NPS pollution from entering Wolf Run Creek through retrofitting the Regency Road Detention Basin (BMP #48 in the WRWMP, 2013).

**Objective:** Reduce stormwater runoff and pollutant levels through infiltration or storage (WRWMP Objective 2.1).

**Activities:**

LFUCG will remove the concrete channels (500 LF) from existing commercial stormwater basin and, if possible, naturalize channels to encourage infiltration and dispersal of stormwater flows across more of the basin bottom.

**Objective:** Reduce nutrients entering Wolf Run Creek (WRWMP Objective 4.2).



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**Activities:**

Install native plants and trees in the water quality basin to filter and absorb excess nutrients.

**Objective:** Reduce temperature of stormwater discharge (WRWMP Objective 4.1).

**Activities:**

Install native trees in water quality basin and upstream watershed, where possible.

**Objective:** Create passive recreational and educational opportunities (WRWMP Objective 4.3).

**Activities:**

Determine if existing chain-link fence may be removed to create public access to basin. Hold one on-site meeting, to engage local stakeholders, to comment on draft project design.

Create and install educational signage. Topics could include, but are not limited to, how native plants work, habitat creation within basin, and/or how citizens can help the environment.

If the fence is removed, benches will be placed at the edges of the basin to provide an outdoor setting for lunches and breaks for nearby offices.

Remove invasive species and replant with native species to promote pollinator species.

**Objective:** Determine effectiveness of project (WRWMP Objective 5.2).

**Activities:**

Complete two pre- and post-construction water quality monitoring events, per LFUCG 2017 approved Watershed-Focused Monitoring Program QAPP.

Publish results at appropriate locations, including but not limited to the following webpages: LFUCG Wolf Run Watershed, KY River Watershed Watch, and/or Friends of Wolf Run.

**Goal:** Improve Warm Water Habitat and Reduce Non-Point Source Pollution from Entering Wolf Run Creek through creation of a detention basin, as suggested in the Southland Association's Green Infrastructure Feasibility Study (BMP #49 in the WRWMP, 2013).

**Objective:** Reduce pollutant levels through stormwater treatment, storage or redirection (WRWMP Objective 5.1).

**Activities:**

Divert stormwater from a drainage channel parallel to the railroad tracks into a constructed filtration basin on Derby Drive, and discharge the filtered flow back into the storm sewer parallel to Regency Road.

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Investigate and install, if funding allows, best value-added BMP (structural or chemical) to reduce fine sediment from railroad tracks.

**Objective:** Reduce nutrients entering Wolf Run Creek (WRWMP Objective 4.2).

**Activities:**

Install native plants and trees in water quality basin to filter and absorb excess nutrients.

**Objective:** Reduce temperature of stormwater discharge (WRWMP Objective 4.1).

**Activities:**

Install native trees in water quality basin and upstream watershed, where possible.

**Objective:** Create passive recreational and educational opportunities (WRWMP Objective 4.3).

**Activities:**

Hold one on-site meeting, to engage local stakeholders, to comment on draft project design.

Create and install educational signage. Topics could include, but are not limited to, how native plants work, habitat creation within basin, and/or how citizens can help the environment.

Remove invasive species and replant with native species to promote pollinator species.

**Objective:** Determine effectiveness of project (WRWMP Objective 5.2).

**Activities:**

Complete two pre- and post-construction water quality monitoring events, per LFUCG 2017 approved Watershed-Focused Monitoring Program QAPP.

Publish results at appropriate locations, including but not limited to the following webpages: LFUCG Wolf Run Watershed, KY River Watershed Watch, and/or Friends of Wolf Run.

**Goal:** Implement Chapter 7 Recommendations of the WRWMP (2013) to update the BMP Table when significant changes have occurred and new monitoring data has been collected by following Division of Water (DOW) NPS & Basin Team Section Watershed Plan Update Guidance (2022).

**Objective:** Implement water quality monitoring.

**Activities:**

Complete two instream wet weather monitoring activities, per LFUCG 2017 approved Watershed-Focused Monitoring Program Quality Assurance Project Plan (QAPP).

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**Objective:** Update pollutant load reduction spreadsheet.

**Activities:**

- Compile all existing water quality data from 2013 to present.
- Update pollutant load reduction tables from WRWMP 2013.
- Compare pollutant load tables from 2013 to present.
- Determine additional BMPs, if any, needed to achieve water quality standards/ benchmarks.
- Update Water Quality Maps.

**Objective:** Update WRWMP BMP Table.

**Activities:**

- Reconvene Wolf Run Watershed Council (WRWC) and meet, at a minimum, every quarter during grant.
- Update WRWMP BMP Table using information from Goal Objective 3.2 and following Chapter 6 of the Kentucky (KY) Watershed Planning Guidebook.
- Update WRWMP BMP Maps.
- Create an addendum in the WRWMP showing all projects completed to date.

**Plan of Work**

The overall goal of implementing water quality projects recommended in the WRWMP (2013) and by updating the BMP Table in the WRWMP is to continue the momentum to improve water quality that the residents, professionals, and government officials have created over the years of dedication to the Wolf Run Watershed. This will be achieved through several activities noted above and detailed below.

One project the WRWMP BMP Table (#48) recommends is to retrofit a commercial basin that drains 22 acres of professional office area. There is 500LF of concrete channel running through this basin, 280LF is classified as an ephemeral stream, and the entire concrete channel will be removed and a more natural drainage waterway within the detention basin will be created. This drainage channel will not be a full stream restoration due to constraints and integrity of the detention basin; however, by removing the concrete channels, it will encourage infiltration, dispersal of stormwater flows across more of the basin bottom, and filtration through native plants and trees. The basin is currently turf mowed, but through this retrofit process, the grass and any invasive species will be removed and native plants and trees installed. In addition, evaluation of the necessity of the chain-link fence will occur. If possible, this fence will be removed and benches will be placed at the edges of the basin to provide an outdoor setting for passive recreation.

LFUCG Division of Water Quality (DWQ) completed a portion of WRWMP BMP #49 - Southland Association's Green Infrastructure Feasibility Study (aka Southland Area Storm Drainage Project) in 2018. One project the Southland Study recommended was

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to divert stormwater from a drainage channel parallel to the railroad tracks (3,200 LF) into a filtration basin to capture pollutants, specifically sediment, from this drainage area (21 acres). There is a storm sewer system that captures this drainage area 75 feet from LFUCG-owned water quality lots off Derby Drive. This project proposes to divert this stormwater onto city property, thru an existing utility easement, and allow it to migrate through a filtration basin prior to it flowing back into the stormwater system off Regency Road. This property is within a small neighborhood and to enhance the look, along with function, flowering native plants and trees will be installed for color and to encourage pollinator species to use this area. Additionally, educational signage will be installed and this area will be used for BMP tours, a geocaching location, passive recreation (bird watching), etc.

To determine effectiveness of these two BMPs, pre- and post-construction monitoring at the instream outfall on Southland Drive will occur during 4 wet weather events (2 pre and 2 post). These monitoring events will follow the QAPP approved for the LFUCG Watershed-Focused Monitoring Program. The results will be incorporated into the updated WRWMP, 2013, discussed below.

Public input and education is a large part of the detention basin projects. As a part of this grant, the WRWC will be reactivated to meet, at a minimum, on a quarterly basis to discuss design ideas, educational signs, and monitoring results. The public will be invited to attend these meetings through advertisement in various platforms and outlets, such as, but not limited to, Facebook (Live Green Lexington, Friends of Wolf Run, etc.), Council Member Newsletters, Next Door, and email.

While the Council is reconvened, it is also an ideal time to update the BMP Table of the WRWMP using the Watershed Plan Update Guidance (KDOW 2022). The WRWC will also work closely with other stakeholders in the watershed, including but not limited to, Friends of Wolf Run, University of Kentucky, Kentucky River Watershed Watch, etc., to assist in updating this BMP Table.

Since the completion of the approved WRWMP, 2013, 30-40 projects have been implemented and recommended studies completed. In addition, the LFUCG Watershed-Focused Monitoring Program is completing an instream sampling within the Wolf Run Watershed in 2022-2023. The results from this monitoring program, and two additional wet weather monitoring events, will be used to compare to the original water quality data to see if these projects have made an improvement in the watershed. Not only will this comparison be made, the new water quality monitoring information will be used to update the pollutant load calculation worksheets and determine if any additional projects need to be added to the WRWMP BMP Table. Several other studies, such as the Urban Tree Canopy Report (UTC, 2022) will also be used to identify additional small scale projects with the watershed. The BMP Table will also be updated by removing the projects completed to date and creating an addendum to the WRWMP with project information. In addition, water quality maps and BMP implementation maps will be

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updated. This information will be shared through an interactive map on-line (similar to the tool created for the West Hickman Watershed). The end goal is to add this updated BMP Table as an approved addendum to the WRWMP, 2013.

Through the purchasing process, LFUCG will contract with a qualified engineering firm to complete all required work associated with the two detention basin projects and the BMP Table update. In addition, LFUCG will hire Friends of Wolf Run to assist in advertising and running on-site public input meetings and Wolf Run Watershed Council meetings.

#### **Quality Assurance Project Plan (QAPP)**

This section is only applicable if monitoring or sampling occurs during this project.

LFUCG will develop and submit to the Cabinet for review and approval, a QAPP for the environmental monitoring activities associated with the project described in this Agreement. No project monitoring activities will occur until the QAPP has been reviewed and approved by the Cabinet. LFUCG will ensure that all environmental monitoring activities in this Agreement will be conducted in accordance with the approved QAPP. The approved QAPP will be incorporated into this Agreement by reference.

The Kentucky Division of Water (DOW) requires submittal of a data package after each sampling period, which should include Chain-of-Custody forms, field notes, calibration records of all instrumentation, and a raw data file as submitted from the laboratory. The package will also include relevant notes from field work identifying issues encountered, action needed or changes made to the sampling plan or QAPP. All issues or changes must also be communicated to DOW nonpoint source staff as soon as possible.

A final summary of overall project quality assurance will be submitted at the end of the project. The final Quality Assurance (QA) report should explain and detail the quality processes and controls used in sampling, both by the laboratory and in the field. Examples of QA report content are listed below. The report should summarize the sampling results and outline any and all deficiencies or discrepancies in the data collection and analysis process.

Examples of a QA report content are:

Types and results of quality control samples; field blanks, field splits, field duplicates. Discussion of how the Quality Control (QC) samples met the precision, accuracy, completeness, bias data quality objectives from the QAPP. Explanation of data qualifiers and how it affected the data results (data that is flagged by the laboratory). Corrective action taken for any data quality issues.

#### **Best Management Practices Implementation Plan**

This section is only applicable if BMP's occur during this project.

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LFUCG shall develop and submit to the Cabinet for review and approval, a Best Management Practices (BMP) Implementation Plan for all BMP implementation activities associated with the project described in this Agreement. No BMP implementation activities shall occur until the BMP Implementation Plan has been approved by the Cabinet. LFUCG shall ensure that all BMP implementation activities in this Agreement shall be conducted in accordance with the approved BMP Implementation Plan. The approved BMP Implementation Plan shall be incorporated into this Agreement by reference.

The BMP Implementation Plan shall include: (1) a list of BMP technologies to be installed; (2) a description of the technology selection process, to include the estimated cost, relative treatment efficiency, and the minimum operation and maintenance required for the BMP to operate efficiently; (3) a description of how BMPs shall be targeted to specific locations and if locations are known, a map(s) clearly showing the location where the BMP technologies shall be demonstrated; (4) a means of notifying the Division of Water, Nonpoint Point Source (NPS) Section prior to BMP implementation; (5) a financial plan of action, which describes how financial assistance shall be provided for technology demonstration; (6) the type of maintenance agreement to be made with the landowner; and (7) a statement that ensures that all agricultural or forestry BMPs will be consistent with the Kentucky Agriculture Water Quality Act and/or the Forest Conservation Act.

#### **Education Materials**

LFUCG shall ensure that all materials to be used in school-based education shall conform to the Kentucky Academic Standards for Assessment. When materials are submitted, the corresponding section of the Kentucky Academic Standards must be cited.

LFUCG shall ensure that all outreach materials conform to the North American Association for Environmental Education's (NAAEE) *Environmental Education Materials: Guidelines for Excellence* ([www.NAAEE.org](http://www.NAAEE.org)).

#### **Geographic Information System (GIS) Activities**

LFUCG shall ensure that all geospatial data created shall be consistent with Federal Geographic Data Committee (FGDC) endorsed standards. Information on these standards shall be obtained from the web site "www.fgdc.gov" under the topics of "standards" and "publications".

#### **Animal Feeding Operation (AFO) Activities**

LFUCG shall ensure that any AFO receiving financial assistance from 319(h) funds will implement a nutrient management plan. An AFO is defined by 40 C.F.R. § 122.23(b) as any lot or facility (other than an aquatic animal production facility) where i) animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12 month period, and ii) where crops,

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vegetation forage growth, or post-harvest residues are not sustained over any portion of the lot or facility.

**Training**

All personnel involved in monitoring activities that are performed by LFUCG or sub-contractor will be provided (or required to develop) standard operating procedures (SOPs), and will be trained in sampling techniques by DOW staff. This training will be a part of the NPS project conditions, and will not incur any additional cost to the vendor.

**Measures of Success**

LFUCG staff will:

**Goal:** Improve Warm Water Habitat and Reduce Non-Point Source Pollution from entering Wolf Run Creek through Retrofitting the Regency Road Detention Basin (BMP #48 in the WRWMP, 2013).

**Objective:** Reduce stormwater runoff and pollutant levels through infiltration or storage.

**Measures of Success:**

- In-Stream Water Quality Monitoring Results
- Pre, Mid & Post Construction Photo Documentation
- Square Feet (SqFt) of Native Plants Installed
- Numbers of Trees Installed

**Objective:** Reduce nutrients entering Wolf Run Creek.

**Measures of Success:**

- In-Stream Water Quality Monitoring Results
- Pre, Mid & Post Construction Photo Documentation
- SqFt of Native Plants Installed
- Numbers of Trees Installed

**Objective:** Reduce temperature of stormwater discharge.

**Measures of Success:**

- In-Stream Water Quality Monitoring Results
- SqFt of Native Plants Installed
- Numbers of Trees Installed

**Objective:** Create passive recreational and educational opportunities.

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**Measures of Success:**

SqFt of Native Plants Installed  
 Numbers of Trees Installed  
 Numbers of Educational Signs Installed  
 Attendance at Public Meetings  
 Updated WRWMP BMP Table  
 Update WRWMP Water Quality & BMP Maps  
 Create online interactive map with BMP information

**Objective:** Determine effectiveness of project.

**Measures of Success:**

In-Stream Water Quality Monitoring Results  
 Pre, Mid & Post Construction Photo Documentation

**Goal:** Improve Warm Water Habitat and Reduce Non-Point Source Pollution from Entering Wolf Run Creek through creation of a detention basin, as suggested in the Southland Association's Green Infrastructure Feasibility Study (BMP #49 in the WRWMP, 2013).

**Objective:** Reduce pollutant levels through stormwater treatment, storage or redirection.

**Measures of Success:**

In-Stream Water Quality Monitoring Results  
 Pre, Mid & Post Construction Photo Documentation  
 SqFt of Native Plants Installed  
 Numbers of Trees Installed

**Objective:** Reduce nutrients entering Wolf Run Creek.

**Measures of Success:**

In-Stream Water Quality Monitoring Results  
 Pre, Mid & Post Construction Photo Documentation  
 SqFt of Native Plants Installed  
 Numbers of Trees Installed

**Objective:** Reduce temperature of stormwater discharge.



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**Measures of Success:**

In-Stream Water Quality Monitoring Results  
 SqFt of Native Plants Installed  
 Numbers of Trees Installed

**Objective:** Create passive recreational and educational opportunities.

**Measures of Success:**

SqFt of Native Plants Installed  
 Numbers of Trees Installed  
 Numbers of Educational Signs Installed  
 Attendance at Public Meetings  
 Updated WRWMP BMP Table  
 Update WRWMP Water Quality & BMP Maps  
 Create online interactive map with BMP information

**Objective:** Determine effectiveness of project.

**Measures of Success:**

In-Stream Water Quality Monitoring Results  
 Pre, Mid & Post Construction Photo Documentation

**Goal:** Implement Chapter 7 Recommendations of the WRWMP (2013) to update the BMP Table when significant changes have occurred and new monitoring data has been collected by following DOW NPS & Basin Team Section Watershed Plan Update Guidance (2022).

**Objective:** Implement water quality monitoring.

**Measures of Success:**

In-Stream Water Quality Monitoring Results  
 Pre, Mid & Post Construction Photo Documentation

**Objective:** Update pollutant load reduction spreadsheet.

**Measures of Success:**

In-Stream Water Quality Monitoring Results  
 Update WRWMP Water Quality & BMP Maps

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**Objective:** Update WRWMP BMP Table

**Measures of Success:**

- Updated WRWMP BMP Table
- Update WRWMP Water Quality & BMP Maps
- Create online interactive map with BMP information

**Reports**

LFUCG shall:

Provide a quarterly programmatic report. The report shall cover progress to date, any problems encountered and actions taken and any anticipated activity and work products expected during the next quarter as outlined in the Project Status Report Template below. Provide a final report detailing activities and deliverables completed during the agreement period. The final report is due 30 days after the end of the project. All reports shall be submitted electronically to the Commonwealth within specified timeframes listed above and in the format included in the Project Status Report Template.

**Project Status Report Template**

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**Grant Recipient Name:** Lexington Fayette Urban County Government

**Project Name:** Wolf Run Watershed Water Quality Basins and Update

**Principal Investigator/Project Manager:** Demetria Kimball Mehlhorn

**Reporting Period:** (month & year)

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**Accomplishments, publicity, news:**

*(Provide an update on project activities, any publicity on the project, including links to articles)*

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**Performance outcome data/metrics:**

*(Provide updates on specific activity targets, project timelines and/or metrics from the grant agreement)*

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**Problems, issues, variances from plan:**

*(Provide updates on any problems with project activities, timelines, any variances from the original work plan)*

**Project Status Report Template**

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Section 319(h) Nonpoint Source Project Progress Report

Reporting Period:--/--/-- to --/--/--/ Grant: PPG –BG-00D21423 State: Kentucky

Project Name: Wolf Run Watershed Water Quality Basins and Update

Contractor: LFUCG

Federal amount: \$320,000

Budget Period Start Date: 11/1/23 End Date: 9/30/27 Total Project Cost: \$533,333

Expended this Period: \$\_\_\_\_\_ Total Expenditures to Date: \$\_\_\_\_\_

**Waterbody/Watershed Identification:** Kentucky

**NPS Category:** Sedimentation/Siltation, Suspended Solids, Pathogens/Bacteria, Pesticides, Oil and Grease, Nutrients

**Purpose Statement:** The goal of this project is to improve water quality within the Wolf Run Watershed through implementing Best Management Practices (BMPs) and Chapter 7 as recommended by the Wolf Run Watershed Management Plan (WRWMP, 2013).

**LFUCG's Milestones**

All milestones will begin on November 1, 2023 and end on September 30, 2027.

Develop and submit materials to Division of Water for review and comment. Duration of Contract

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Submit advanced written notice to Nonpoint Source (NPS) Program staff for all educational public meetings, field days, workshops, etc. Duration of Contract

Submit draft news articles, brochures, newsletter articles and other educational outreach materials to NPS Program staff for approval - includes drafts of flyers and postcards inviting public to meetings and events. Duration of Contract

Submit an Annual Load Reduction Report to NPS program staff if requested. Duration of Contract

Notice to Proceed & Council Acceptance. November 2023 – November 2024

Obtain Consulting Engineer through LFUCG Procurement Process for Engineering Services. November 2023 – January 2024

Start gathering information and contacts for public involvement. November 2023 – January 2024

Quarterly Wolf Run Watershed Council Meetings, Duration of Contract

Update Webpage with project information as available. Duration of Contract

Develop and submit a BMP Implementation Plan for DOW staff approval. January 2024 – February 2024

Submit Approved LFUCG Watershed-Focused Monitoring QAPP with updated Wolf Run Sampling Location, if needed, to DOW. February 2024

Create preliminary design plans and hold public input meeting. February 2024 – June 2024

Complete two rounds of wet weather in-stream water quality monitoring. March 2024 – May 2024

Meet with permitting agencies on stream permitting requirements. March 2024

Update pollutant load reduction calculation sheet. May 2024 – July 2024

Submit preliminary design plans for review to DOW NPS staff, LFUCG staff, utilities, and Wolf Run Watershed Council. June 2024

Submit Pollutant Load Reduction Information to DOW and share with WRWC. July 2024

Create addendum to WRWMP of completed projects. July 2024 – July 2025

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Prepare design plans for permit submittals. July 2024 – September 2024

Submit required permit applications. September 2024

Prepare final design plans, specifications, quantity take-offs, and construction cost estimates. October 2024 – January 2025

Update WRWMP BMP Table & Maps. October 2024 – July 2025

Obtain Construction Contractor through LFUCG Bid Procurement Process for Construction Contracts. January 2025 – March 2025

Design & Submit Educational Signage to KDOW NPS staff and WRWC for review and approval. January 2025 – March 2025

Construct Improvements. April 2025 – September 2026

Submit WRWMP Completed Projects Addendum & Updated BMP Table to KDOW. August 2025 – November 2025

Install Education Signage. March 2026 – May 2026

Project Completion Tour. September 2026

Complete two post-construction monitoring events. May 2026 – September 2026

Prepare and Submit Draft Final Report. August 2027

Incorporate any changes and submit Approved Final Report. September 2027

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29.

30.

31.

---

Signature      Date

***Notifications***

All notices, requests, demands, waivers, and other communications given as provided in this Agreement shall be in writing and sent to the following:

LFUCG  
 Attn: Demetria Kimball Mehlhorn  
 200 East Main Street, 9<sup>th</sup> Floor  
 Lexington, Kentucky 40507  
 859-425-2554  
 dkimball@lexingtonky.gov  
 Vendor UEI Number: VM1GLHWZXA96

Division of Water  
 Attn: Mike Reed  
 300 Sower Blvd., Third Floor NW/29  
 Frankfort, Kentucky 40601  
 502-782-6892  
 Mike.Reed@ky.gov

**II. Pricing:**

The Commonwealth shall reimburse LFUCG up to \$320,000 for services and activities as outlined in the Program Budget table below.

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Program Budget

<b>Categories</b>	<b>The Commonwealth</b>	<b>Cost Share/ In-kind Match</b>	<b>Total</b>
Personnel	\$0	\$0	\$0
Fringe Benefits	\$0	\$0	\$0
Travel	\$0	\$0	\$0
Equipment	\$0	\$0	\$0
Supplies	\$0	\$6,000	\$6,000
Construction	\$0	\$0	\$0
Other	\$0	\$0	\$0
<b>Total Direct Charges</b>	<b>\$0</b>	<b>\$6,000</b>	<b>\$6,000</b>
Indirect Charges (up to 10% of the Commonwealth's Total Direct Charges) **	\$0	\$0	\$0
Contractual	\$320,000	\$207,333	\$527,333
<b>Total</b>	<b>\$320,000</b>	<b>\$213,333</b>	<b>\$533,333</b>
Program Income	\$0	\$0	\$0

A detailed budget template provided by the Commonwealth shall be completed and submitted to DOW prior to the start of the project and before the start of each fiscal year

**INDIRECT COST:**

If the contractor is receiving state funds the contractor may not charge indirect costs in excess of ten (10) percent of total direct costs. An indirect rate **shall not** be charged on contractual expenditures. Indirect charges exceeding the ten (10) percent shall be considered as cost share provided by the contractor.

If the contractor is receiving federal funds the Contractor shall use the indirect rate corresponding with the agreement the contractor has with the federal entity or ten (10) percent. The contractor shall provide a copy of the indirect agreement prior to the federal funds being awarded.

**III. Invoicing**

LFUCG shall:

Invoice the Commonwealth quarterly for authorized expenditures by budget line item.

The invoice must indicate:



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1. The Document ID number, which can be found at the top of the MOA/PSC. The Document ID number can be recognized by the beginning letters "PON2" or "SC"
2. Invoice number
3. Invoice date
4. Dates of service covered
5. Current expenditures with each item listed separately
6. Cumulative expenditures to date
7. Current cost share or match, if identified in the Program Budget
8. Cumulative cost share or match
9. Include a copy of the transaction detail report if available and/or receipt

Backup documentation must be maintained for each invoice, as required by the record retention schedule in Kentucky's Administrative Regulation 725 KAR 1:061 and/ or 2CFR 200.334 through 200.338. The backup documentation can either be submitted with the invoice or kept for inspection by the Commonwealth, if or when requested.

Examples of backup documentation may include:

1. Personnel – payroll spreadsheet showing time worked within the invoice period. Spreadsheet shall contain salary information, name of employee or some identifiable number, percent of time applied to grant, along with the number of hours and fringe benefits per person.
2. Fringe – include in payroll spreadsheet.
3. Travel – travel voucher or invoices showing airfare, hotel expenses, etc. Mileage will be paid based on rate established through a travel policy by the recipient. If no rate has been established, the recipient may use the state or federal mileage rate.
4. Equipment – receipt marked paid (an invoice shall be submitted after equipment is paid for).
5. Supplies – receipt marked paid (an invoice shall be submitted after supplies are paid for).
6. Contractual – invoice and documentation that item has been paid (recipient shall verify invoice).
7. Construction – invoices, receipts marked paid and any other documents that properly verify expenses.
8. Indirect costs – will be verified not to exceed the allowable rate established in the MOA.

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9. Other – invoice and documentation that item has been paid (recipient shall verify invoice).

In the event that LFUCG incurs no expenses within a reporting timeframe, LFUCG shall submit an invoice for zero (0) dollars or provide a “notice of no expenses,” based on the Commonwealth’s requirements.

Final Invoice: The final invoice should be clearly marked as “FINAL INVOICE” to indicate that all funds that will be expended, have been expended.

**Where to submit invoices:**

All invoices shall be submitted via email to:

Division of Water  
 Attn: Mike Reed  
 300 Sower Blvd., Third Floor NW/29  
 Frankfort, Kentucky 40601  
 502-782-6892  
 Mike.Reed@ky.gov

In the subject line of the email list:

**Project Number 23-07, Invoice #**

**IV. Assurances:**

Award Number: FFY-2023 Performance Partnership Grant–PPG BG - 00D21423, CFDA 66.605.

The parties shall abide by all terms of the award:

LFUCG agrees to comply with the current EPA general terms and conditions available at

<https://www.epa.gov/grants/epa-general-terms-and-conditions-effective-october-1-2019-or-later>

The following is a list of statutory, regulatory, and Executive Order requirements for subrecipients on EPA funded projects per 2 CFR 200.331(a) (2). As a subrecipient of EPA funding, you must agree to abide by the applicable requirements listed below.

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## **1. Nondiscrimination Laws and Social Policies**

Most EPA financial assistance recipients are subject to the laws and policies described below. This list of nondiscrimination and social policy requirements is for informational purposes only and is not intended to provide guidance on compliance in the context of a particular EPA assistance agreement.

### **Disadvantaged Business Enterprises**

EPA regulations at 40 CFR Part 33, "Participation by Disadvantaged Business Enterprises in U.S. Environmental Protection Agency Programs" set forth requirements for making good faith efforts to ensure that Disadvantaged Business Enterprises, including Minority Business Enterprises and Women's Business Enterprises receive a fair share of contracts awarded with funds provided by EPA financial assistance agreements. These requirements apply to subrecipients in accordance with 40 CFR 33.102 and the definition of "Recipient" in 40 CFR 33.103.

## **2. Financial Management Policies**

These policies apply to transactions financed by EPA financial assistance funds and apply to both pass-through entities and subrecipients on the basis of either regulatory requirement or the General Terms and Conditions (T&C) of the pass-through entity's agreement with EPA.

### **Federal Funding Accountability and Transparency Act**

As set forth in the General Condition of the pass-through entity's agreement with EPA entitled "Reporting Subawards and Executive Compensation" the pass-through entity must ensure that subrecipients comply with Federal Funding Accountability and Transparency Act (FFATA) reporting requirements.

### **Suspension and Debarment**

The pass-through entities responsibilities are described at 2 CFR Part 180, Subpart C and the "Debarment and Suspension" T&C of the pass-through entity's agreement with EPA. These requirements, which include checking SAM to ensure that potential contractors, subrecipients and their principals and agents are not suspended, debarred or otherwise ineligible to participate in Federal assistance programs also apply to subrecipients. It is important to note that in addition to being precluded from all first tier contracts and all contracts requiring EPA approval in accordance with 2 CFR 180.220 under 2 CFR 1532.220 suspended or debarred parties may not receive EPA funded contracts in excess of \$25,000 at any tier. Also, at 2 CFR 1532.995 EPA has identified activities that suspended or debarred parties may not perform as a "Principal" in EPA financial assistance agreements and subawards.

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### **New Restriction on Lobbying, 40 CFR Part 34**

Subrecipients must submit certification and disclosure forms required by 40 CFR 34.110 and the "Lobbying and Litigation" T&C for subawards in excess of \$100,000.

### **Uniform Grant Guidance Requirements (UGG)**

Subrecipients must comply with 2 CFR Part 200 requirements when they award procurement contracts, make subawards, and incur other costs borne by EPA financial assistance.

### **3. Environmental Authorities**

These requirements typically apply when an EPA funded project involves construction, remediation of contamination in water, soil, or buildings, and similar activities which alter the physical environment. Other environmental laws may apply to a project independent of EPA funding. Financial assistance for research, training, technical assistance and related outreach, environmental education, program operations, or installation of pollution control equipment on vehicles or vessels, are generally not affected by these requirements. Note that this list of environmental authorities is for informational purposes only and is not intended to provide guidance on compliance in the context of a particular EPA assistance agreement.

#### **Clean Air Act and Clean Water Act**

Section 306 of the Clean Air Act (CAA) and section 508 of the Clean Water Act (CWA), as implemented by Executive Order 11738 (1973), prohibit performance of Federal assistance agreements at facilities disqualified due to certain violations of the CAA or CWA. Disqualified facilities are listed in the System for Award Management. Subrecipients are required to check SAM, to determine if facilities that will be used to perform contracts or subawards are listed in SAM.

#### **National Environmental Policy Act**

Where applicable, the National Environmental Policy Act (NEPA) requires federal agencies to conduct an environmental review of their proposed actions, with a view toward ensuring informed decision-making and public input. EPA's NEPA regulations are at 40 CFR Part 6, and note that certain EPA actions are exempt from NEPA. Pass-through entities and subrecipients may be required to assist EPA with NEPA compliance, where appropriate.

#### **National Historic Preservation Act**

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to provide the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. Under the ACHP's regulations, consultations generally occur in the first instance with state and/or tribal historic preservation officials, with direct ACHP involvement

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in certain cases. EPA funded projects with the potential to affect historic properties – i.e., properties listed in or eligible for listing in the National Register of Historic Places – may implicate this statute. This may include, for instance, EPA-funded projects that involve alteration of structures (e.g., asbestos abatement) that are historic properties or construction/remediation on culturally sensitive lands. Pass-through entities should work with their Project Officer to ensure that subrecipients are available to work with EPA on any required consultation process with the State or Tribal Historic Preservation Office prior to commencing the project to ensure compliance with section 106 of the NHPA.

**Protection of Wetlands, Executive Order 11990 (1973), as amended**

EPA funded projects involving new construction in wetlands may implicate this Executive Order. The terms and conditions of the EPA assistance agreement may require pass-through entities to ensure that subrecipients assist EPA in determining whether a proposed project will be located in (or affect) a wetland, and if so, evaluating practicable alternative locations for the project or other mitigation.

**Coastal Zone Management Act**

This statute requires EPA to ensure that Agency funded activities in coastal areas are consistent with state coastal zone management plans that have been approved by the Department of Commerce. Pass-through entities and subrecipients should consult directly with the state Coastal Zone Management agency during the planning stages to ensure that the EPA funded project will be consistent with the state’s coastal zone management plan.

**Coastal Barriers Resources Act**

This statute restricts federal financial assistance that would encourage development in the Coastal Barriers Resources System, a collection of undeveloped and ecologically sensitive barrier formations along the Atlantic and Gulf Coasts of the United States, and the shore areas of the Great Lakes, and adjacent wetlands, marshes, estuaries, inlets, and near-shore waters. During the planning phase of a proposed project located in the Coastal Barriers Resources System, pass-through entities and subrecipients should consult with the state Coastal Zone Management agency to determine whether a proposed project will have an effect on the system, and if so, the alternative sites or mitigating measures that must be incorporated in the project's design.

**Wild and Scenic Rivers Act**

This statute prohibits federal assistance for water resource projects that would have direct and adverse effects on, invade, or unreasonably diminish, the special values of a congressionally designated wild and scenic river. Pass-through entities and subrecipients should consult with appropriate state or federal (National Park Service or Bureau of Land Management) agency to determine whether the project or any alternatives under consideration may affect a designated river.

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### **Endangered Species Act (ESA)**

This statute requires Federal agencies to ensure that their activities are not likely to jeopardize endangered species, adversely modify designated critical habitats, or incidentally take (injure or kill) endangered animals without authorization, in consultation with the appropriate federal wildlife agency (the U.S. Fish and Wildlife Service or National Marine Fisheries Service) as described in 50 CFR Part 402. The ESA consultation process is triggered when an action "may affect" ESA-protected species or critical habitat. Pass-through entities and subrecipients should coordinate with EPA to ensure consultation occurs where appropriate."

### **Safe Drinking Water Act**

Precludes the use of EPA financial assistance for projects that would contaminate sole source aquifers. Pass-through entities and subrecipients must contact state officials to determine whether a sole source aquifer is in the vicinity of the proposed project. If a sole source aquifer is in the project planning area, then the assistance recipient, in consultation with state ground water officials, must conduct investigations to determine if the aquifer could be contaminated by the project. If the project could potentially affect ground water supplies, the assistance recipient, in consultation with ground water officials, must elect an alternative site or devise adequate mitigating measures.

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**Memorandum of Agreement Standard Terms and Conditions  
Revised January 2023**

**1.00 Effective Date**

All Memorandum of Agreements are not effective until the Secretary of the Finance and Administration Cabinet or his authorized designee has approved the agreement and until the agreement has been submitted to the government contract review committee. However, in accordance with KRS 45A.700, memoranda of agreement in aggregate amounts of \$50,000 or less are exempt from review by the committee and need only be filed with the committee within 30 days of their effective date for informational purposes.

KRS 45A.695(7) provides that payments on personal service contracts and memoranda of agreement shall not be authorized for services rendered after government contract review committee disapproval, unless the decision of the committee is overridden by the Secretary of the Finance and Administration Cabinet or agency head, if the agency has been granted delegation authority by the Secretary.

**2.00 EEO Requirements**

The Equal Employment Opportunity Act of 1978 applies to All State government projects with an estimated value exceeding \$500,000. The contractor shall comply with all terms and conditions of the Act.

**3.00 Cancellation Clause**

Both parties shall have the right to terminate and cancel this contract at any time not to exceed thirty (30) days' written notice served on the Contractor by registered or certified mail.

**4.00 Funding Out Provision**

The state agency may terminate this agreement if funds are not appropriated to the contracting agency or are not otherwise available for the purpose of making payments without incurring any obligation for payment after the date of termination, regardless of the terms of the agreement. The state agency shall provide the Contractor thirty (30) calendar day's written notice of termination of the agreement due to lack of available funding.

**5.00 Reduction in Contract Worker Hours**

The Kentucky General Assembly may allow for a reduction in contract worker hours in conjunction with a budget balancing measure for some professional and non-professional

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service contracts. If under such authority the agency is required by Executive Order or otherwise to reduce contract hours, the agreement will be reduced by the amount specified in that document. If the contract funding is reduced, then the scope of work related to the contract may also be reduced commensurate with the reduction in funding. This reduction of the scope shall be agreeable to both parties and shall not be considered a breach of contract.

### **6.00 Access to Records**

The state agency certifies that it is in compliance with the provisions of KRS 45A.695, "Access to contractor's books, documents, papers, records, or other evidence directly pertinent to the contract." The Contractor, as defined in KRS 45A.030, agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this agreement for the purpose of financial audit or program review. The Contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884. Records and other prequalification information confidentially disclosed as part of the bid process shall not be deemed as directly pertinent to the agreement and shall be exempt from disclosure as provided in KRS 61.878(1)(c).

### **7.00 Violation of tax and employment laws**

KRS 45A.485 requires the Contractor and all subcontractors performing work under the contract to reveal to the Commonwealth any final determination of a violation by the Contractor within the previous five (5) year period of the provisions of KRS chapters 136, 139, 141, 337, 338, 341, and 342. These statutes relate to corporate and utility tax, sales and use tax, income tax, wages and hours laws, occupational safety and health laws, unemployment insurance laws, and workers compensation insurance laws, respectively. Disclosure of any violations is required prior to the award of any state contract and throughout the duration the contract.

Failure to disclose violations, shall be grounds for the Commonwealth's disqualification of a contractor or subcontractor from eligibility for future state contracts for a period of two (2) years.

To comply with KRS 45A.485, the Contractor and all subcontractors performing work



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under this contract shall report any such final determination(s) of any violation(s) within the previous five (5) years to the Commonwealth by providing a list of the following information regarding any violation(s): (1) specific KRS violated, (2) date of any final determination of a violation, and (3) state agency which issued the final determination.

A list of any disclosures made prior to award of a contract shall be attached to the contract.

The Contractor affirms that it has not violated any of the provisions of the above statutes within the previous five (5) year period, aside from violations explicitly disclosed and attached to this contract. Contractor further affirms that it will (1) communicate the above KRS 45A.485 disclosure requirements to any subcontractors and (2) disclose any subcontractor violations it becomes aware of to the Commonwealth.

**8.00 Discrimination**

This section applies only to agreements disbursing federal funds, in whole or part, when the terms for receiving those funds mandate its inclusion. Discrimination (because of race, religion, color, national origin, sex, sexual orientation, gender identity, age, or disability) is prohibited. During the performance of this agreement, the Contractor agrees as follows:

The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, national origin, sex, sexual orientation, gender identity or age. The Contractor further agrees to comply with the provisions of the Americans with Disabilities Act (ADA), Public Law 101-336, and applicable federal regulations relating thereto prohibiting discrimination against otherwise qualified disabled individuals under any program or activity. The Contractor agrees to provide, upon request, needed reasonable accommodations. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, national origin, sex, sexual orientation, gender identity, age or disability. Such action shall include, but not be limited to the following; employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensations; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

In all solicitations or advertisements for employees placed by or on behalf of the Contractor, the Contractor will, state that all qualified applicants will receive consideration

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for employment without regard to race, religion, color, national origin, sex, sexual orientation, gender identity, age or disability.

The Contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representative of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965 as amended, and of the rules, regulations and relevant orders of the Secretary of Labor.

The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, as amended, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

In the event of the Contractor's noncompliance with the nondiscrimination clauses of this agreement or with any of the said rules, regulations or orders, this agreement may be cancelled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further government contracts or federally-assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, as amended, and such other sanctions may be imposed and remedies invoked as provided in or as otherwise provided by law.

The Contractor will include the provisions of paragraphs (1) through (7) of section 202 of Executive Order 11246 in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor, issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the agency,

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the contractor may request the United States to enter into such litigation to protect the interests of the United States.

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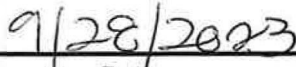
**Approvals**

This contract is subject to the terms and conditions stated herein. By affixing signatures below, the parties verify that they are authorized to enter into this contract and that they accept and consent to be bound by the terms and conditions stated herein. In addition, the parties agree that (i) electronic approvals may serve as electronic signatures, and (ii) this contract may be executed in any number of counterparts, each of which when executed and delivered shall constitute a duplicate original, but all counterparts together shall constitute a single contract.

**AGREED TO BY:**

**LEXINGTON FAYETTE URBAN COUNTY  
GOVERNMENT:**

  
\_\_\_\_\_  
Linda Gorton, Mayor

  
\_\_\_\_\_  
Date

**DEPT. FOR ENVIRONMENTAL PROTECTION:**

  
\_\_\_\_\_  
Anthony R. Hatton, Commissioner

  
\_\_\_\_\_  
Date

**ENERGY AND ENVIRONMENT CABINET:**

  
\_\_\_\_\_  
Rebecca W. Goodman, Secretary

  
\_\_\_\_\_  
Date

**APPROVED AS TO FORM AND LEGALITY:**

  
\_\_\_\_\_  
Joseph A. Newberg, General Counsel  
Office of Legal Services

  
\_\_\_\_\_  
Date

## **Appendix B**

### **LFUCG Watershed-Focused Monitoring QAPP**



MATTHEW G. BEVIN  
GOVERNOR

CHARLES G. SNAVELY  
SECRETARY

**ENERGY AND ENVIRONMENT CABINET  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

AARON B. KEATLEY  
COMMISSIONER

300 SOWER BOULEVARD  
FRANKFORT, KENTUCKY 40601

August 18, 2017

Mr. Steven Evans  
Third Rock Consultants, LLC  
2526 Regency Rd Ste 180  
Lexington, KY 40503

Re: Approval for Quality Assurance Project Plan (QAPP) for the 2017 LFUCG Watershed-Focused Monitoring Plan, Revision 2.0


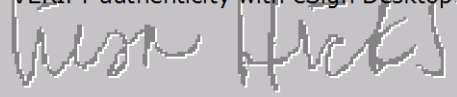
Mr. Evans,

This letter will serve as the approval for the above mentioned QAPP.

Please direct any questions regarding the QAPP to Lisa Hicks, ph. 502-782-6972, email [lisa.hicks@ky.gov](mailto:lisa.hicks@ky.gov).

Thank you for your submittal, and let me know if I can be of further assistance.

Regards,

E-Signed by Lisa Hicks  
VERIFY authenticity with eSign Desktop.   


Lisa Hicks  
Quality Assurance Officer  
Kentucky Division of Water



# Quality Assurance Project Plan (QAPP)



## Lexington-Fayette Urban County Government Watershed-Focused Monitoring Plan

Prepared By:

Third Rock Consultants, LLC  
2526 Regency Road, Suite 180  
Lexington, KY 40503  
859-977-2000

Prepared For:

Lexington-Fayette Urban County Government  
Division of Water Quality  
125 Lisle Industrial Ave, Suite 180  
Lexington, KY 40511  
859-425-2400

Effective Date: June 1, 2016  
Revision No. 2, August 1, 2017

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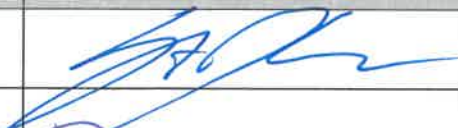


1 PROJECT MANAGEMENT

*1.1 Title and Approval Sheet*

Action By	Signature	Date
Steven Evans Prepared, QAPP Author		
Richard Walker Reviewed, MS4 Program Manager		
Dr. David Price Reviewed, DWQ Laboratory Supervisor		
Richard Lamey Reviewed, DWQ Compliance and Monitoring Manager		
Jennifer Carey Reviewed, DWQ MS4 / Water Quality Manager		
Lisa Hicks Approved, KDOW Quality Assurance Officer		
Abigail Rains Reviewed, KDOW MS4 Program Coordinator		

# **1 PROJECT MANAGEMENT**

## **1.1 Title and Approval Sheet**

<b>Action By</b>	<b>Signature</b>	<b>Date</b>
Steven Evans Prepared, QAPP Author		8/21/2017
Richard Walker Reviewed, MS4 Program Manager	Richard W. Walker	8/22/17
Dr. David Price Reviewed, DWQ Laboratory Supervisor		8/21/2017
Richard Lamey Reviewed, DWQ Compliance and Monitoring Manager		8.22.17
Jennifer Carey Reviewed, DWQ MS4 / Water Quality Manager	Jennifer M. Carey	8/22/17
Lisa Hicks Approved, KDOW Quality Assurance Officer		
Abigail Rains Reviewed, KDOW MS4 Program Coordinator		

1.2 Revision History

Date of Revision	Page(s)/Section(s) Revised	Revision Explanation
April 1, 2016	all	New document
June 15, 2016	<p>p. 11, Section 1.7.1-2</p> <p>p. 15, Section 1.7.6</p> <p>p. 16, Table 1</p> <p>p. 24, Section 1.10.2</p> <p>p. 27, Table 8</p> <p>p. 40, 49-50, Sections 2.2.4, 2.6</p> <p>p. 47, Section 2.3.3</p> <p>p. 48, Section 2.4</p>	<ul style="list-style-type: none"> <li>• Corrected Index periods for headwater habitat and macro surveys</li> <li>• "TMDL implementation <i>efforts for the MS4.</i>"</li> <li>• Revised index periods</li> <li>• 'Draft lab results submitted to LFUCG, KDOW, and volunteer samplers...'</li> <li>• Corrected sampling site numbers</li> <li>• Multimeter calibration the day before or the day of sampling.</li> <li>• The laboratory should assume that the duplicate was sampled with the earliest sample for hold time purposes.</li> <li>• Remove reference to KDOW 2008.</li> </ul>
August 1, 2017	<p>p. 8-9, Section 1.5</p> <p>p. 12, Section 1.7.3</p> <p>p. 14, Section 1.7.4</p> <p>p. 19, Table 5 and 6</p> <p>p. 20, Table 7</p> <p>p. 21, Section 1.8.3</p> <p>p. 27, Table 8</p> <p>p. 29, Section 2.1</p> <p>p. 50, Table 21</p>	<ul style="list-style-type: none"> <li>• Minor editing throughout</li> <li>• Personnel and lab changes</li> <li>• Field phosphate replaced with laboratory total phosphorus for Phase 1. Fluoride added. Detergents analyzed in laboratory.</li> <li>• Microbial source tracking samples storage and laboratory changes</li> <li>• Revision of benchmarks and action levels</li> <li>• Removal of phosphate, addition of fluoride</li> <li>• Field duplicates in Phase 2 only</li> <li>• Correction of numbers per watershed</li> <li>• Updating microbial source tracking procedures</li> <li>• Removal of phosphate</li> </ul>

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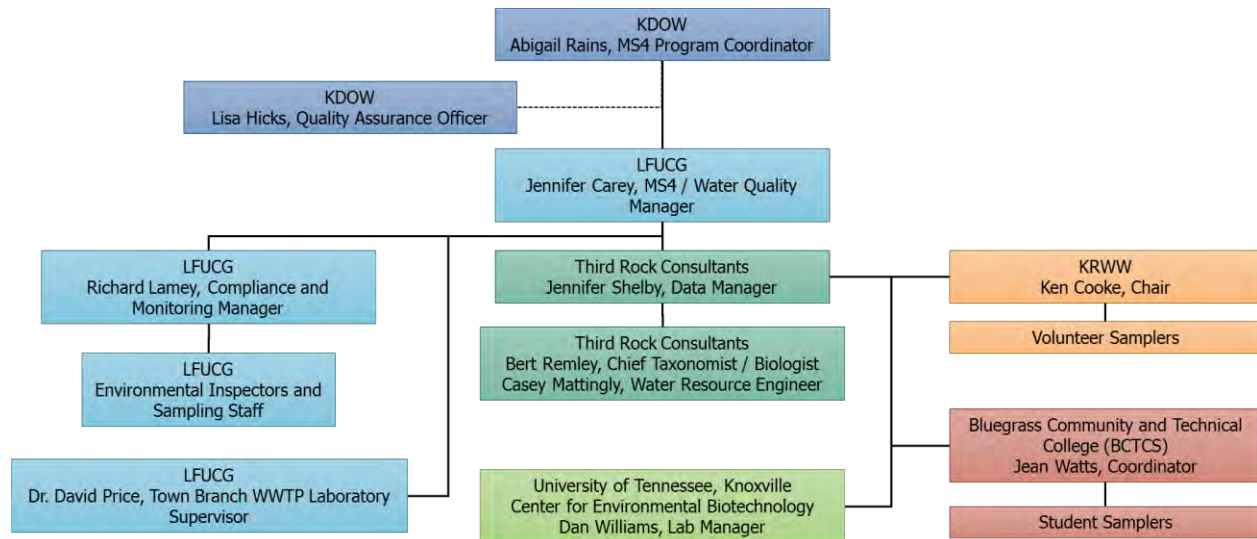
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1.5 Project / Task Organization

The key personnel of project team are summarized in Figure 1 as well as the lines of authority with regards to the execution of the project. The roles and responsibilities of specific personnel are summarized below.

FIGURE 1 – ORGANIZATIONAL CHART



Abigail Rains, Kentucky Division of Water MS4 Program Coordinator, is responsible for ensuring that the monitoring performed under this project is in compliance with the MS4 permit.

Lisa Hicks, Kentucky Division of Water QA Officer, will be responsible for reviewing and approving the QA Project Plan. She may provide technical input on proposed sampling design, analytical methodologies, and data review.

Jennifer Carey, LFUGG MS4 / Water Quality Manager, will have overall responsibility for assigning appropriate personnel to complete the tasks included in this plan. She will ensure that the project budget is adhered to. She will communicate with the Division of Water MS4 Program Coordinator on work accomplished in this plan and any problems or deviations that need to be resolved.

Richard Lamey, LFUGG Compliance and Monitoring Manager, will have the overall responsibility for the Environmental Inspectors involved in the water quality monitoring and discharge prevention investigations. He will also ensure that sufficient LFUGG staff is present to conduct designated sampling events.

Dr. David Price, LFUGG Town Branch WWTP Laboratory Supervisor, will be responsible for assigning appropriate laboratory staff to perform the analyses specified in this plan.

He will also be responsible for the preparation of sampling kits, and calibration of field sampling equipment.

Jennifer Shelby, Third Rock Consultants Data Manager and QA Manager, will be responsible for writing and/or coordinating development of the QAPP. She will ensure that monitoring training and sampling events are coordinated as specified in the QAPP. She will review and approve all data generated for the project and may prepare QA reports as required by the project. She will also be responsible for managing the data generated.

Bert Remley, Third Rock Consultants Chief Taxonomist / Biologist, will be responsible for biological sampling coordination and identification. He will either identify all biological samples collected or will assign appropriate laboratory staff to perform the identification of biological samples collected. He will be responsible for QA of all biological data generated from both the field and laboratory. He will report to Third Rock Consultants Data Manager and QA Manager.

Casey Mattingly, Third Rock Consultants Water Resource Engineer, will be responsible for stage-discharge curve development. He will oversee the field surveys efforts to support the curves and ensure that the stage-discharge curves are validated against the USGS gages in each watershed.

Ken Cooke, Kentucky River Watershed Watch Chair, will be responsible for recruiting volunteers and coordinating sampler training and attendance for water quality monitoring events.

Jean Watts, Bluegrass Community and Technical College Environmental Science Technology Coordinator, will be responsible for coordinating student volunteer training, sampling events, and submission of data to the Data Manager.

Dan Williams, University of Tennessee, Knoxville Center for Environmental Biotechnology Lab Manager, will be responsible for performance of microbial source tracking.

### 1.6 Project Background and Overview

The Phase I MS4 Permit for LFUCG (KPDES No. KYS00002 AI No. 74551) was issued on May 1, 2015 with a five-year duration period effective June 1, 2015. One of the requirements of this permit is as follows:

“LFUCG shall begin to change its monitoring program to a watershed-focused monitoring program. In order to facilitate this process, monitoring should be conducted on a watershed basis with additional monitoring stations sampled for water chemistry, macroinvertebrates, microbial source tracking, hydrogeomorphic



characterization, and habitat assessment. This monitoring program shall be submitted to the Division of Water within one year of the permit effective date.”

This Watershed-Focused Monitoring Plan (WFMP) Quality Assurance Project Plan (QAPP) has been developed to meet this permit requirement. It was developed through a collaborative series of public meetings to obtain public input from stakeholders to ensure the monitoring would meet multiple watershed planning objectives.

The overall goal for this WFMP QAPP is to generate data of sufficient quality and resolution to facilitate the identification and remediation of sources of recreational and aquatic habitat impairments to streams within the Urban Service Boundary. This goal may be sub-divided into the following objectives:

- Characterize and rank stream corridor habitat and hydro-geomorphic function
- Characterize the pollutant load of streams, tributaries, and major outfalls
- Enhance illicit discharge identification in prioritized subwatersheds
- Engage volunteers and the scientific community in data collection efforts (when feasible and appropriate)
- Lay foundation for watershed based plans and TMDL implementation

The study area for the WFMP is the seven major watersheds that drain the Urban Service Area of LFUCG. These watersheds include Cane Run, East Hickman, West Hickman, North Elkhorn, South Elkhorn, Town Branch, and Wolf Run. The portion of these watersheds within the Urban Service Area is assessed under this plan. Monitoring activities would focus on one of these watersheds per year before rotating to another watershed. Five key monitoring elements will be performed in each watershed as briefly outlined below:

1. Stream Corridor Characterization
  - Habitat Assessments by Rapid Bioassessment Protocol (RBP)
  - Substrate Characterization by Visual Estimation
  - Volunteer Biological Assessment
2. Stream Biology
  - Macroinvertebrate Collection and Identification
3. Water Quality Monitoring
  - Stage-Discharge Rating Curves
  - Phase 1: Field Screening at Instream and All Major Outfall Sites
  - Phase 2: Laboratory Testing at Instream and Flowing Major Outfall Sites
4. Discharge Prevention Investigation
  - Storm Network Tracing
  - Optical Brightener
  - Microbial Source Tracking

5. Priority Area Upland Visual Assessment
  - Neighborhood Source Assessment
  - Potential Pollutant Generator Investigations

### 1.7 Project / Task Description and Schedule

#### 1.7.1 Stream Corridor Characterization

Stream corridor characterizations will be conducted at approximately half mile intervals of each reach of perennial stream by trained students and volunteers. On average, 49 characterizations will be made per watershed. During the characterization, visual assessments will be made of habitat, hydrogeomorphology, and macroinvertebrates.

Habitat parameters, including riffle and pool substrates, stream channelization, riparian conditions, and in-stream cover will be assessed visually. Habitat characteristics are scored on a high gradient habitat assessment field data sheet modified from US EPA 841-B-99-002 (Barbour et al., 1999). The habitat score is compared to regional criteria for the Bluegrass Bioregion based on stream size (headwater or wadeable) to determine a habitat rating for each site. The assessments will occur during the sampling index periods for each reach (headwater streams from March 1 to May 31; wadeable streams from May 1 to September 30).

The hydrogeomorphic assessment will be performed by a visual estimation of the percentage of silt, sand, gravel, cobble, boulders, and bedrock within the reach's riffles, runs, and pools.

Macroinvertebrates will be rapidly assessed in an effort to identify potential locations of more sensitive taxa (mayflies, caddisflies, and stoneflies). Identifications will be performed generally to the order level with the level of effort recorded on the datasheet. The 2015 KDOW volunteer biological assessment protocol will be utilized.

#### 1.7.2 Stream Biology

Macroinvertebrates are sampled by approved biologists, during their respective sampling index periods (for headwater streams it is March 1 through May 31; for wadeable streams the index period is May 1 through September 30). Benthic macroinvertebrate samples are not collected during periods of excessively high or low flow or within two weeks of a known scouring flow event. On average, five macroinvertebrate sites will be sampled per watershed.

The macroinvertebrate community will be sampled using the recommended methods developed by KDOW (2015). These sampling methods involve the collection of two separate samples, a semi-quantitative riffle sample and qualitative multi-habitat sample,

at each station. Samples will be preserved in 95% ethanol and returned to the laboratory for processing and identification.

Random 300-specimen subsamples are removed from the riffle samples using methods described by KDOW (2015). All organisms are identified to the lowest possible taxonomic level and recorded on laboratory data sheets. Macroinvertebrate results are analyzed to calculate a Macroinvertebrate Biotic Index (MBI) rating for each watershed station using appropriate metrics (KDOW 2015, Pond *et al.*, 2003). The MBI score is then compared to regional criteria for the Bluegrass Bioregion to arrive at a narrative water quality rating based on stream size (headwater or wadeable).

### 1.7.3 Water Quality Monitoring

Water quality monitoring will be performed in two phases: Phase 1 will serve as a field screening effort and Phase 2 will serve as a pollutant load characterization effort. During both phases, water depth, dissolved oxygen (DO), pH, water temperature (TEMP), specific conductance (COND), *E. coli*, total phosphorus (TP), total suspended solids (TSS), ammonia (NH<sub>3</sub>), nitrate (NO<sub>3</sub>), fluoride (FL), detergents (DTRG), and chlorine (CHL) will be measured. Monitoring will be performed by trained volunteers and LFUCG staff.

Prior to Phase 1 and Phase 2 monitoring, sufficient data will be collected for all water quality sites such that flow can be calculated based on water depth measured in a defined stream cross-section at each site. Geomorphic assessment data, including cross-section survey, limited longitudinal profile survey, and pebble counts will be gathered at each site and a staff gauge will be installed to measure water depth within each surveyed cross-section. Following monitoring, flows will be predicted for the measured water depths using a resistance equation (such as Manning's equation), the cross-section survey data, slope measured from the longitudinal profile survey, and an estimate of stream roughness based on the pebble count data. The USGS gauge in each watershed will be utilized to validate flow estimates for a given monitoring event.

Phase 1 is a field screening effort consisting of four events performed during dry weather (at least 72 consecutive hours of dry weather prior to sampling): two events during August to September of the year prior and two events in January to March of the monitoring year. On average, twelve stream sites will be sampled per watershed. Additionally, all major outfalls will be sampled during Phase 1. In streams, flow will be estimated using the recorded depth at the staff gauge. At major outfalls, flow will be estimated using water depth measurements and channel dimensions. DO, pH, TEMP, and COND will be measured in the field using a water quality multi-meter. NH<sub>3</sub> and CHL will be measured in the field using Hanna Checker units. DTRG will be measured in the field or lab using CHEMets. Grab samples will be collected and transported to the laboratory for analysis of *E. coli*, FL, TSS, TP, and NO<sub>3</sub>. All samples will be preserved according to method specifications and transported to the Town Branch WWTP Laboratory for analysis within method holding times and temperature requirements. To

accommodate the large number of sites, a sampling event may span two consecutive days if no rainfall is forecasted or occurs over this time. If the Town Branch WWTP Laboratory reaches its capacity to perform the analyses, another certified laboratory who reads and signs this QAPP may be used.

Phase 2 will consist of ten sampling events performed during the Primary Contact Recreation period (May 1 to September 30) on a set day of the week, regardless of weather conditions. On average, twelve stream sites will be sampled per watershed. Additionally, major outfalls found to be routinely flowing during Phase 1 (*i.e.*, two or more of the four events) will be sampled during Phase 2. In streams, flow will be estimated using the recorded depth at the staff gauge. At major outfalls, flow will be estimated using water depth measurements and channel dimensions. DO, pH, TEMP, and COND will be measured in the field using a water quality multi-meter. CHL will be measured in the field using Hanna Checker units. Grab samples will be collected and transported to the laboratory for analysis of *E. coli*, FL, TSS, NO<sub>3</sub>, TP, DTRG, and NH<sub>3</sub>. All samples will be preserved according to method specifications and transported to the Town Branch WWTP Laboratory for analysis within method holding times and temperature requirements.

#### 1.7.4 Discharge Prevention Investigation

Discharge prevention investigations utilizes multiple methods to trace and identify the source of water quality measurements above action limits.

When monitoring results exceed action limits, Environmental Inspectors with the LFUCG Division of Water Quality will be notified and they will begin investigating the source of the discharge. The Inspectors will begin at the monitoring site with the actionable result(s) to confirm the previously measured result(s) and will then trace high results through the stream and stormwater network working bridge-to-bridge or manhole-to-manhole to identify and isolate sources. Where the flow is found to be intermittent, caulk dams, sandbagging, or off-hours sampling may be utilized to isolate the source. The parameters utilized to trigger the investigation will be sampled as well as other similar parameters necessary to characterize the source.

Optical brightener surveys will be utilized to investigate high sources of *E. coli* and ammonia where investigations do not clearly determine the source. Traps will be deployed in outfalls with continuous or intermittent flow and retrieved after three days of dry weather. The traps will be viewed under UV light and compared against known controls to determine the presence / absence of human source contributions. Two events will be conducted in each watershed from August to September by contractors.

For microbial source tracking, DNA markers of general, human, and ruminant fecal contributions will be analyzed using quantitative polymerase chain reaction (qPCR). During the first eight Phase 2 water quality sampling events (May to August), the Town

Branch WWTP Laboratory will retain filters from collected samples and freeze them. In September, DNA from 20 filters in this sample set linked to high *E.coli* and ammonia for sites and events of interest will be shipped to the University of Tennessee laboratory, extracted and analyzed to identify fecal sources.

#### 1.7.5 Priority Area Upland Visual Assessment

Visual assessments using methods from Center for Watershed Protection's "*Unified Subwatershed and Site Reconnaissance: A User's Manual*" (2004) will be conducted to evaluate potential sources of pollution within neighborhoods and to investigate areas of potential discharge generators. Assessments will begin in areas upstream of water quality sites found to have routinely high pollutant levels and expand to additional areas if time permits. One week will be spent on each of these assessments in October to December by contractors.

For neighborhoods, visual assessments of at least three representative properties will be attempted within each neighborhood or homeowners' association for indicators of nutrients, oil and grease, trash / litter, bacteria, and sediment. The assessment will include yard and lawn conditions; driveways, sidewalks, and curbs; rooftops, and common areas.

For potential pollutant generators, including unpermitted or lower risk commercial or industrial operations, properties will be visually assessed for indicators of sediment, organic material, and litter. The assessment will include vehicle operations, outdoor materials, waste management, physical plant, turf / landscaping, and stormwater infrastructure.

#### 1.7.6 Deliverables

The results of these monitoring activities will be conveyed through multiple deliverable types including reports, maps, and data analysis.

- For the stream corridor characterization, six summary maps will be generated. These maps will prioritize the stream reaches visually according to 1) instream habitat, 2) channel erosion / deposition, 3) channel stability, 4) riparian zone, 5) total habitat score as compared with KDOW criteria, and 6) substrate characterization.
- Macroinvertebrate scores will be presented on a map as compared with KDOW Criteria and compared to the total habitat scores assessed in the stream corridor characterization. A table of results will also be developed.
- Water quality results will be compared with benchmarks to evaluate where pollutant reductions are needed and maps of priority areas will be generated.

- Discharge prevention investigation results will be utilized to identify specific discharge sources or localized areas for Best Management Practice (BMP) implementation and this information will be conveyed via maps.
- Neighborhoods and potential pollutant generators located in priority areas will be ranked and presented through tables and maps.

The results will be used to compute and assess pollutant loading and will be summarized in a comprehensive, technical Watershed-Focused Monitoring Program Report prepared for each watershed.

These monitoring results may also be used to initiate development a comprehensive Watershed Based Plan in the year following the completion of the monitoring. The results of the Watershed-Focused Monitoring Program may also be used in conjunction with TMDL implementation efforts for the MS4.

#### 1.7.7 Project Schedule Time Line

Table 1 (page 16) summarizes the project schedule for the monitoring conducted in each watershed. The schedule for monitoring each watershed is summarized in Table 2 (page 16).

It is expected that the laboratory will send results with a turnaround time of 14 days. An initial review of the monitoring water quality data will be conducted within 14 days of receipt and distributed to the watershed working group, which consists of the program management team along with staff and volunteers conducting the monitoring and sampling activities. Review of other monitoring activities will be conducted within the allotted time period for the sampling activity to allow for re-sampling if necessary. The Watershed-Focused Monitoring Program Report will be generated by March 31 of the year subsequent to the completion of the monitoring. The expected reporting dates of other monitoring activities are detailed in Table 1.



## 1.8 Data Quality Objectives (DQOs) and Criteria for Measurement Data

Data quality is determined primarily based on data quality objectives (DQOs) and data quality indicators (DQIs). DQOs are qualitative and quantitative statements that indicate the objectives or goals for the data. Data Quality Indicators (DQIs) are qualitative and quantitative measures of data that indicate whether the data is of sufficient quality to meet the DQOs. The specific DQOs and DQIs for this project are stated in the following sections.

The overall Quality Assurance / Quality Control (QA/QC) objective for the WFMP QAPP is to generate data of sufficient quality and resolution to facilitate the identification and remediation of sources of recreational and aquatic habitat impairments to streams within the Urban Service Boundary. This goal may be sub-divided into the following objectives:

- Characterize and rank stream corridor habitat and hydro-geomorphic function
- Characterize the pollutant load of streams, tributaries, and major outfalls
- Enhance illicit discharge identification in prioritized subwatersheds
- Engage volunteers and the scientific community in data collection efforts (when feasible and appropriate)
- Lay foundation for watershed based plans and TMDL implementation

### 1.8.1 Data Quality Objectives (DQO)

The data quality objectives in this WFMP QAPP are related primarily to the field sampling. The laboratory DQOs are included, but comprehensive laboratory DQOs, including number of laboratory duplicates, known samples, etc., are stated in individual laboratory Standard Operating Procedures (SOPs) and not in this monitoring program QAPP. This plan is intended to focus on field sampling activities while establishing minimum objectives relating to laboratory quality. The data quality objectives for the respective field sampling activities are listed in Table 3 (page 18).

### 1.8.2 Action Limits / Levels

#### *1. Biological Metrics*

In order to evaluate the habitat assessment and macroinvertebrate sampling results, the KDOW has developed metrics and narrative classification ratings to indicate whether the designated use of warmwater aquatic habitat is supported or the aquatic community is adversely impacted. The criteria are summarized in Table 4 (page 18).



TABLE 3 – SUMMARY OF DATA QUALITY OBJECTIVES

Sampling Activity	Objective
Habitat Assessment	Provide a semi-quantified evaluation of the general habitat of the stream
Substrate Characterization	A basic evaluation of the composition of stream bed substrate which may be used to evaluate habitat availability and restoration potential
Macroinvertebrate Presence / Absence Screening	Identify potential locations for sensitive taxa missed during the macroinvertebrate collections and provide public education on the impacts to the aquatic ecosystem
Macroinvertebrate Collection and Identification	Calculation of the Macroinvertebrate Bioassessment Index (MBI). Macroinvertebrates have varying tolerances for water pollution and serve as long-term indicators of water quality
<i>In situ</i> Measurements and Field Screening	Indicate general measures of water quality at the time of sample collection during dry weather conditions
Grab Sampling	Compare pollutant concentrations to benchmarks, quantify pollutant loading of streams, tributaries, and major outfalls
Hydrogeomorphic Assessment	Will enable flow calculation by water depth at all water quality sites
Storm Network Tracing	Trace high pollutant concentrations to point sources where possible
Optical Brightener	Determine the presence / absence of human source contributions to high areas of <i>E. coli</i> or ammonia
Microbial Source Tracking	Determine fecal source contributions to high areas of <i>E. coli</i> or ammonia
Neighborhood Source Assessment	Identify and rank potential pollutant producing behaviors and restoration opportunities in neighborhoods upstream of high pollutant concentrations.
Potential Pollutant Generator Investigations	Identify potential pollutant sources and restoration opportunities from regulated or non-regulated commercial or industrial facilities.

TABLE 4 – BIOLOGICAL WARMWATER AQUATIC HABITAT CRITERIA FOR THE BLUEGRASS BIOREGION

Narrative Rating	Warmwater Aquatic Habitat Criteria			
	Habitat (RBP Score)		Macroinvertebrates (MBI Score)	
	Wadeable > 5.0 mi <sup>2</sup>	Headwater < 5.0 mi <sup>2</sup>	Wadeable > 5.0 mi <sup>2</sup>	Headwater < 5.0 mi <sup>2</sup>
Excellent	N/A	N/A	≥ 70	≥ 58
Good	≥ 130	≥ 156	61-69	51-57
Fair	114-129	142-155	41-60	39-50
Poor	≤ 113	≤ 141	21-40	19-38
Very Poor	N/A	N/A	≤ 20	≤ 18

2. *Water Quality*

The regulatory statute for surface waters in Kentucky is found in 401 KAR 10:031. The statute provides minimum water quality standards for all surface waters as well as specific standards that apply to particular designated uses. For this project, the applicable designated uses include warmwater aquatic habitat (WAH) and primary contact recreation (PCR). Where regulatory criteria exist, such standards are utilized as benchmarks. Where no such criteria exist, non-regulatory benchmarks are utilized for data evaluation purposes only. Because of the sampling frequency of this monitoring program, instantaneous or acute water quality criteria is used to evaluate results when

multiple criteria are present. Table 5 summarizes the criteria used to evaluate water quality data.

TABLE 5 – WATER QUALITY BENCHMARKS

Parameter	Water Quality Benchmark
PCR Regulatory Water Quality Standard	
<i>E. coli</i> <sup>1</sup>	Instantaneous: <240 CFU/100mL; 30-day geometric mean: <130 CFU/100mL
WAH Regulatory Water Quality Standard	
Total Residual Chlorine	0.019 mg/L
pH	Between 6.0 and 9.0 SU, and not to fluctuate more than 1.0 SU over 24 hours
Temperature	< 31.7°C (89°F)
Flow	Not altered to a degree that will adversely affect the aquatic community
Dissolved oxygen	> 5.0 mg/L as a 24-hour average; or > 4.0 mg/L for instantaneous
Specific Conductance	Indigenous aquatic community is not adversely affected
Total Suspended Solids	Indigenous aquatic community is not adversely affected
Nutrients	Not elevated to a level that results in an eutrophication problem
Un-ionized Ammonia <sup>2</sup>	<0.05 mg/L
WAH Non-regulatory Reference Point	
Specific Conductance	<300 µS/cm
Total Phosphorus as P	<0.5 mg/L
Nitrate as N	<2.0 mg/L
Ammonia as N	<0.5 mg/L
Detergents	>0.5 mg/L
Chlorine	<0.5 mg/L
Fluoride	<0.5 mg/L
Total Suspended Solids	<80 mg/L

NOTE: PCR = primary contact recreation, WAH = warmwater aquatic habitat,

<sup>1</sup>Geometric mean based on not less than five samples taken during a 30-day period. Instantaneous standard is not to be exceeded in 20% or more of all samples taken during a 30-day period. If less than five samples are taken in a month, this standard applies.

<sup>2</sup>Un-ionized ammonia shall be determined from values for total ammonia-N, in mg/L, pH and temperature, by means of the following equations: Un-ionized ammonia (mg/L) = 1.2\*{total ammonia (mg/L as N)/[1+10^(pH<sub>a</sub> - pH)]}, where pH<sub>a</sub> = 0.0902 + [2730/(273.2+T<sub>c</sub>)] and where T<sub>c</sub> = temperature, °C.

### 3. Discharge Prevention Investigation

Discharge prevention investigation action limits determine the levels at which illicit discharge investigations are triggered, as well as levels that are used for source categorization purposes. The action levels are summarized in Table 6.

TABLE 6 – DISCHARGE PREVENTION INVESTIGATION ACTION LEVELS

Parameter	Limits	Parameter	Limits
<i>E. coli</i>	>1000 MPN/100 mL	Fluoride	>0.5 mg/L
Total Suspended Solids	>80 mg/L	Ammonia	>0.5 mg/L
Conductivity	>1000 µS/cm	Detergents	>0.5 mg/L
Chlorine	>0.5 mg/L	pH	<6 SU or >9 SU
Temperature	>90°F or >32.2°C	Dissolved Oxygen	< 4 mg/L

### 1.8.3 Measurement and Performance Criteria / Acceptance Criteria

Measurement performance criteria are used in new data collection efforts, acceptance criteria are utilized for secondary or existing data use. Measurement criteria are usually stated in quantitative terms, such as limits on method detection limits, bias, or limits of overall variability of study results.

Measurement and performance criteria can be stated as data quality indicators (DQIs); the primary indicators are precision, bias, representativeness, comparability, completeness, and sensitivity. The performance criteria are summarized in Table 7.

TABLE 7 – ACCEPTANCE CRITERIA FOR FIELD MEASUREMENTS AND LABORATORY CHEMISTRIES

Parameter	Units	Field / Lab Method	Accuracy (% R or ±)	Precision <sup>1</sup> (% RPD)	Sensitivity (Reporting Limit)
<i>In situ</i> Measurements					
Flow – Instream	cfs	Water Depth	±0.1 feet	N/A	0.01 ft/sec
Flow – Outfall	cfs	Water Depth / Channel Dimensions	±0.25 inches	N/A	0.01 ft/sec
Dissolved Oxygen	mg/L	<i>In situ</i>	±0.2	20	±0.2
pH	SU	<i>In situ</i>	±0.5	20	±0.5
Specific Conductance	µS/cm	<i>In situ</i>	±1	20	±1
Temperature, Water	°F	<i>In situ</i>	±0.1	20	±0.1
Field Chemistry Kits					
Ammonia as N	mg/L	Hanna Checker	±0.10	20	0.01 – 3.00
Chlorine, Total	mg/L	Hanna Checker	±0.05	20	0.01 – 3.50
Detergents	mg/L	CHEMets Test Kit	Variable <sup>2</sup>	Variable <sup>2</sup>	0.0 – 3.0 <sup>2</sup>
Laboratory Chemistries					
<i>Escherichia coli</i>	MPN/100mL	SM 9223 B	N/A	20	1
Total Suspended Solids	mg/L	SM 2540 D	95-105	20	2
Phosphorus, Total as P	mg/L	SM 4500-P E	80-120	20	0.033
Ammonia as N	mg/L	HACH 10205	80-120	20	0.05
Nitrate as N	mg/L	EPA 300.0 or HACH 10206	80-120	20	0.10
Fluoride (SPADNS)	mg/L	SM 4500 F	80-120	20	0.03

<sup>1</sup> Indicates minimum laboratory precision for water quality parameters

<sup>2</sup> Visual comparators with increments of 0, 0.25, 0.5, 0.75, 1.0, 1.5, 2.0, and 3.0 mg/L.

For Stream Corridor Characterizations, 10% of habitat assessments and substrate characterizations will be duplicated by trained biologists. For volunteer results with different narrative rating scores or vastly different individual parameters scores, field photographs will be utilized to evaluate the habitat assessment scores for all assessment performed by that individual. Results may be amended or rejected based on best professional judgment subsequent to this review.

For Stream Biology, the macroinvertebrate collection quality is assured by annual training, audit, and certification by KDOW. A collection check sheet shall also be used to document

the habitats sampled in the field. Field photographs are used to document accuracy for habitat assessment. For macroinvertebrate laboratory identification, sorting and taxonomic quality checks will be utilized to document precision.

Field duplicates will be collected or measured for *in situ* measurements, field chemistries, and water quality grab samples at 5% of sites during Phase 2. Laboratory duplicates will also be performed. Internal laboratory QC samples will be analyzed to determine if the project accuracy standards, listed in Table 7 above are met. The "±" values listed in Table 7 for the *in situ* measurements are the minimum requirements of field equipment to be used in this project.

Representativeness is also ensured by collection under the specified sampling conditions and index period. Comparability with other water quality data for the area has been pursued through compliance with the use of Kentucky Division of Water procedures or standardized SOPs. It is assumed that all sites will be sampled for this project unless field conditions are such that prerequisite conditions are not present or interferences prevent representative sample collection. It must be thoroughly documented if a sample cannot be collected. If samples are rejected or sites cannot be sampled, re-sampling shall not be performed under this project.

For grab sampling and *in situ* measurements, the sensitivity levels necessary for this program are specified in Table 7 above. For volunteer biological assessments macroinvertebrates are identified to order. For macroinvertebrate sampling, all organisms are to be identified to the lowest possible taxonomic level (genus or species as the key permits) in order to properly calculate the associated metrics.

### 1.9 Special Training Requirements

Documentation of training will be maintained by the Data Manager. The minimum training requirements for the project tasks are as follows:

#### 1.9.1 Stream Corridor Characterization

In order to perform Stream Corridor Characterizations, samplers must meet the following qualifications:

- Complete Kentucky Watershed Watch volunteer training for biological (WWSOP03000) and habitat assessments (WWSOP04000), or the equivalent.
- Read and understand of the associated protocols and this QAPP.
- LFUCG training and certification on Stream Corridor Characterization

### 1.9.2 Stream Biology

In order to perform the habitat assessments and macroinvertebrate collection and identification for the stream biology surveys, KDOW specifies the minimum training requirements:

- Graduation from a college or university with a bachelor's degree in a biological, environmental, or natural science, which includes at least thirty credit hours in the biological sciences.
- Three years of professional experience in research, environmental impact assessment, or related environmental program areas. Graduate work in the biological, environmental, or natural sciences can substitute for the required experience on a year-for-year basis.
- Proficiency in the identification of macroinvertebrates to the genus level (for macroinvertebrate identification).
- Annual training certificate and audit for macroinvertebrate collection from the KDOW.
- Annual signed affidavit that the QAPP and SOPs have been reviewed.
- Proper / valid state collecting permits.

### 1.9.3 Water Quality Monitoring

Stage-discharge curve development and surveying will be performed under the direction and guidance of a licensed engineer.

In order to perform field collection of water quality samples, samplers must meet one of the following qualifications:

- Reading and understanding of the associated protocols and this QAPP
- LFUCG training and certification
- One of the following:
  - Complete KRWW training for field water chemistry assessment (WWSOP01000) and stream grab sample collection (WWSOP02000) and certification
  - Minimum of one year of professional experience in water sample collection, research, environmental impact assessment, or related environmental program areas. Degree in the biological, environmental, or natural sciences can substitute for the required experience.

### 1.9.4 Discharge Prevention Investigations

Storm Network Tracing shall be performed by LFUCG Environmental Inspectors. For the optical brightener survey, field investigators must read and understand this QAPP and associated protocols.

#### 1.9.4 Upland Visual Assessments

In order to perform priority area upland visual assessments, field investigators must read and understand this QAPP and associated protocols.

#### 1.10 Documentation and Records

In order to provide quality data that meets the project objectives, traceability and maintenance of documentation and records is essential. All records relating to the collection, analysis, or reporting data associated with the project shall be made available upon request by the KDOW. A summary of such documentation is included below.

##### 1.10.1 Field Documentation and Records

Proper documentation of all field activities is essential to ensure that data quality objectives are achieved. Field crews are expected to document unusual or anomalous conditions that may later be useful for data interpretation and analysis. The forms described below are those that will be utilized in the sampling effort.

Data collected for this project will be recorded in field notebooks, standardized forms, or directly entered into electronic databases. All data recorded in field notebooks are to be scanned and maintained electronically in project files. The following standardized field forms will be utilized in the sampling effort:

- High-Gradient Habitat Assessment Field Data Sheet
- Substrate Characterization/Macroinvertebrate Screening Field Sheet
- Aquatic Biology Sample Chain-of-Custody
- Macroinvertebrate Collection Check Sheet
- Reference Reach Field Book
- Pebble Count Field Data Sheet
- Photo Log Data Sheet
- Water Quality Chain-of-Custody
- Calibration and Maintenance Logs
- Illicit Discharge Investigation Form
- Optical Brightener Data Sheet
- Neighborhood Source Assessment Field Data Sheet
- Potential Generator Investigation Form

These field forms are provided in Appendix A. All field standard operating procedures are provided in Appendix B.

Field documentation may include photography or video to document current field conditions. Photographs will also be used to document habitat assessments. All

photographs and videos will be retained electronically for the duration of the permit or five years.

### 1.10.2 Laboratory Documentation and Records

Draft water quality laboratory results will be submitted in an Excel spreadsheet to LFUCG, KDOW, and volunteer samplers no later than 14 days after receipt of the laboratory results. Full results including a quality control review and data package will be submitted with the Watershed-Focused Monitoring Program Report. The chemical laboratory data package will include the laboratory results, completed chain(s)-of-custody, lists of qualifiers associated with the data, and a report of the quality control results.

Biological data including macroinvertebrate results, habitat assessments, and metric calculations, will be submitted via an Excel spreadsheet. The biological laboratory data package will include site photographs, habitat assessment scores, macroinvertebrate presence/absence results, macroinvertebrate sample results, macroinvertebrate benchsheets, metric scores, quality control datasheets, completed chain(s)-of-custody, calibration logs, collection check sheets, and qualifications of the field personnel. The biological laboratory data package will be included in the Watershed-Focused Monitoring Program Report. All chemical and biological data will be archived electronically for the longer of the duration of the permit or five years.

All laboratory forms and standard operating procedures are attached in Appendix C.

### 1.10.3 QA Reports

This QAPP will be distributed to all individuals on the distribution list, subsequent to updating. A list of changes between revisions will be maintained in the document.

Quality assurance reports will be submitted to LFUCG with the Watershed-Focused Monitoring Program Report. For chemical laboratory data, the report will document all the quality controls associated with the analysis of the collected samples along with a narrative description of the results and a list of all data qualifiers, and will be provided to the KDOW on request. Macroinvertebrate laboratory quality assurance documentation will include completion of Macroinvertebrate Sample Sorting Efficiency Form, Macroinvertebrate Sample Taxonomy Precision Form, and Macroinvertebrate Sample Taxonomic and Enumeration Efficiency Form.

Field *in situ* measurements are to be recorded on the datasheet, chain-of-custody, or in a field notebook. Equipment calibration and maintenance logs are to be documented and recorded per procedure specifications. Any field issues and corresponding corrective actions will be discussed in the quality assurance section of the Watershed-Focused Monitoring Program Report. All field data will ultimately be submitted in the chemical or biological data packages. However, all field notes, including the location and frequency

of QC sampling, *in situ* measurements, and calibration and maintenance logbooks will be retained for the longer of the duration of the permit or five years.



## 2 DATA ACQUISITION

### 2.1 Sampling Experimental Design

A systematic sampling design has been utilized for these activities, wherein the sample locations and parameters have been selected based upon permit requirements and evaluation needs.

A total of nine major watersheds are located in Fayette County. Seven of these watersheds, including Town Branch, Wolf Run, Cane Run, North Elkhorn Creek, East Hickman Creek, West Hickman Creek and South Elkhorn Creek, drain a portion of the Urban Service Area. This monitoring plan addresses only the portions of the watersheds that drain the Urban Service Area.

Monitoring activities will focus on one of these watersheds per year before rotating to another watershed.

The five key monitoring elements chosen for this project are intended to characterize and rank the stream corridor habitat and hydrogeomorphic function, characterize pollutants in the streams and stormwater system, and to determine specific locations and land uses generating these pollutants.

Stream corridor characterizations are designed to evaluate representative segments of all streams in the Urban Service Area. Perennial streams were broken into approximately half mile segments or at major tributaries or roadways. These locations are shown in Exhibits 1 – 7 (Appendix D), and summarized in Table 8 (page 27) for each watershed. It is critical that one characterization is conducted in each of these locations reaches, but additional characterizations may be performed at intervals of 100 meters within each reach if participation allows. Habitat assessments will be conducted by the rapid bioassessment protocol to allow for results to be compared to KDOW criteria. Hydrogeomorphic assessments will be conducted in reach riffles, runs, and pools by visual estimation of the percentage of silt, sand, gravel, cobble, boulder, and bedrock. This is intended to provide a rapid evaluation that may identify substrates that are poorly suited for macroinvertebrate colonization, siltation problem areas, or areas that might benefit from stream restoration. The rapid assessment of the macroinvertebrate community to order level will be conducted in each segment to identify potential locations of more pollution sensitive taxa (mayflies, stoneflies, and caddisflies).

The number of benthic macroinvertebrates sampled in each watershed is shown in Exhibits 8 to 14 (Appendix D) and summarized for each watershed in Table 8 (page 27). These sites were chosen to determine if the macroinvertebrate community is similar to the routinely monitored site at the mouth of each watershed. Macroinvertebrate results are utilized to calculate a Macroinvertebrate Biotic Index (MBI) rating which provides a

water quality rating when compared to regional criteria. Individual macroinvertebrate sampling site locations are described in Appendix E.

TABLE 8 – SAMPLING SITE SUMMARY BY WATERSHED

Watershed	Year	Stream Corridor Characterization		Macro-invertebrate		Water Quality	
		Head.	Wade.	Head.	Wade.	Instream	Major Outfalls*
Cane Run	2016-17	30	3	2	1	11	53
South Elkhorn	2017-18	39	2	4	1	15	63
West Hickman	2018-19	52	8	3	2	17	80
East Hickman	2019-20	25	4	4	1	12	45
Town Branch	2020-21	20	6	2	3	12	53
North Elkhorn	2021-22	57	0	1	3	11	35
Wolf Run	2022-23	27	3	4	1	13	32

\*Estimated number of major outfalls. Exact number will be revised during visual assessments conducted prior to Phase 1 screening.

Stage-discharge surveys will be conducted at water quality sites prior to the first monitoring event in order to facilitate volunteer participation and increase the speed of sampling during monitoring events.

For water quality monitoring, two phases are scheduled. Monitoring will occur at water quality sites and major outfalls, as summarized in Table 8. Parameters are summarized in Table 9. The location of these sites and outfalls are described in Appendix E and water quality sites are shown on Exhibits 15 to 21 (Appendix D). The exact number of Major Outfalls will be revised during a visual assessment of all outfalls in the watershed conducted prior to Phase 1 screening. A Major Outfall is defined by the MS4 permit as an LFUCG-owned outfall that is:

1. A pipe with an inside diameter of 36" or the cross-sectional equivalent,
2. An open conveyance with drainage area 50 acres or greater,
3. A pipe with an inside diameter of 12" or the cross-sectional equivalent and draining an industrial land use, or
4. An open conveyance with drainage area 2 acres or greater and draining an industrial land use.

During Phase 1, instream water quality sites as well as all major outfalls are evaluated to address the MS4 permit requirement to evaluate the discharge load associated with major outfalls for TMDL-related pollutants. Field water quality kits are utilized during this phase for most parameters to reduce costs. The monitoring is conducted under dry weather conditions to facilitate identification of illicit sources. Two events are scheduled in August to September of the prior year to evaluate summer flow under lower groundwater tables and two are scheduled in January to March when the groundwater levels are higher. Nutrient levels will be monitored by analysis of TP, NH<sub>3</sub>, and NO<sub>3</sub> levels. CHL, FL, and

DTRG will be measured to detect anthropomorphic influences. *E.coli* will be sampled to detect bacterial inputs to each watershed. TSS will be measured to detect potential sediment inputs within each watershed. *In-situ* measurements (DO, pH, TEMP, and COND) will be sampled to document general water quality conditions. Water depth is recorded to generate flow, a variable essential in calculating pollutant loading. Where possible parameters will be analyzed using field kits (*e.g.*, Hanna Checkers) to lower costs.

TABLE 9 – WATER QUALITY AND DISCHARGE PREVENTION INVESTIGATION PARAMETERS

Parameter	WQ Phase 1	WQ Phase 2	Discharge Prevention Investigation
Frequency (# Events)	4 <sup>1</sup>	10 <sup>2</sup>	Phase 1 & 2 triggers
Visual Assessments	N - Field Notes	N - Field Notes	C
Flow	C – Water Depth	C – Water Depth / Dimensions	C – Water Depth
pH	C – <i>In situ</i>	C – <i>In situ</i>	C – <i>In situ</i>
Specific Conductance	C – <i>In situ</i>	C – <i>In situ</i>	N – <i>In situ</i>
Dissolved Oxygen	C – <i>In situ</i>	C – <i>In situ</i>	N – <i>In situ</i>
Temperature, Water	N – <i>In situ</i>	N – <i>In situ</i>	N – <i>In situ</i>
Ammonia	C – Field Kit	C – Grab	C – Field Kit
Chlorine, Total	N – Field Kit	N – Field Kit	C – Field Kit
Detergents	N – Field Kit or Lab	N – Field Kit or Lab	C – Field Kit or Lab
Fluoride	N – Grab	N – Grab	C – Field Kit or Grab
Total Phosphorus	C – Grab	C – Grab	N – Grab
<i>Escherichia coli</i>	C – Grab	C – Grab	C – Grab
Total Suspended Solids	C – Grab	C – Grab	C – Grab
Nitrate as N	C – Grab	C – Grab	N – Grab
Microbial Source Tracking <sup>3</sup>	-	C – Selected Filters	-

NOTE: C = Critical parameter, N = Non-critical parameter

<sup>1</sup> 72-hour antecedent dry period

<sup>2</sup> Bi-weekly, set day of the week during the Primary Contact Recreation Period

<sup>3</sup> Filters will be stored by laboratory

During Phase 2, instream water quality sites are monitored, but only major outfalls found to be flowing during at least two of the four events during Phase 1 events are monitored in Phase 2. Phase 2 is intended to provide more accurate calculations of the annual loading. Phase 2 water quality monitoring will be performed during ten events during the Primary Contact Recreation period (May 1 to September 30) to document pollutant levels during this period. Sampling will be performed on a set day of the week, regardless of weather conditions, to facilitate volunteer involvement, and to capture a range of flow conditions for annual load calculations. Similar parameters are sampled during Phase 2 as were in Phase 1. In addition to the parameters analyzed in the laboratory during Phase 1 (*E. coli*, FL, TSS, TP, and NO<sub>3</sub>), DTRG and NH<sub>3</sub> will be analyzed in the laboratory instead of the field to improve accuracy.

As summarized in Table 9, CHL, DTRG, and TEMP are non-critical samples, but all other samples are critical to the decision-making process.

The Discharge Prevention Investigations are designed to follow up on the water quality monitoring by identifying specific sources of pollution. When Phase 1 or Phase 2 results exceed action limits, Environmental Inspectors with the LFUCG Division of Water Quality will be notified and they will begin investigating source of discharge. Inspectors will confirm results, then trace high results through the stream and stormwater network to identify and isolate source of impairment using illicit discharge detection and elimination protocols. Optical brightener surveys will be utilized to investigate high sources of *E. coli* and ammonia where investigations do not clearly determine the source. Microbial source tracking via qPCR markers to identify the relative contribution of bacteria sources at key locations. The ABAC qPCR marker is for general Bacteroides bacteria signal from animals and humans, not specific to a particular host. The HuBac qPCR marker is for Bacteroides bacterial signals associated with human hosts. The BoBac qPCR marker is for Bacteroides bacterial signals associate with ruminants.

Priority Upland Visual Assessments will be conducted in areas that have routinely high pollutant levels, and will be visually inspected in an effort to determine source of pollutants within neighborhoods, and potential discharge generators. These assessments will occur during one week in October and December. At least three properties within a neighborhood will be assessed for sources of pollution (nutrients, oil and grease, trash/litter, bacteria, sediments), and will include lawn conditions, driveways, sidewalks, curbs, rooftops, and common areas. Potential discharges will be assessed for indicators of sediment, organic material, and litter by inspecting vehicle operations, waste management, physical plant, landscaping, and stormwater infrastructure. These areas will be ranked and location presented on exhibits.

## 2.2 Sampling Procedures and Requirements

The following paragraphs provide a summary of the sampling methods and equipment associated with each of the monitoring activities. For a complete discussion of the sampling methods, consult the SOPs listed in Table 10, page 30. During all monitoring activities, the sampler personnel are to bring the following materials at a minimum: waterproof field notebook, pencils, ink pens, sampling protocols, appropriate field forms, gloves, waders or boots, and a digital camera. Other equipment or materials specific to each sampling type are recorded in the sections that follow.

TABLE 10 – STANDARD OPERATING PROCEDURES

Sampling Activity	Standard Operating Procedures
Visual Substrate Characterization	KDOW. 2011. Methods for Assessing Habitat in Wadeable Waters. DOWSOP03024
Macroinvertebrate Visual Assessment	KWW. 2015. <i>Kentucky Watershed Watch Biological Stream Assessment High Gradient Standard Operating Procedure WWSOP03000</i>
Macroinvertebrate Collection and Identification	KDOW. 2015. <i>Methods for Collecting Macroinvertebrate Samples As Required For TMDL Alternative Studies and/or Watershed-Based Plans</i> . Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03039
Habitat Assessment	LFUCG. 2015. MON-02: <i>Standard Operating Procedure for Habitat Assessment</i> . KWW. 2015. <i>Kentucky Watershed Watch High Gradient Stream Habitat Assessment Standard Operating Procedure WWSOP04000</i>
<i>In situ</i> Measurements	LFUCG. 2015. IDDE-02: <i>Standard Operating Procedure for In situ Water Quality Measurements and Meter Calibration</i> . KWW. 2015. <i>Kentucky Watershed Watch Field Water Chemistry Assessment Standard Operating Procedure WWSOP01000</i>
Grab Sampling	LFUCG. 2015. IDDE-03: <i>Standard Operating Procedure for Sampling Surface Waters</i> . KWW. 2015. <i>Kentucky Watershed Watch Stream Grab Sample Collection Standard Operating Procedure WWSOP02000</i>
Phase 1 and Phase 2 Water Quality Sampling	LFUCG. 2015. IDDE-02: <i>Standard Operating Procedure for In situ Water Quality Measurements and Meter Calibration</i> . LFUCG. 2015. IDDE-03: <i>Standard Operating Procedure for Sampling Surface Waters</i> . LFUCG. 2015. IDDE-04: <i>Standard Operating Procedure for Flow Estimation at Outfalls</i> . LFUCG. 2015. IDDE-05: <i>Standard Operating Procedure for Ammonia by Hanna Checker</i> . LFUCG. 2015. IDDE-06: <i>Standard Operating Procedure for Chlorine by Hanna Checker</i> . LFUCG. 2015. IDDE-09: <i>Standard Operating Procedure for Detergents by CHEMets</i> .
Discharge Prevention Investigations	LFUCG. 2015. IDDE-01: <i>Illicit Discharge Detection and Elimination (IDDE) Protocol</i> .
Optical Brightener Surveys	LFUCG. 2016. MON-03: <i>Standard Operating Procedure for Optical Brightener</i>
Priority Area Upland Visual Assessment	Center for Watershed Protection. 2004. <i>Unified Sub-watershed and Site Reconnaissance: A User's Manual</i> .

### 2.2.1 Stream Corridor Characterization

During stream corridor characterizations three types of survey activities will take be performed: habitat assessments, substrate characterization, and macroinvertebrate screening.

#### *Equipment*

Table 11, page 31, indicates the sampling equipment to be utilized in Stream Corridor Characterization.

#### *Method*

Habitat assessments include a visual assessment of ten habitat parameters that characterize the stream "micro scale" habitat, the "macro scale" features, and the riparian and bank structure features that are most often influential in affecting the other parameters. LFUCG's method (MON-02) follows the USEPA's *Rapid Bioassessment*

*Protocols for Use in Wadeable Streams and Rivers* (Barbour *et al.* 1999) and KDOW's *Methods for Assessing Habitat in Wadeable Waters* (KDOW 2011a). Each of the parameters is evaluated on a "Condition Category" scale from 0 to 20. The categories within this scale include "Optimal" (scores 20 to 16), "Suboptimal" (scores 15 to 11), "Marginal" (scores 10 to 6), and "Poor" (scores 5 to 0). The score for each parameter is summed to produce a final habitat score (maximum 200).

TABLE 11 – STREAM CORRIDOR CHARACTERIZATION SAMPLING EQUIPMENT

D-frame dip net	High gradient Habitat Assessment
Two Tupperware tubs for sorting pans	Data Sheet
Forceps	Substrate Characterization /
Digital camera	Macroinvertebrate Screening Field
Ruler (mm) or Gravelometer	Sheet
Photo Log Data Sheet	

For parameters 1 to 5, the habitat assessment should evaluate a composite of the entire biological sampling reach. For parameters 6 to 10, an area beginning approximately 100-m upstream of the sampling reach through the sampling reach should be evaluated as a composite. When determining left and right bank, face downstream. For parameters 8 to 10, each bank is scored independently from 10 to 0. At each sampling site, results will be recorded on the High-Gradient Habitat Assessment Field Data Sheet. Photographs will be taken to document the following at each site:

- Sampling zone
- Upstream
- Downstream
- Typical in-stream habitats

The individual scores for each parameter are described on the field data sheet. Table 12, page 32, summarizes each of the ten parameters assessed. Full descriptions can be found in the sampling procedure.

Each photo will be labeled with the stream name, location, station number, sampling date, and the features documented in the photo. This data is to be submitted in a photo log with results of the assessment.

Substrate characterization will be conducted by visual estimation of substrate size within the assessment reach following Kentucky Division of Water's *Methods for Assessing Habitat in Wadeable Waters* (KDOW 2011a). Visual estimates of substrates will involve estimating the percentage of riffle, run, and pool habitat (See Figure 2) within the assessment reach and recording it at the top of the columns on the Substrate Characterization/Macroinvertebrate Screening Field Sheet. Substrates will be visually assessed using a ruler or gravelometer to help gauge substrate particle size within each

of these locations. Substrate particle size categories are presented in Table 13, page 33. The percent composition of each substrate size is recorded on the datasheet by riffle/run/pool. Reach totals are calculated in office by weighting the percentage of each substrate by the amount of riffle / run / pool present.

TABLE 12 – SUMMARY OF HABITAT ASSESSMENT PARAMETERS

#	Parameter Name	Description
1	Epifaunal Substrate / Available Cover	Relative quantity and the variety of stable structures, such as cobble, boulders, fallen trees, logs, branches, root mats, undercut banks, aquatic vegetation, etc., that provide refugia, feeding opportunities, and sites for spawning and nursery functions.
2	Embeddedness	The extent to which rocks and snags are covered or sunken into the silt, sand, mud, or biofilms (algal, fungal, or bacterial mats) of the stream bottom.
3	Velocity / Depth Regime	Presence of the following patterns of velocity and depth: 1) slow-deep, 2) slow-shallow, 3) fast-deep, and 4) fast-shallow.
4	Sediment Deposition	The amount of sediment that has accumulated in pools and changes that have occurred to the stream bottom as a result of deposition. This may cause the formation of islands, point bars, or shoals. It could also cause runs and pools to fill.
5	Channel Flow Status	The degree to which the channel is filled with water. The score will change with the seasons. Estimate the percentage of the channel that is wet using the low water mark.
6	Channel Alteration	Channel alteration is present when 1) artificial embankments, rip-rap, and other forms of bank stabilization or structures are present, 2) the stream is very straight for significant distances, 3) dams and bridges are present that obstruct flow, and/or 4) dredging or other substrate mining activities are occurring or have occurred.
7	Frequency of Riffles (or Bends)	Estimate riffle frequency by determining the ratio of distance between riffles divided by the width of the stream. An average of the riffle ratios is determined for biological monitoring stations and the upstream segment.
8	Bank Stability	Whether the stream banks are eroded or have the potential to erode. Each bank is scored independently from 10-0.
9	Bank Vegetative Protection	Each bank is scored independently from 10-0. Determine what vegetative types (trees, understory shrubs, herbs, and non-woody plants) are present on each bank. Native vegetation scores higher than invasive or non-native vegetation.
10	Riparian Vegetative Zone Width	The width of the natural vegetation from the edge of the stream bank through the riparian zone. Each bank is scored independently from 10-0. When determining final scores, the age and density of the riparian vegetation should be evaluated ( <i>e.g.</i> , A score of 9, instead of 10, should be given to a riparian zone that is over 20 m in width, but is dominated by 5-10 year old hardwood trees).

FIGURE 2 – RIFFLE, RUN, AND POOL IDENTIFICATION IN A STREAM



Image from Missouri Department of Conservation, Texas Parks and Wildlife Department, The Meadows Center for Water and the Environment, Rudolph Rosen

TABLE 13 – PARTICLE SIZE SUMMARY

Particle	Size (mm)	General Description
Silt / Clay	<0.062	Mud, smaller than pen tip
Sand	0.062 - 2	Smaller than BB
Gravel	2-64	Bigger than BB, smaller than fist
Cobble	64 - 256	Bigger than fist, smaller than head
Boulder	256 - 2048	Bigger than head, smaller than 7 feet
Bedrock	bedrock	Solid rock

Macroinvertebrate screening during stream corridor characterization surveys will at minimum evaluate riffles, pools, and margins (i.e. emergent vegetation) in an effort to identify pollution intolerant taxa such as stoneflies, mayflies, and caddisflies. If students or volunteers are performing the screening, they should follow the *Kentucky Watershed Watch Biological Assessment High Gradient Standard Operating Procedure* (WWSOP03000). Various habitat types will be sampled using a D-frame net throughout a 100-meter-long sampling reach. Other habitat types may be sampled by simply collecting by hand and “swishing” in a pan of clean water to dislodge macroinvertebrates. Equipment needed for macroinvertebrate screening includes D-frame net, and two sorting pans. A summary of sampling methods for macroinvertebrate screening is provided in Table 14, page 34, and further defined below:

- Riffles – place dipnet into the middle of the riffle and kick 0.25 m<sup>2</sup> area upstream of the net. Leaves, large rocks and sticks are hand washed into the net. Four replicates are sampled from various riffles within the reach.
- Undercut Banks/Root Mats – place large root mat into the dipnet and shake vigorously. For undercut banks jabs without root mats jabs are employed
- Aquatic vegetation – submerged and emergent vegetation are sampled by thrusting the net into the vegetation for approximately one meter and then sweeping the disturbed area with the net
- Bedrock/Slabrock – place edge of dipnet flush with the substrate and kick an area of approximately 0.1 m<sup>2</sup> upstream of the net.
- Leaf Packs – collect conditioned leaf packs by hand from each type of area present (i.e. riffle/run/pool) and place into the dipnet.
- Large Submerged Wood – jab 0.5 meter section of a large submerged piece of wood. The sampled wood should be 10 to 20 feet in length and 2 to 6 inches in diameter.



- Silt/Sand/Fine Gravel – sample is collected by scooping substrates up by hand and placed into collection pan.

TABLE 14 – MACROINVERTEBRATE SCREENING METHODS

Technique	Sampling Device	Composited Replicates
0.25 m <sup>2</sup> riffle kick	D-frame dipnet	4 x 0.25 m <sup>2</sup>
Undercut banks/root mats	D-frame dipnet	
Aquatic vegetation	D-frame dipnet	1 meter sweep
Bedrock or slabrock kick	D-frame dipnet	0.1m <sup>2</sup> kick
Leaf packs	Swish in pan	Handful from each type (riffle/run/pool)
Large submerged wood	D-frame dipnet	0.5 m jab
Silt, sand, and fine gravel	Scoop with hands	1 handfull

As samples are collected they are composited into the first of two collection pans. Nets are swished into the pan and inspected for organisms, any organisms found are placed into the second collection pan. Large debris in the first collection pan is inspected for organisms and discarded. Macroinvertebrates are picked from the first pan into the second pan without transferring debris. After all organisms are removed from the first pan contents are discarded and the pan is filled with clean stream water for processing additional samples. Once sampling is concluded and all organisms are placed in a second pan they are counted and identified using the Kentucky Water Watch Benthic Macroinvertebrate Identification Key. This information is recorded on the Substrate Characterization/Macroinvertebrate Screening Field Sheet.

### 2.2.2 Macroinvertebrate Sampling

Sampling for benthic macroinvertebrates will be conducted according to the Kentucky Division of Water's *Methods for Collecting Macroinvertebrate Samples as Required for TMDL Alternative Studies and/or Watershed-Based Plans* (KDOW 2015). All streams found in Fayette County are high gradient streams. Macroinvertebrates will be sampled at five sites throughout the watersheds of East Hickman, West Hickman, South Elkhorn, Town Branch, and Wolf Run. Macroinvertebrate samples will be collected at three sites in the Cane Run watershed, and four sites in North Elkhorn. The equipment and methods specific to these collection efforts are described below.

#### *Equipment*

Table 15, page 35, indicates the sampling equipment to be utilized during benthic macroinvertebrate sampling.

TABLE 15 – BENTHIC MACROINVERTEBRATE SAMPLING EQUIPMENT

600µm mesh, 0.25 meter wide rectangular net or kick seine	Fine-tipped forceps
800 x 900µm D-frame dip net	95% ethyl alcohol
U.S. Number 10 sieve	White picking pans
U.S. Number 30 sieve	Sample jars and labels
Two - 600µm mesh wash buckets	Water quality multi-meter
Medium-sized bucket	Field notebook
300µm nitrex sampler/mesh	Chain-of-Custody
	Collection Check Sheet

*Method*

A collection event consists of a composited semi-quantitative sample and a composited multi-habitat sample. Semi-quantitative samples are collected from a known area in order to indicate the macroinvertebrate community in the most productive habitat in the stream niche (*i.e.*, riffle). Multi-habitat samples are intended to identify other taxa present in the stream that may not be collected in the semi-quantitative sampling. These two sample types must be kept separate for effective diagnosis of impairment. A summary of the collection techniques used for wadeable and headwater streams is shown in Table 16 and further described in the following sections.

TABLE 16 – SUMMARY OF SAMPLING METHODS FOR MACROINVERTEBRATES

Technique	Sampling Device	Habitat	Replicates Composited for Wadeable Sites	Replicates Composited for Headwater Sites
Semi-Quantitative				
1m <sup>2</sup> kicknet / seine	Kicknet / seine and wash bucket	Riffle	4 x 0.25m <sup>2</sup> from thalweg or mid-riffle of at least 2 separated riffles	4 x 0.25m <sup>2</sup> from thalweg of at least 2 separated riffles
Multi-Habitat Sweep				
Undercut banks / roots	D-frame or triangular dip net and wash bucket	All applicable	3 from each riffle, run, and pool	3 from each riffle, run, and pool
Sticks / wood			N/A	3
Emergent vegetation			3	N/A
Bedrock / slabrock			3	N/A
<i>J. americana</i> beds			3	N/A
Leaf packs		Riffle, Run, Pool	3 from each riffle, run, and pool	3 from each riffle, run, and pool
Silt, sand, fine gravel	US #10 Sieve	Margins	3	3
<i>Aufwuchs</i> sample	300 µm nitrex sampler / mesh	Riffle, Run, Pool	3	N/A
Rock pick	Fine-tipped forceps and wash bucket		15 total (5 from each riffle, run, and pool)	5 small boulders from pools only
Wood sample			10 - 20 linear feet, 2 - 6 in diameter	7 linear feet, 2 - 6 in diameter

It is important to keep in-stream habitat intended for benthic macroinvertebrate sampling intact and undisturbed until the single and multi-habitat samples have been collected. Therefore, field personnel will avoid walking through areas designated for collection of benthic macroinvertebrates until sampling has been completed. Failure to use caution could result in sample degradation.

After collections are completed, large sticks and leaves are washed into a 600µm sieve bucket in the field, inspected for organisms and discarded. Rocks will be elutriated and hand washed into a bucket and 600µm sieve. This process is repeated until a manageable amount of debris and organisms (relative to size of sample container) can be preserved for laboratory sorting. Samples may be partially field picked using a white pan and fine-tipped forceps. The sample container is preserved with 95% ethanol. While at the sampling location, all macroinvertebrate samples will receive a label. The label will be placed in the sample jar (labels placed in the jar will be written in No. 2 pencil on waterproof paper) and written directly on some portion of the jar. The label will include the site number, stream name, location, type of sample (*e.g.*, multi-habitat, riffle kick), date sampled, and the collectors' initials.

After sampling has been completed, all sampling gear will be thoroughly cleaned to remove all benthic macroinvertebrates so that specimens are not carried to the next site. The equipment shall be examined prior to sampling at the next site to ensure that no benthic macroinvertebrates are present.

DO, COND, pH, and TEMP will be measured *in situ* with a water quality multi-meter at the time of the survey. Results will be recorded in the field notebook.

### *Semi-Quantitative*

In both headwater and wadeable streams, semi-quantitative sampling consists of taking four (4) 0.25m<sup>2</sup> quadrat kick net samples from mid-riffle or the thalweg. This is accomplished using a 0.25 m<sup>2</sup>, 600µm mesh kick net, dislodging benthos by vigorously disturbing the 0.25 m<sup>2</sup> (20 x 20 in.) of substrate in front of the net. Large rocks will be hand washed into the net. The contents of the net are then washed and all four samples are composited to yield a 1m<sup>2</sup> semi-quantitative sample. The composited sample is partially field processed using a U.S. No. 30 sieve (600µm) and wash bucket. Large stones, leaves and sticks are individually rinsed and inspected for organisms and then discarded. Small stones and sediment are removed by elutriation using the wash bucket and U.S. No. 30 sieve. This sample must be kept separate from all other sub-habitat collections.

### *Multi-Habitat*

This method involves sampling a variety of non-riffle habitats with the aid of an 800 x 900µm mesh triangular or D-frame dip net. The habitats sampled and the number or size

of replicates differs for headwater and wadeable sites, as shown in Table 16, page 35. Each of these sub-habitat samples are composited into one multi-habitat sample for each site. The sub-habitats are fully described in the procedure and summarized below:

- Undercut Banks / Root Mats - large root wads and undercut banks in riffle, run and pool areas, if present, are each sampled separately with three (3) replicates each.
- Marginal Emergent Vegetation - Three 1-meter sweep replicates are required to be sampled for wadeable sites and may be sampled for headwater if present.
- Bedrock or Slab-Rock Habitats - Disturb approximately 0.1m<sup>2</sup> of area to dislodge attached organisms.
- Justicia americana Beds - A 1m section with three replicates is required to be sampled for wadeable sites and may be sampled for headwater if present.
- Leaf Packs - "Conditioned" (*i.e.*, not new-fall material) material when possible. Samples are taken from a diversity of habitats (*i.e.*, riffles, runs and pools). Three replicates from each habitat are to be conducted for both headwater and wadeable sites.
- Silt, Sand, and Fine Gravel - A U.S. No. 10 sieve is used to sort larger invertebrates (*e.g.*, mussels, burrowing mayflies, dragonfly larvae) from silt, sand and fine gravel to an approximate depth of 5 cm. A variety of collection sites are sampled in order to obtain three (3) replicates in each substrate type where available.
- Aufwuchs Sample - Rocks, sticks, leaves, filamentous algae and moss. Three replicates are to be conducted only for wadeable sites.
- Rock Picking - 15 rocks (large cobble/small boulders; 5 each from riffle, run and pool) in wadeable streams and 5 small boulders from pools only in headwater streams.
- Wood Sample - For wadeable streams, pieces of submerged wood, ranging from roughly 3 to 6 meters (10 to 20 linear feet) and ranging from 5–15 cm (2–6 inches) in diameter. For headwater streams only 2 linear meters (7 linear feet) are sampled.

### 2.2.3 Stage-Discharge Surveys

Stage-discharge curves will be developed for all water quality sites such that a flow can be calculated based on water depth. Hydrogeomorphic assessment data including longitudinal profiles, cross-sectional areas, and pebble counts will be gathered from each site and a staff gage will be installed to measure water depth at each site.

*Equipment*

Table 17 indicates the sampling equipment to be utilized during benthic macroinvertebrate sampling.

TABLE 17 – STAGE-DISCHARGE SURVEY EQUIPMENT LIST

50- or 100-ft surveying tape	Staff Gage
Laser level	Mounting bolts / screws
Tripod	Ruler (mm) or Gravelometer
Surveying rod	Reference Reach Field Book
Portable Drill	Pebble Count Data Sheet
Metal Fence Post	Field notebook

*Method*

Cross-sections to be surveyed will be located within riffle features. Points will be taken frequently at horizontal stations within each cross-section such that the surveying indicates all significant breaks in slope and provides a thorough characterization of each cross-section (refer to USFS, 1994 for surveying procedures). Data may be recorded in RiverMorph™ software using a Rugged Reader Pocket PC or in a field notebook. Surveying precision shall be +/- 0.01 ft for vertical readings and +/- 0.1 ft for horizontal readings. Notes related to observed changes at various elevations within the cross-section will be made. To get the longitudinal slope, the distance and elevation between the head of the cross-sectional riffle and the nearest upstream riffle will be compared. The longitudinal distance will be measure with a tape measure in the stream thalweg.

Pebble counts will be collected in riffles within the stream where the longitudinal profiles are taken at each of the instream water quality monitoring sites. For pebble counts, particle sampling will be completed along evenly spaced transects over the active bed width and consist of at least 100 particles (refer to Rosgen, 2008 and Bunte and Steven, 2001 for pebble count procedures). Equipment used will include a ruler (mm) or gravelometer (gravel template), with the gravelometer being preferred. Data may be recorded in RiverMorph™ software using a Rugged Reader Pocket PC or on a Pebble Count Datasheet (see Appendix A). Precision for pebble count readings will be such that each data point measures within +/- 1 units of the narrative particle description or +/- 0.5 phi units on the gravelometer.

A staff gage will be installed at the site in the cross-sectional riffle if possible using a metal fence post or at a nearby crossing. The staff gage will be surveyed to relate the water depth at the staff gage to the cross-sectional water depth.

Flows will be predicted at 0.1 ft intervals for the measured cross-section using Manning's equation, the slope measured from the longitudinal profile, and the roughness value generated using the Limerinos equation and D84 pebble size. The USGS gage in each watershed will be utilized to validate flow estimates generated by these curves as well as a measured flow at the time of surveying.

#### 2.2.4 Water Quality Monitoring

Water quality monitoring will be performed in two phases: a field screening effort (Phase 1) and a pollution load characterization effort (Phase 2). Water quality monitoring will involve three types of sampling: *in situ* measurements, stream flow or major outfall flow measurement, and grab sampling. During both phases flow, DO, pH, TEMP, COND, *E. coli*, FL, TP, TSS, NH<sub>3</sub>, NO<sub>3</sub>, DTRG, and CHL will be measured. The main difference between the two phases is the number of sites and the use of field test kits (Hanna Checker) for NH<sub>3</sub> and DTRG (optional) in Phase 1, versus grab sampling for NH<sub>3</sub> and DTRG for laboratory testing in Phase 2.

For both phases water quality meter *in situ* measurements will be conducted according to LFUCG's IDDE-02: *Standard Operating Procedure for In situ Water Quality Measurements and Meter Calibration*, which follows KDOW's procedure (2009a). For field chemical tests sampling will be conducted according to LFUCG's IDDE-05: *Standard Operating Procedure for Ammonia by Hanna Checker*, IDDE-06: *Standard Operating Procedure for Chlorine by Hanna Checker*, and IDDE-09: *Standard Operating Procedure for Detergents by CHEMets*. Stream flow will be calculated by measuring staff gauge depth and using information generated from stage-discharge surveys to calculate flow. Outfall flow will be measured using LFUCG's IDDE-04: *Standard Operating Procedure for Flow Estimation at Outfalls*. Grab sampling for both Phase 1 and Phase 2 will be conducted according to LFUCG's IDDE-03: *Standard Operating Procedure for Sampling Surface Waters*, which follows KDOW's procedure (2011b).

The equipment and methods specific to these collection efforts are described below.

#### *Equipment*

Table 18 and 19, page 39, describes the sampling equipment and supplies to be utilized during water quality monitoring.

TABLE 18 – PHASE 1 WATER QUALITY MONITORING EQUIPMENT AND SUPPLIES

General	Flow (Water Depth)	<i>In-Situ</i> Measurement	Grab Sampling
Camera Sharpie marker Field notebook Pencil Chain-of-Custody Powderless latex or nitrile gloves	Equipment Tape measure (100 feet in 1/10ft increments) Wood Folding Ruler	Equipment Multi-probe Water Quality Meter Ammonia Hanna Checker Kit Total Chlorine Hanna Checker Kit Detergents CHEMets Test Kit  Supplies AAA batteries	Supplies Sample coolers Ice Plastic food storage bags Sample jars and preservatives Deionized water Packing tape Waste containers

TABLE 19 – PHASE 2 WATER QUALITY MONITORING EQUIPMENT AND SUPPLIES

General	Flow (Water Depth)	<i>In-Situ</i> Measurement	Grab Sampling
Camera Sharpie marker Field notebook Pencil Chain-of-Custody Powderless latex or nitrile gloves	Equipment Tape measure (100 feet in 1/10ft increments) Wood Folding Ruler	Equipment Multi-probe Water Quality Meter Total Chlorine Hanna Checker Kit  Supplies AAA batteries	Supplies Sample coolers Ice Plastic food storage bags Sample jars and preservatives Deionized water Packing tape Waste containers

All equipment is maintained and calibrated according to user manuals, procedures, and/or manufacturer specifications at a frequency recommended by or exceeding the manufacturer. Calibration standards are to be poured into a separate container for use and discarded when done, not re-used. All calibration and maintenance data is to be recorded in a logbook associated with each piece of equipment.

Prior to conducting *in situ* measurements, the probe will be rinsed with deionized water to remove contamination. The probe will be rinsed and immersed for storage in clean water between sites.

Multi-probe water quality meters are to be calibrated against check standards according to instrument manuals and SOPs the day before or the day of sampling. For multi-meters, this includes pH (4.01, 7.0 and 10.0 SU), conductivity (around 700 or 1,000  $\mu\text{S}/\text{cm}$ ), and

dissolved oxygen (saturated air). Results and maintenance are to be recorded in the calibration and maintenance logbooks. Battery power should also be verified with backup batteries carried in the field.

For Hanna Checkers, meter calibration is to be verified semi-annually at a minimum with check standards for each parameter. Results and maintenance are to be recorded in the calibration and maintenance logbooks. Battery power should also be verified with backup batteries carried in the field. Expiration dates of reagents will also be verified prior to field sampling.

After every test conducted, all equipment and supplies shall be properly rinsed with deionized water.

### *Methods*

All samplers are required to wear Personal Protective Equipment (PPE) while conducting testing.

#### *Phase 1*

Phase 1 field screening will take place during four sampling events performed during dry weather conditions (at least 72 consecutive hours of dry weather prior to sampling): two events during August to September of the year prior and two events in January to March of the monitoring year. The first two events in August to September will be conducted by Kentucky River Watershed Watch or student volunteers in two person teams. The second two events will be conducted in January to March by LFUCG staff. Sampling should only be conducted if flow is present (not dry or pooled). If no flow is present, it should be noted on the Chain-of-Custody.

The samplers will approach the site from downstream, ensuring that no disturbed streambed sediment contaminates the measurements. *In situ* water quality meter measurements are to be conducted first, then field chemical tests and grab sampling, progressing upstream of disturbance. Flow should be measured last if measurements will cause disturbance. Measurements and samples are to be collected in the centroid of the flow (thalweg) in a well-mixed location at mid-depth.

For *in situ* water quality meter measurements, the probe should not be deployed directly in riffles, as this will cause DO to appear higher than it is. The instrument will be allowed to equilibrate to environmental conditions for approximately 1-2 minutes. Record results on the Chain-of-Custody.

For grab sampling and field chemical tests, samplers will put on powderless latex or nitrile gloves for protection prior to sampling. When sampling, point the mouth of sample container upstream / against the flow. Submerge the entire bottle and fill it with water.



Care will be taken not to displace the preservative since sample bottles are pre-prepared. If the stream is too shallow to fill the bottle while submerged, fill as much as possible while submerged, ensuring the minimal amount for analysis is obtained. Disposable luer lock syringes may be utilized to obtain the remaining volume. Rinse the caps with sample water prior to capping the bottle.

Often the depth of water at an outfall is too shallow to sample directly. To obtain samples for *in situ* measurements and grab samples at an outfall, the sampler may use a disposable luer lock syringe. Be careful not to disturb sediments or benthic growth in the pipe or stream.

For major outfalls if the outfall is flowing freely without obstructions (*i.e.*, there is no accumulation of sediment or debris and the outfall is not submerged or pooled), then the flow may be estimated by recording the outfall material (concrete, corrugated metal, PVC, etc.), shape (*i.e.*, circular, elliptical, box, etc.), internal dimensions (height and width), and water depth (and water width for elliptical outfalls). If the outfall is not flowing freely, the dimensions may be noted and the velocity measured via the "float" method under SOP MON-01.

For instream sites, the flow is calculated by recording the water depth at the staff gauge.

When results exceed action limits, Environmental Inspectors with the LFUCG Division of Water Quality will be notified and they will initiate a Discharge Prevention Investigation. This is discussed further in Section 2.2.5.

**WARNING:** The detergents test generates waste that is considered hazardous. This waste must be collected and disposed of properly. All waste will be disposed of in two containers, one labeled with "For Detergents Only" and one for all other field wastes. Any solid waste materials are placed in trash bags.

When hazardous waste containers are full, they are stored in the Flammable Liquid Safety Cabinet at the Town Branch WWTP Laboratory, which is emptied of the waste material contents as often as necessary. In accordance with OSHA's regulation for chemical handling and disposal, LFUCG contracts with Safety Kleen to dispose of the waste materials permanently. A document manifesting the transfer of ownership of the waste materials from LFUCG to Safety Kleen is filed for records.

## *Phase 2*

Most Phase 2 field methods are similar to the Phase 1 methods mentioned above. Phase 2 field screening will be conducted during ten events during the Primary Contact Recreation period (May 1 thru September 30). Phase 2 sampling will be conducted at instream sites and at major outfalls that were flowing during at least two of the four

Phase 1 events. Sampling will be performed on a set day of the week, regardless of weather conditions. Phase 2 sampling will be conducted by one of the following groups or a combination of these groups: volunteers, LFUCG staff, Tetra Tech staff, and/or Third Rock staff.

Subsequent to sampling, the date of the previous rainfall, the amount of rainfall, and the presence of rain during the sampling will be noted for each sampling event.

Replicate measurements and duplicate samples are to be made at 5% of sites per sampling event in Phase 2.

### 2.2.5 Discharge Prevention Investigation

#### *Equipment*

Equipment for discharge prevention investigations, including optical brightener surveys, are detailed in their respective SOPs (IDDE-01, MON-03).

#### *Methods*

The Discharge Prevention Investigations will be conducted when Phase 1 or Phase 2 results exceed action limits by notifying Environmental Inspectors with the LFUCG Division of Water Quality. The inspectors will begin investigating the source of discharge. Notification of action limit exceedances will follow the following procedures.

The Phase 1 or Phase 2 field investigator will call LexCall at 3-1-1 to report a "spill/non-emergency" and provide the following information:

1. Identification (volunteer sampling crew)
2. Location (Site)
3. Parameter
4. Concentration above action limit
5. Time sampled

The LexCall interface will forward the information to the LFUCG Compliance and Monitoring Supervisors for assignment to an Environmental Inspector. This Environmental Inspector will begin at the monitoring site with the actionable result(s) and will confirm the previously measured result(s). Investigators will then trace high results through the stream and/or stormwater system, working bridge-to-bridge or manhole-to-manhole to identify and isolate sources using IDDE-01: *Illicit Discharge Detection and Elimination (IDDE) Protocol*. For intermittent flow situations, caulk dams, sandbagging, or off-hours sampling may be utilized to isolate the source. Parameters that exceeded action limits, and similar parameters, will be sampled to characterize the source. Results will be documented in ACCELA and forwarded to the Data Manager. If the location had previously been investigated after a previous sampling event, the

Environmental Inspectors may use best professional judgment to determine whether an additional tracing effort is necessary to help identify the problem.

Optical brightener surveys will be utilized to investigate high sources of *E. coli* and ammonia where investigations do not clearly determine the source during two events in August to September. Optical brightener surveys will be conducted following methods detailed in DWQ-MON-03 *Standard Operating Procedure for Optical Brightener*. Traps will be deployed in selected outfalls based upon Phase 1 and 2 results, and should have an antecedent dry period of at least 48 hours before deployment. Traps will be deployed in outfalls with continuous or intermittent flow and retrieved after three days of dry weather. The traps will be viewed under UV light and compared against known controls to determine the presence/absence of human source contributions.

For microbial source tracking, the Town Branch WWTP Laboratory will filter at least 100 mL of unpreserved sample during the first eight Phase 2 water quality sampling events (May to August) at each site. These filters will be placed in re-sealable bags, labeled with permanent marker, and stored in a freezer (-4°C).

In September, the project team will select 20 of the filters from this library, linked to high *E.coli* and ammonia for sites and events of interest, for analysis. These will be sent to the University of Tennessee to extract the DNA from these filters and perform quantitative polymerase chain reaction (qPCR) for ABAC, HuBac, and BoBac qPCR Bacteroides markers.

#### 2.2.6 Priority Area Upland Visual Assessment

##### *Equipment*

Equipment required for priority area assessments are camera, GPS unit, field notebook, pencil, and clipboard.

##### *Methods*

Visual assessments will be conducted in areas upstream of water quality sites found to have routinely high pollutant levels. Visual assessments will be conducted using methods from the Center for Watershed Protection's *Unified Subwatershed and Site Reconnaissance: A User's Manual* (2004). Assessments will be conducted to determine potential sources of pollution and discharge generators. Assessments will be conducted during one week in October and December by Third Rock personnel.

Assessments will be targeted in areas of high pollutant levels. If time allows additional areas will be addressed.

### 2.3 Sample Handling and Custody Requirements

Sample handling and custody procedures for grab samples are to comply with "Sample Control and Management" (KDOW 2009b) as well as LFUCG's IDDE-03: *Standard Operating Procedure for Sampling Surface Waters*. Sample handling and custody for macroinvertebrate samples are to comply with the KDOW procedures corresponding with these sampling methods.

#### 2.3.1 Sample Preservation, Packing, and Transport

The sampler is responsible for sample handling in the field and transporting of samples to the laboratory. The sampler will collect the sample in the appropriately identified collection containers with the correct preservative, as applicable, and ensure that the container lid is secured tightly to prevent leakage and/or outside contamination. Sample containers for chemical analysis shall be placed in plastic food storage bags and then immediately in a cooler on ice to reach and maintain a temperature of  $4 \pm 2^{\circ}\text{C}$  for transport to the laboratory. Sample bottles shall be placed in the cooler with lid side up. The containers, preservatives, and hold times for each parameter are to meet the requirements of Table 20. The sampler will ensure that the Chain-of-Custody (COC) is completely and accurately filled out.

Sample coolers should be of adequate size to allow ice to surround all sample bottles. It is the responsibility of the sampler to ensure that coolers are properly packed in the field and that they have sufficient cooler space on their vehicle for their daily sample load. Coolers shall be secured during transport such that significant disturbance of the samples is avoided.

TABLE 20 – COLLECTION CONTAINERS, PRESERVATIVES, AND HOLD TIMES

Containers	Preservation	Parameters	Maximum Hold Time
Plastic, 4 oz	Cool 4°C, Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (No Cl <sub>2</sub> )	<i>E. coli</i>	6 hours
Plastic, 250 ml	Cool 4°C	DTRG, NO3	48 hours
		TSS	7 days
		FL, NH <sub>3</sub> , TP	28 days

Upon receipt at the laboratory, the sample custodian shall review the COC for completeness and accuracy. Anomalies shall be documented. The laboratory shall measure and record the sample temperature upon receipt, and record any discrepancies with the samples and/or bottle damage on the COC.

### 2.3.2 Chain-of-Custody

Chain-of-custody forms will be completed for all samples collected in the field and will follow each sample throughout sample processing. A COC is a controlled document used to record sample information, to ensure the traceability of sample handling, and to ensure possession is maintained from the time of collection through analysis and final disposition.

A sample is considered in custody if it is:

- In the individual's physical possession,
- In the individual's sight,
- Secured in a tamper-proof way by that individual, or secured in an area restricted to authorized personnel.

The sampling technician shall maintain possession of the sample until custody is transferred to the laboratory or another party. The COC shall accompany the sample from the time of collection until it is relinquished. Field custody is relinquished by signature, with date and time, of the sampling technician in the designated area on the COC.

All information shall be documented on the COC in black or blue waterproof permanent ink including field physical measurements and custody information. The sampling technician shall initiate sample custody at the time the sample is collected. Field custody documentation shall include:

- Verification of Sample Identification
- Number of Sample Bottles Collected
- Collection Date
- Collection Time
- Collector's Signature
- Description of Sampling Location or Site Identifier

Examples of COC forms are included in Appendix A.

### 2.3.3 Site Identification

A unique sample identification system is used to aid in the electronic database management for the results. Samplers are responsible for recording the unique sample identification, as well as the date and time of the collection on each sample bottle. The unique sampling event code for instream sites follows the following format:

SAMPLE ID = WW-##

Where:

WW is the Watershed Code

CR= Cane Run,

EH= East Hickman,

NE= North Elkhorn

SE= South Elkhorn, TB= Town Branch,

WH= West Hickman, or

WR= Wolf Run

## is Unique Site Identifier  
01-99 or DD= Duplicate

As indicated above, duplicate and split samples are to be indicated as such in the unique site identifier ("DD"). The time of collection will not be indicated on the chain-of-custody for duplicate samples so that the laboratory is blind as to the sampling location it corresponds with. The laboratory should assume that the duplicate was sampled with the earliest sample collected for hold time purposes. This information shall be emailed to the Data Manager.

Major outfall sample identification system includes a unique numerical code for each watershed followed by a unique site identifier. Major outfall sampling event codes follow the following format:

SAMPLE ID = WW###

Where:

WW is a numeric code associated with a specific watershed in which the major outfall is located:

15= Cane Run,	20= East Hickman,	30= North Elkhorn
35= South Elkhorn,	40= Town Branch,	45= West Hickman
50= Wolf Run		

### remaining three numbers are a Unique Site Identifier (000-999).

#### 2.4 Analytical Methods Requirements

All analytical methods must be United States Environmental Protection Agency (EPA) approved methods, with the exception of field screening methods. Screening methods are intended to provide inexpensive results for immediate action.

Detection limits for all parameters must be at a sensitivity level to compare to Kentucky's water quality standards. Each method and reporting limit, by parameter, are found in Table 7, page 20.

All laboratory standard operating procedures are attached in Appendix C. Grab samples collected during water quality monitoring will be analyzed by the Town Branch WWTP Laboratory except for the microbial source tracking samples which are analyzed by University of Tennessee.

If during the laboratory analysis quality controls fail or contamination occurs, the data is to be reported with qualifiers. No re-sampling will occur as a result of qualified or rejected data.

Third Rock's macroinvertebrate identification laboratory will follow laboratory protocols for benthic macroinvertebrate sample processing, identification, and data reporting per KDOW (2015) with the following exceptions:

- All samples will be logged into Third Rock's Macroinvertebrate Laboratory Information Management System (MacLIMS) upon receipt.
- Sample identification date will be maintained in MacLIMS.
- Taxonomic QA/QC dates (if applicable) will be noted on individual QA/QC forms and maintained electronically in the Project File.
- Initials of the applicable party completing each task associated with sorting, identification, or quality control will be noted electronically in MacLIMS or on associated QA/QC forms.
- QA checks will be documented on applicable forms and maintained in associated project files. These forms include the Macroinvertebrate Sample Sorting Efficiency Form, Macroinvertebrate Sample Taxonomy Precision Form, and Macroinvertebrate Sample Taxonomic and Enumeration Efficiency Form.

## 2.5 Quality Control Requirements

### 2.5.1 Field Water Quality Monitoring Quality Control

Field quality control checks for water quality monitoring are collected at a frequency of one duplicate per 20 sites sampled (5%) for each Phase 2 sampling event. Field duplicates will be collected by LFUCG staff. Based on the number of sites to be sampled on each event, bottles will be distributed to a set number of field teams for collection of a duplicate sample.

At field duplicate sites, two separate samples are to be collected for each parameter. The samples are to be collected at the same time and at the same location. One sample will be labeled as usual, and the other sample will have the site name indicated as a "duplicate". On a form separate from the COC or in an email to the data manager, the site from which the duplicates were collected are to be documented. The laboratory should assume that the duplicate was sampled with the earliest sample for hold time purposes.

Field replicates of *in situ* measurements and field test kits are also to be made at the same site at which field duplicates are collected.

### 2.5.3 Macroinvertebrate Quality Controls

According to the specifications listed in KDOW 2015, the following quality controls of macroinvertebrate identification will be applied for this project:

Field personnel must be trained by KDOW in macroinvertebrate collection procedures annually. Additionally, field crews will be audited by KDOW personnel once a year.

Ten percent (10%) of all sorting pans will be checked by a second sorter to assure that samples have been picked thoroughly. These samples will be randomly selected. This check is documented on the Taxonomic and Enumeration Efficiency Form.

Five percent (5%) of all identified samples will be re-identified to insure QA/QC by a second taxonomist. These samples will be randomly selected, and documented on the Macroinvertebrate Sample Taxonomy Precision Form and Macroinvertebrate Sample Taxonomic and Enumeration Form. Ninety percent (90%) or greater taxonomic agreement between taxonomists is the target success criteria. If there is less than 90% agreement between the taxonomists, then taxonomy must be reconciled by both taxonomists and a third taxonomist, if necessary.

All macroinvertebrate data entry for all sites will be chosen for data entry QA/QC. Data entry errors will be corrected as they are encountered. Data entry will be 95% correct to pass quality assurance. If patterns of data entry error exist and data entry error rate is less than 95%, all sample sites will be checked for specific errors.

#### 2.5.4 Laboratory Quality Controls

Laboratory quality controls will be analyzed as specified in the SOPs listed in Appendix C. These controls include method blanks, matrix spikes, calibration check samples, laboratory replicates, and other method-specified controls. The frequencies of analysis for these standards are all specified by the individual methods.

#### 2.6 Requirements for Equipment and Supplies

Laboratory instrumentation will be maintained according to the methods listed in Table 7, page 20, and the associated SOPs in Appendix C. Field sampling equipment will be maintained according to the SOPs listed in Table 10, page 30, and summarized in Table 21, page 50. The record of inspection, calibration, and maintenance will be recorded in an instrument logbook maintained by the sampler. For sampling nets and bottles, inspection will ensure that the items are free from contamination, in good condition, and adequate for use.

LFUCG Staff or Town Branch WWTP Laboratory Personnel will ensure that field multi-meters are calibrated according to manufacturer's instructions the day before or the day of sampling. The multi-meters will be calibrated using a three-point pH calibration, where possible, and a one-point conductivity calibration. Dissolved oxygen is calibrated



using saturated air and the barometric pressure of the sampling location. All results are recorded in the instrument logbook.

TABLE 21 – FIELD EQUIPMENT CALIBRATION AND MAINTENANCE

Equipment Name / Type	Purpose	Inspect Before Each Collection Event	Calibration Frequency	Calibration Standard or Type	Person(s) Responsible
Multiprobe Water Quality Meter	pH, Conductivity, Dissolved Oxygen, Temperature	Overall condition/ battery power	Within 24 hours of use	pH (4, 7, 10) Cond (300 – 1200) DO (Sat. Air) Turb (0, 100)	Sampling Coordinator / Sampler
Hanna Checkers	Ammonia, Chlorine	Overall condition/ battery power/ reagents not expired	Semi-Annually	Certified Cal. Stds for each checker	Sampler
Macroinvertebrate Sampling Nets	Macroinvertebrate Sampling	Overall condition/ no holes	N/A	N/A	Sampler
Sample Bottles	Sample Collection	Good condition	N/A	N/A	Sampler

Hanna Checkers are calibrated semi-annually using the calibration standards associated with each parameter. All results are recorded in the instrument logbook.

Overall condition and battery power will be inspected on all equipment prior to use. Additionally, extra batteries or fuses should be kept in the field vehicle in case of power failure.

All calibration standards and reagents will be reviewed prior to use to ensure that they have not reached the expiration date.

### 2.7 Data Acquisition Requirements for Non-Direct Measurements

For the purpose of this project, the following sources of non-direct measurements will be utilized:

- USGS Gage Data
- Precipitation Data (Various Sources)
- Previous MS4 Permit Compliance Monitoring

Antecedent dry periods will be evaluated using local precipitation data. The UKAg Weather Center (<http://www.gwx.ca.uky.edu/>) will be the primary source for precipitation data in evaluating the antecedent dry period. Historic daily precipitation levels will be obtained from stations in Fayette County at either Weather Underground (<http://www.wunderground.com/>), Kentucky Mesonet (<http://www.kymesonet.org/>), USGS stream gages (<http://waterdata.usgs.gov/KY/nwis/>), or NOAA (<http://www.noaa.gov/>).

Data previously collected under the LFUCG MS4 monitoring program may be used in data comparisons, as these data were collected under similar protocols.

## 2.8 Data Management Requirements

For Stream Corridor Characterizations, student samplers will be responsible for submitting data to the Bluegrass Community and Technical College (BCTC) Environmental Science Technology Coordinator. The BCTC Environmental Science Technology Coordinator will then submit electronic copies of the field data to the Data Manager. Excel spreadsheets will be utilized to document results. Photos should be documented such that files can be linked to the site identification number.

Macroinvertebrate and habitat data will be collected in the field and recorded in field notebooks, on field data sheets, or on COCs. The field samplers are responsible to ensure that all hard copies are scanned and saved electronically in Third Rock's project files. Additionally, hard copies are to be stored in the project files. Third Rock's Chief Taxonomist / Biologist will be responsible for reviewing all field results, ensuring that macroinvertebrates are properly sorted and identified, ensuring that all applicable metrics are properly calculated, and submitting the results to the Data Manager.

Data collected for calculation of stage-discharge rating curves will be recorded on field data sheets and field reference reach notebooks. The surveyors will be responsible to ensure that all hard copies are scanned and saved electronically in Third Rock's project files. Additionally, hard copies are to be stored in the project files. The Third Rock Data Manager will be responsible for reviewing all field results.

Data collected during water quality sampling will be recorded on COCs. The samplers will submit COCs to the Town Branch WWTP Laboratory when delivering water samples for analysis. Town Branch WWTP Laboratory will enter this data along with the laboratory results into a spreadsheet, and send electronic copies of all laboratory reports as well as PDFs of all original COCs and laboratory forms to the Data Manager. These will be stored in Third Rock's files. The electronic files will be reviewed and information including the field duplicate site, precipitation levels, and field measurements will be entered by the Data Manager. All results will be reviewed and any outlier results will be investigated by the Data Manager and the laboratory.

All macroinvertebrate, habitat, and water quality data will be submitted by the Data Manager to LFUCG's Accela database managers for final storage. The Accela database stores the data as condition assessments associated with individual sites. Results will also be published in the Watershed-Focused Monitoring Program Report.

Field data generated during discharge prevention investigations will be reviewed for accuracy by the Lead Environmental Inspectors. The data will be entered into Accela for final storage and data management. To facilitate reporting, a spreadsheet may also be maintained in addition to the Accela storage. Results will also be published in the Watershed-Focused Monitoring Program Report.

During priority upland visual assessments data will be recorded in field notebooks, and on field data sheets. The field surveyors will be responsible to ensure that all hard copies are scanned and saved electronically in Third Rock's project files. Additionally, hard copies are to be stored in the project files. Third Rock's Data Manager will be responsible for reviewing all field results, and ensuring field data sheet completeness. Results will be summarized in tables, exhibits, and Watershed-Focused Monitoring Program Report.

### 3 ASSESSMENTS

Assessment and response actions are necessary to ensure that this QAPP will be implemented as approved. For a general summary of these assessments see Table 22.

TABLE 22 – DATA ASSESSMENT AND MANAGEMENT REPORTS

Type	Frequency	Purpose	Parties Responsible For		Reporting Method
			Performing	Responding	
QAPP Revision	As necessary	Address non-conformances or errors in the QAPP	Project Team Members	Data Manager	Distribution of Amended QAPP
KDOW Audit	As requested	Ensure conformance to project objectives	KDOW	Parties of concern	Corrective Action Response
Laboratory Demonstration of Performance	Annually, at minimum	Ensure analyst is capable of performing the method to specifications	Laboratory QA Director	Laboratory Analysts	Internal lab documentation
Laboratory On-Site Audit	Once per five Years	Maintaining Kentucky Wastewater Laboratory Certification	KDOW	Laboratory Analysts	KDOW Audit Report
Laboratory Internal Audits	Annually, at minimum	Ensure conformance to methods, regulations, and procedures	Laboratory QA Director	Laboratory Analysts	Internal Lab Documentation
Field Testing Kit Demonstration of Performance	Prior to First Sampling Event	Ensure field sampler is capable of performing field tests to the method specifications	Data Manager	Field Samplers	Certified Sampler List
Field Biology Training and Audit	Annually	Evaluate quality of habitat assessments and macroinvertebrate collection	KDOW	Third Rock Biologists	Training Certificate and Audit Form
Analytical Results Review	Subsequent to each sampling event	Evaluate the conformance of laboratory data to project DQOs	Data Manager	Laboratory QA Director	Email
Annual Quality Review	Annually	Evaluate the quality assurance and compare the data produced to project DQIs	Data Manager	All Program Team Members	Annual Monitoring Report

If at any time a project team member finds an error or non-conformance in the QAPP, the QAPP will be revised and redistributed to those on the distribution list subsequent to approval.

To ensure conformance with this QAPP and the applicable regulations, certifications, and methods by which the laboratories operate, the laboratories will perform several assessment measures. To ensure that analysts are capable of performing the requested analytical methods to specifications, each analyst must acceptably demonstrate this ability prior to conducting sample analyses. The analyst must conduct four replicate analyses of a known standard and achieve precision and accuracy equal to or better than

the acceptance ranges for laboratory duplicates and laboratory control samples, respectively. The laboratory QA Director or his appointee on an annual basis will perform internal audits. The findings of the audits, both positive and negative, will be documented, and the corrective response to the cited deviations will be made. Corrective actions will be submitted to the auditing body for review and approval.

Prior to initial sampling, all water quality field samplers shall undergo a field testing kit demonstration of performance. The samplers shall prove competence in achieving results within specified limits using known sample volumes prior to field sampling. Only samplers who have demonstrated performance will be listed as LFUCG certified samplers.

Upon receipt of the results, a review of the laboratory and field data shall be performed by the Data Manager or his designee to ensure that the project DQOs have been satisfied. Email shall be utilized to communicate the results found in these evaluations. The quality of the data collected shall be reviewed and summarized in the Watershed-Focused Monitoring Program Report.

## 4 REVIEW, EVALUATION AND REPORTING REQUIREMENTS

Data verification, data validation, and data usability are each terms used to describe data review and evaluation. Data verification is the review of data sets for completeness, correctness, and conformance/compliance for a specific data set against the method, procedural, or contractual specifications. Data validation is an analyte and sample-specific process that determines the quality of a specific data set relative to its end use. Validation notes any deviations from the QAPP. Data usability is a determination of the adequacy of the data based on verification and validation, to ensure the QAPP criteria are met.

### 4.1 Validation and Verification Methods

The EPA guidance document *Guidance on Environmental Data Verification and Validation* (EPA QA/G-8) (EPA 2002) guides the overall process by which data will be validated and verified.

The sampler will perform data review for all field data initially before submitting to the laboratory. Upon submission to the laboratory, the laboratory will review the COC for completeness and document any non-conformances on the COC.

For the chemical laboratory data, the laboratory analyst will initially conduct the review, and the data will be peer reviewed by another analyst or capable reviewer. Data will be reviewed according to the laboratory QA Manual and the method specific SOP for data entry, calculations, and transformations as well review of quality control criteria. If deviations are noted, corrective actions will be taken with verification of both the reviewer and the original data collector. If consensus cannot be reached, the data will be rejected. During verification and validation of the data, all data that does not meet the DQIs listed in this QAPP will be qualified or rejected. A list of the type of qualifiers that may be applied to this data is listed in Table 23, page 56. Laboratory codes that correspond to these general types are listed in the laboratory procedures in Appendix D. All qualified data will be evaluated according to the actions listed.

If results are rejected, the laboratory should re-analyze the samples if possible. Re-sampling will not be conducted for the rejected parameters.

The Data Manager will document non-conformances in the data via email and in Watershed-Focused Monitoring Program Report. This review will be submitted to the KDOW in the annual reports. The Data Manager will be responsible for making any final decisions concerning data quality and acceptability.

TABLE 23 – DATA QUALIFIERS AND RESPONSE

Definition	Action To Be Taken
Analyte detected in associated method blank	Reject results. Indicates all, or a portion of, the amount found in a sample may be due to laboratory sources.
Diluted out	Accept results. Indicates a dilution to overcome matrix effects caused other analytes of interest to be diluted out of range. Normal quantitation is not available.
Holding time exceeded	Reject results. Method-required holding time is exceeded.
Estimated value	Accept results when used to indicate result is below the project reporting limit, but above the Method Detection Limit (MDL).
Matrix spike and/or matrix spike duplicate recovery outside acceptance limits	Accept results if associated Laboratory Control Sample is acceptable (No qualifier). Indicates matrix is adversely affecting the extraction or digestion of the analyte. If the Matrix Spike recovery is below acceptable limits, it may be likely that the reported results for the associated samples may be underestimated. Conversely, if the Matrix Spike results are high, it may be likely that the reported results for the associated samples may be overestimated.
Laboratory control sample outside acceptance limits	Reject or qualify results. Indicates that the laboratory system is out of control. Qualification should indicate the result is estimated.
Sample received exceeding proper temperature or preservation criteria	Reject results. Indicates preservatives or temperature requirements have not been met and the bias on the sample result is unknown.
Analyzed but not detected in sample	Accept results. Indicates that the result is less than the reporting limit.
Analyte exceeded calibration range	Accept results. Only reported in instances in which the calibration curve is exceeded and the sample cannot be reanalyzed.
Laboratory replicate / duplicate precision outside of acceptance limits	Reject or qualify results, unless it occurs on a matrix spike duplicate or due to low recoveries with high relative percent difference. Indicates precision is outside of normal acceptance criteria due to lack of homogeneity or other factors. Qualification should indicate the result is estimated.
Calibration criteria exceeded	Reject results. Indicates that the laboratory system is out of control.

All final reports will receive an internal peer review to evaluate the content, calculations, and data analysis in the report. The reports will also undergo an internal grammatical review to look for grammatical errors and formatting. Lastly, the final report will receive a review from the MS4 / Water Quality Manager prior to submission to the KDOW to ensure that all project objectives are achieved.

#### 4.2 Reconciliation with Project Requirements

In each Watershed-Focused Monitoring Program Report, descriptions of all relevant background information, summary, waterbody details, monitoring results, recommended solutions, and implementation plans will be detailed. Included in this document will be an overall assessment of the data quality and the uncertainty involved in the results.



## 5 REFERENCES AND CITATIONS

401 KAR 10:031 Energy and Environment Cabinet, Department for Environmental Protection, Surface Water Standards.

Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish. Second Edition. EPA 841-B-99-002. USEPA, Office of Water, Washington, D.C.

Bunte, Kristin; Abt, Steven R. 2001. Sampling surface and subsurface particle-size distributions in wadable gravel-and cobble-bed streams for analyses in sediment transport, hydraulics, and streambed monitoring. Gen. Tech. Rep. RMRS-GTR-74. Fort Collins,CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 428 p.

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KDOW. 2009a. *In situ* Water Quality Measurements and Meter Calibration Standard Operating Procedure. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03014

--. 2009b. Sample Control and Management Standard Operating Procedure. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03001

--. 2010b. Measuring Stream Discharge Standard Operating Procedure. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03019

--. 2011a. Methods for Assessing Habitat in Wadeable Waters. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03024

--. 2011b. Sampling the Surface Water Quality in Lotic Systems. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03015

--. 2015. Methods for Collecting Macroinvertebrate Samples As Required For TMDL Alternative Studies and/or Watershed-Based Plans. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03039

Pond, G.J.; S.M. Call; J.F. Brumley; M.C. Compton. 2003. The Kentucky Macroinvertebrate Bioassessment Index. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky.

Rosgen, D.L. 2008. River Stability Field Guide. Wildland Hydrology, Pagosa Springs, CO.

## 6 APPENDICES

All documentation listed below may be provided electronically upon request.

### A: Field Forms

- High-Gradient Habitat Assessment Field Data Sheet
- Substrate Characterization /Macroinvertebrate Screening Field Sheet
- Photo Log Data Sheet
- Aquatic Biology Sample Chain-of-Custody
- Headwater Macroinvertebrate Collection Check Sheet for High-Gradient Streams
- Wadeable Macroinvertebrate Collection Check Sheet for High-Gradient Streams
- Pebble Count Field Data Sheet
- Phase 1 & 2 Water Quality Chain-of-Custodies
- Calibration and Maintenance Logs
- Outfall Reconnaissance Inventory/Sample Collection-Field Sheet
- Illicit Discharge Investigation Form
- Optical Brightener Field Data Sheet
- Upland Visual Assessment Field Data Sheets

### B: Field Methods

- KDOW. 2015. *Methods for Collecting Macroinvertebrate Samples As Required For TMDL Alternative Studies and/or Watershed-Based Plans*. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03039
- LFUCG. 2015. *MON-02: SOP for Habitat Assessment*.
- LFUCG. 2016. *MON-02: SOP for Optical Brightener*.
- LFUCG. 2015. *IDDE-01: Illicit Discharge Detection and Elimination (IDDE) Protocol*.
- LFUCG. 2015. *IDDE-02: SOP for In situ Water Quality Measurements and Meter Calibration*.
- LFUCG. 2015. *IDDE-03: SOP for Sampling Surface Waters*.
- LFUCG. 2015. *IDDE-04: SOP for Flow Estimation at Outfalls*.
- LFUCG. 2015. *IDDE-05: SOP for Ammonia by Hanna Checker*.
- LFUCG. 2015. *IDDE-06: SOP for Chlorine by Hanna Checker*.
- LFUCG. 2015. *IDDE-09: SOP for Detergents by CHEMets*.
- KWW. 2014. *Kentucky Watershed Watch Field Water Chemistry Assessment Standard Operating Procedure*, WWSOP01000

### C: Laboratory Forms and Methods

#### Forms

- Macroinvertebrate Sample Sort Efficiency Form

- Macroinvertebrate Sample Taxonomy Precision Form
- Macroinvertebrate Sample Taxonomic and Enumeration Form
- Town Branch Dissolved Oxygen Meter Calibration Form
- Town Branch pH Meter Calibration Form

Methods

- KDOW. 2015. *Methods for Collecting Macroinvertebrate Samples As Required For TMDL Alternative Studies and/or Watershed-Based Plans*. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03039
- LFUCG DWQ Town Branch Laboratory. 2014a. *Quality Assurance Plan (QAP)*.
- LFUCG DWQ Town Branch Laboratory. 2014b. *Standard Operating Procedures (SOPs) for the LFUCG Town Branch Laboratory*.

D: Maps

Stream Corridor Characterization Reaches:

- Exhibit 1: East Hickman Creek
- Exhibit 2: West Hickman Creek
- Exhibit 3: South Elkhorn Creek
- Exhibit 4: Wolf Run
- Exhibit 5: Cane Run
- Exhibit 6: Town Branch
- Exhibit 7: North Elkhorn





Instream Sites:

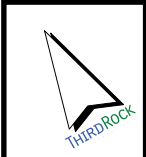
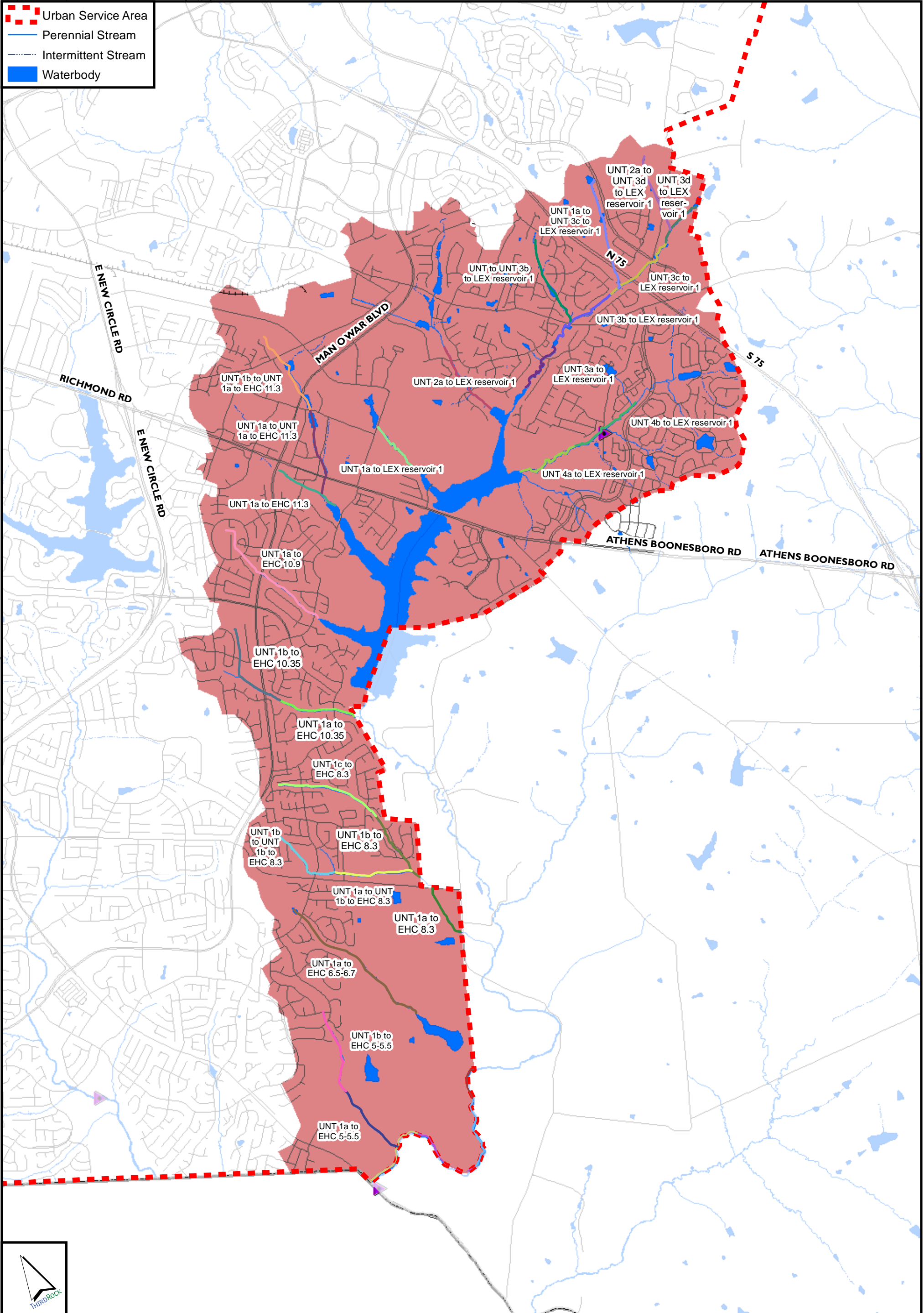
- Exhibit 8: East Hickman
- Exhibit 9: West Hickman
- Exhibit 10: South Elkhorn
- Exhibit 11: Wolf Run
- Exhibit 12: Cane Run
- Exhibit 13: Town Branch
- Exhibit 14: North Elkhorn

Major Outfalls:

- Exhibit 15: East Hickman
- Exhibit 16: West Hickman
- Exhibit 17: South Elkhorn
- Exhibit 18: Wolf Run
- Exhibit 19: Cane Run
- Exhibit 20: Town Branch
- Exhibit 21: North Elkhorn

E: Monitoring Locations

-  Urban Service Area
-  Perennial Stream
-  Intermittent Stream
-  Waterbody







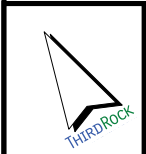
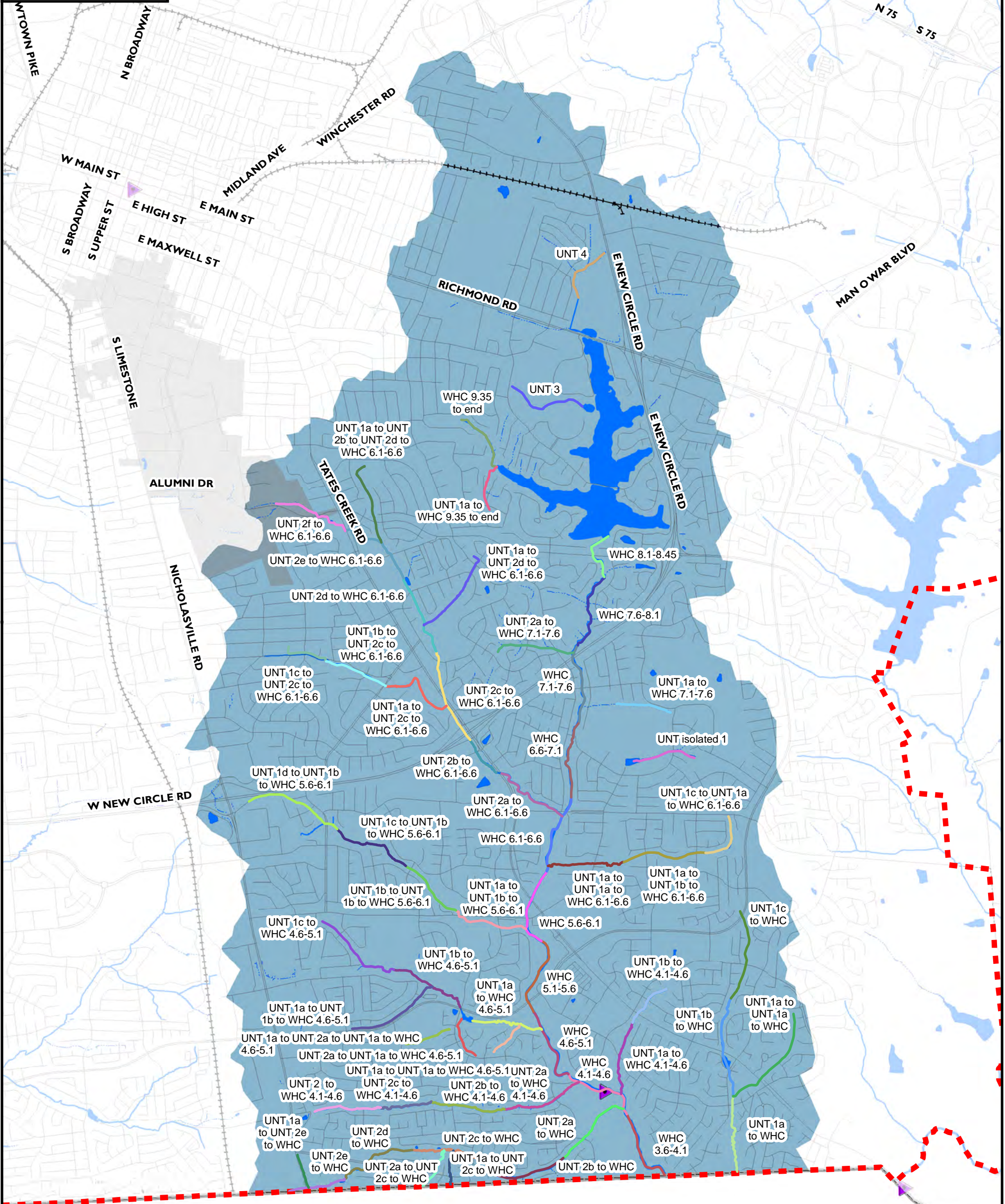
Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

0 1,250 2,500  
Feet

Exhibit I  
East Hickman Creek

Stream Corridor  
Characterization Reaches  
Fayette County,  
Kentucky

-  Urban Service Area
-  Perennial Stream
-  Intermittent Stream
-  Waterbody







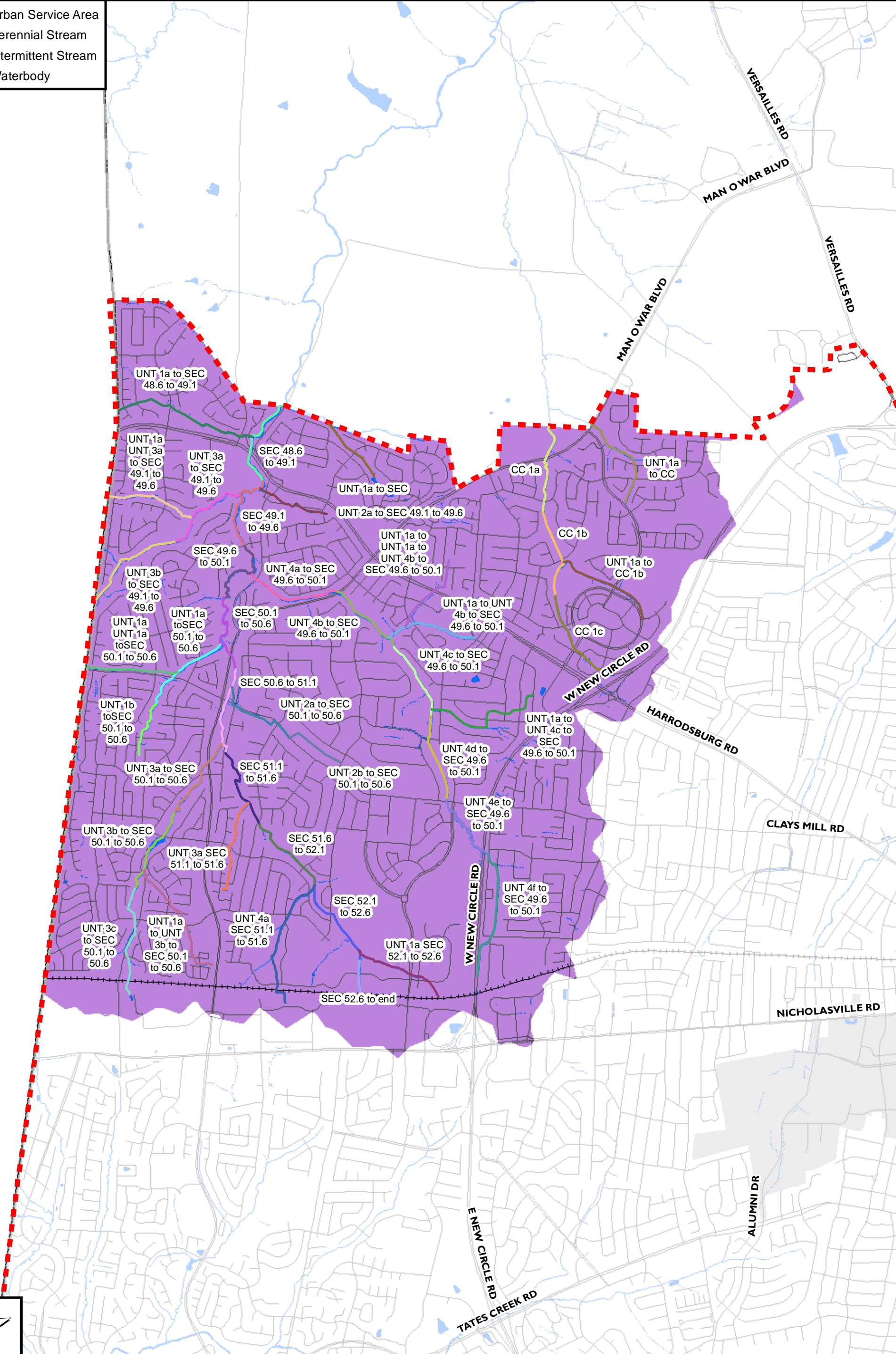
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Lexington Urban Service Area  
Fayette County, Kentucky

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Feet

Exhibit 2  
West Hickman Creek

Stream Corridor  
Characterization Reaches  
Fayette County,  
Kentucky

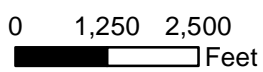
-  Urban Service Area
-  Perennial Stream
-  Intermittent Stream
-  Waterbody







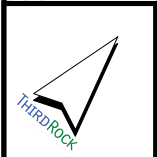
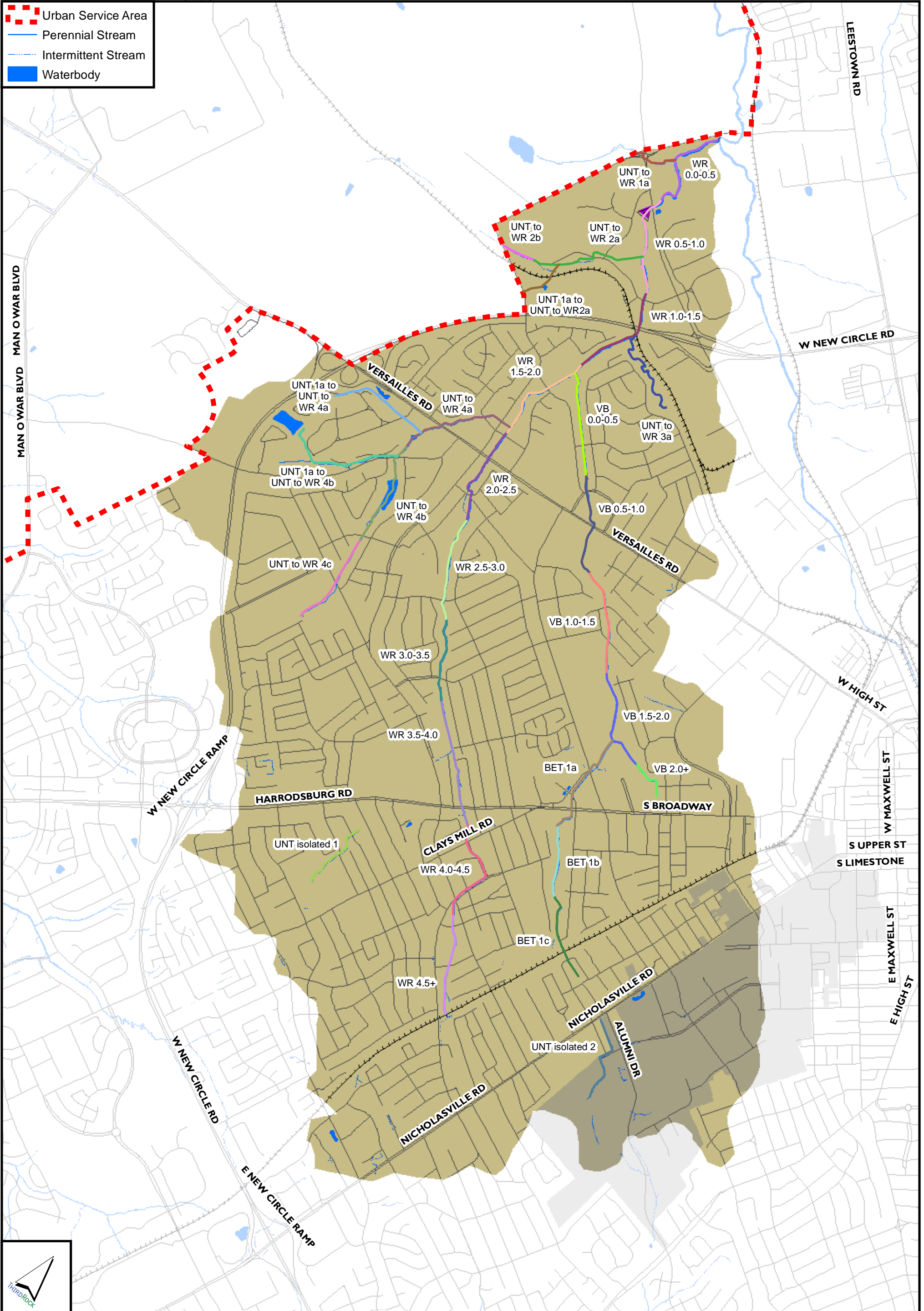
Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

Exhibit 3  
South Elkhorn Creek

Stream Corridor  
Characterization Reaches  
Fayette County,  
Kentucky



-  Urban Service Area
-  Perennial Stream
-  Intermittent Stream
-  Waterbody







Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

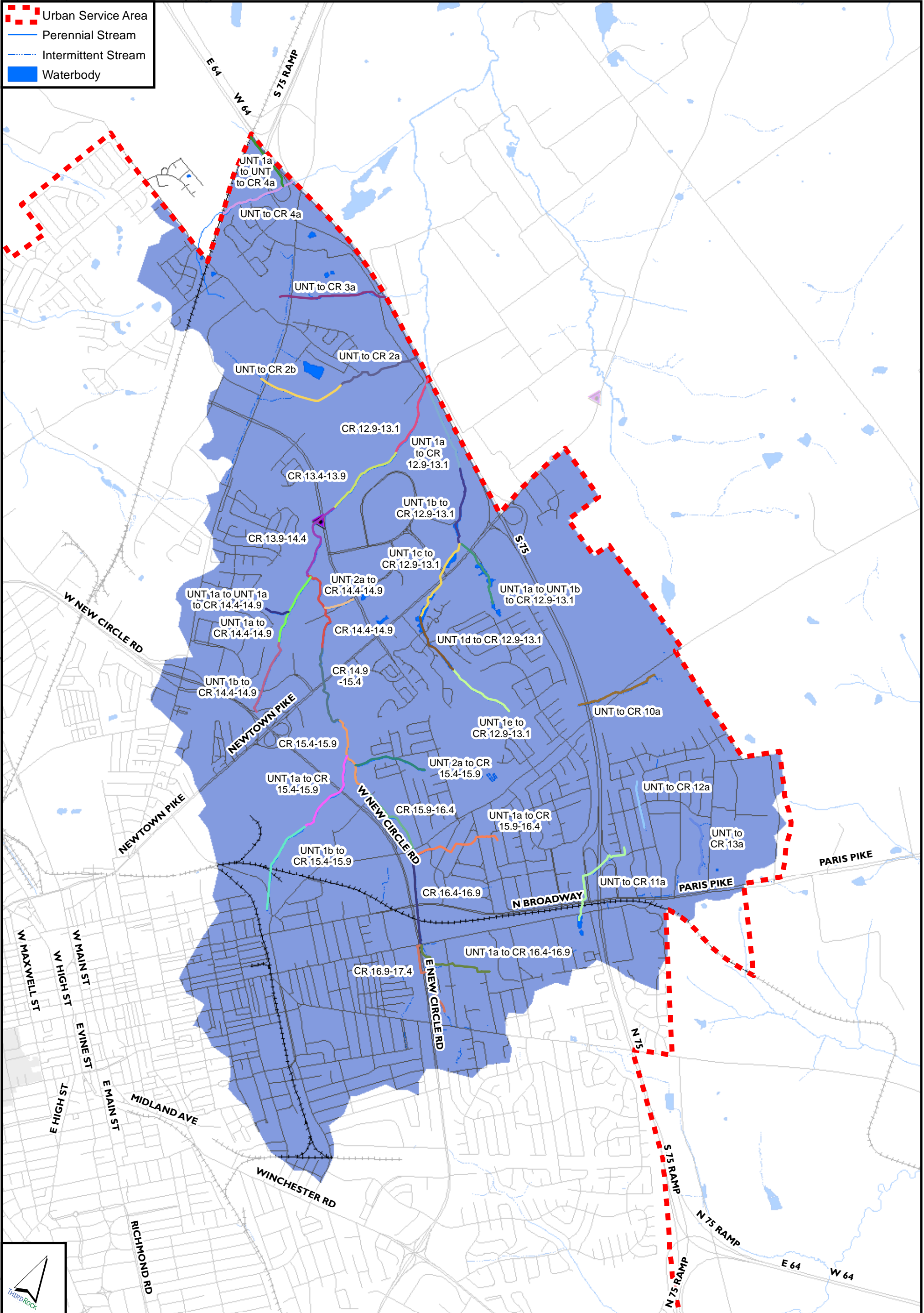
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Feet

Exhibit 4  
Wolf Run

Stream Corridor  
Characterization Reaches  
Fayette County,  
Kentucky



-  Urban Service Area
-  Perennial Stream
-  Intermittent Stream
-  Waterbody







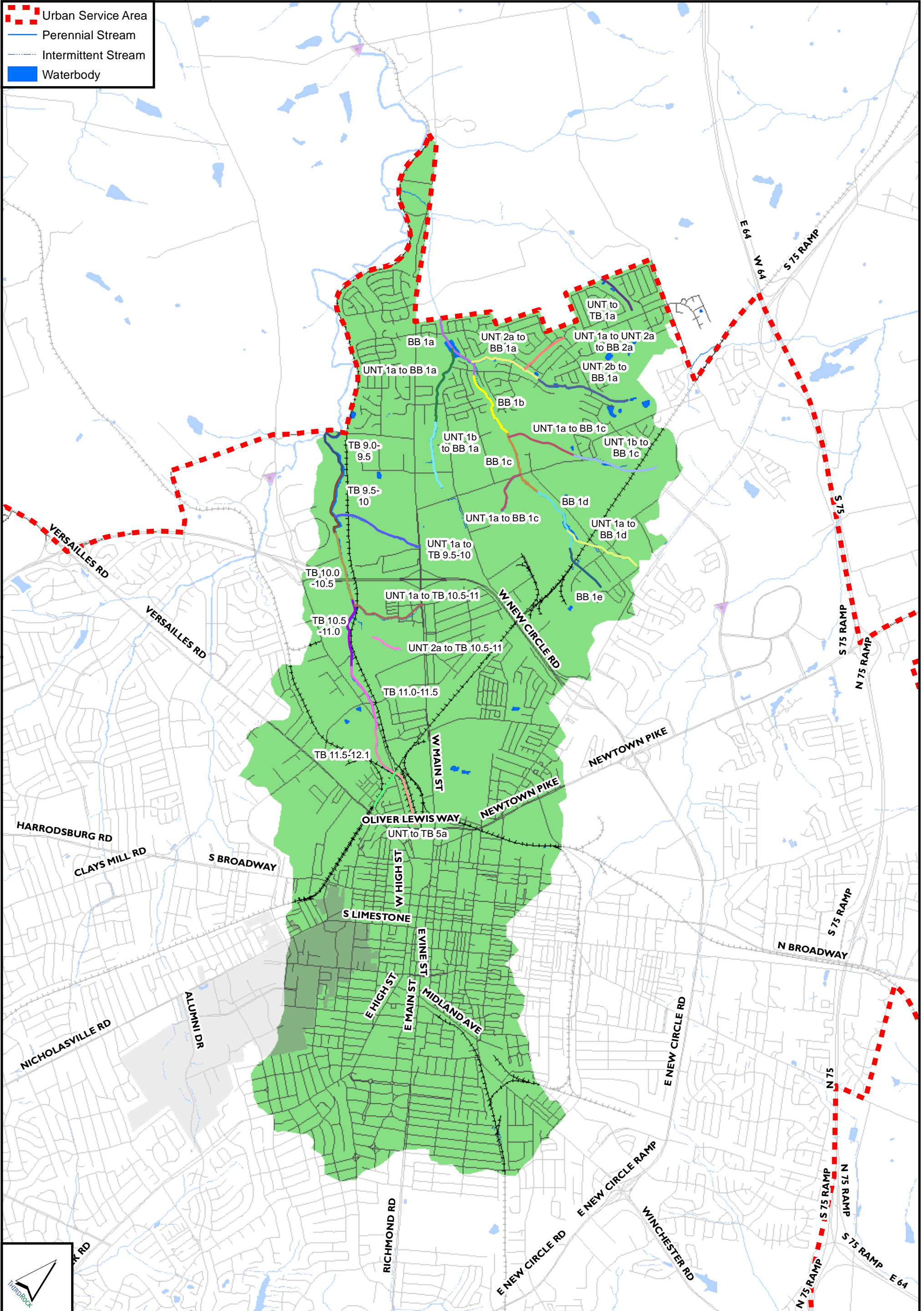
Watershed Focused Monitoring  
 Lexington Urban Service Area  
 Fayette County, Kentucky

0 1,250 2,500  
 Feet

Exhibit 5  
 Cane Run

Stream Corridor  
 Characterization Reaches  
 Fayette County,  
 Kentucky

-  Urban Service Area
-  Perennial Stream
-  Intermittent Stream
-  Waterbody



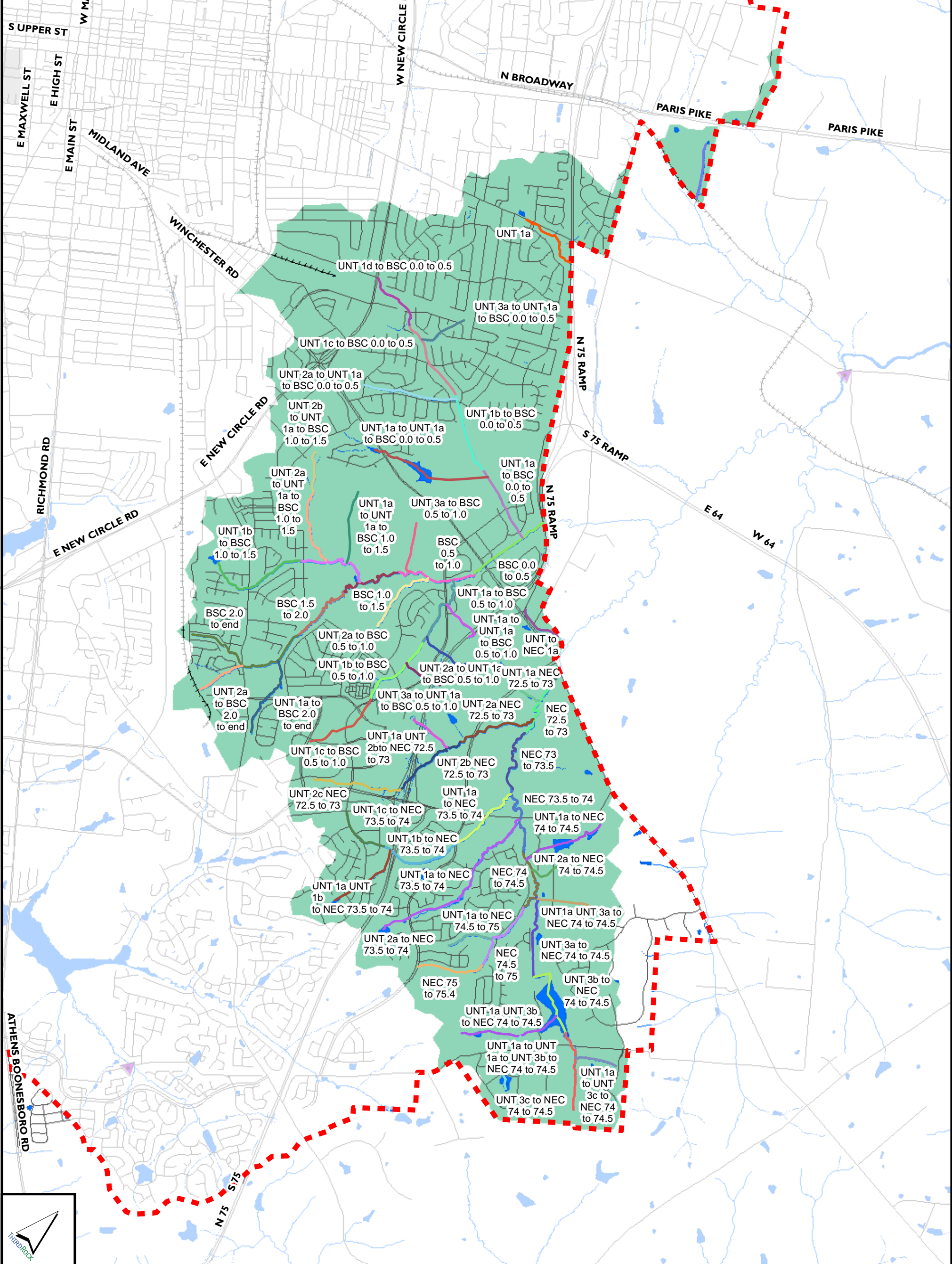
Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

0 1,250 2,500 5,000  
Feet

Exhibit 6  
Town Branch

Stream Corridor  
Characterization Reaches  
Fayette County,  
Kentucky

- Urban Service Area
- Perennial Stream
- Intermittent Stream
- Waterbody

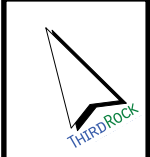
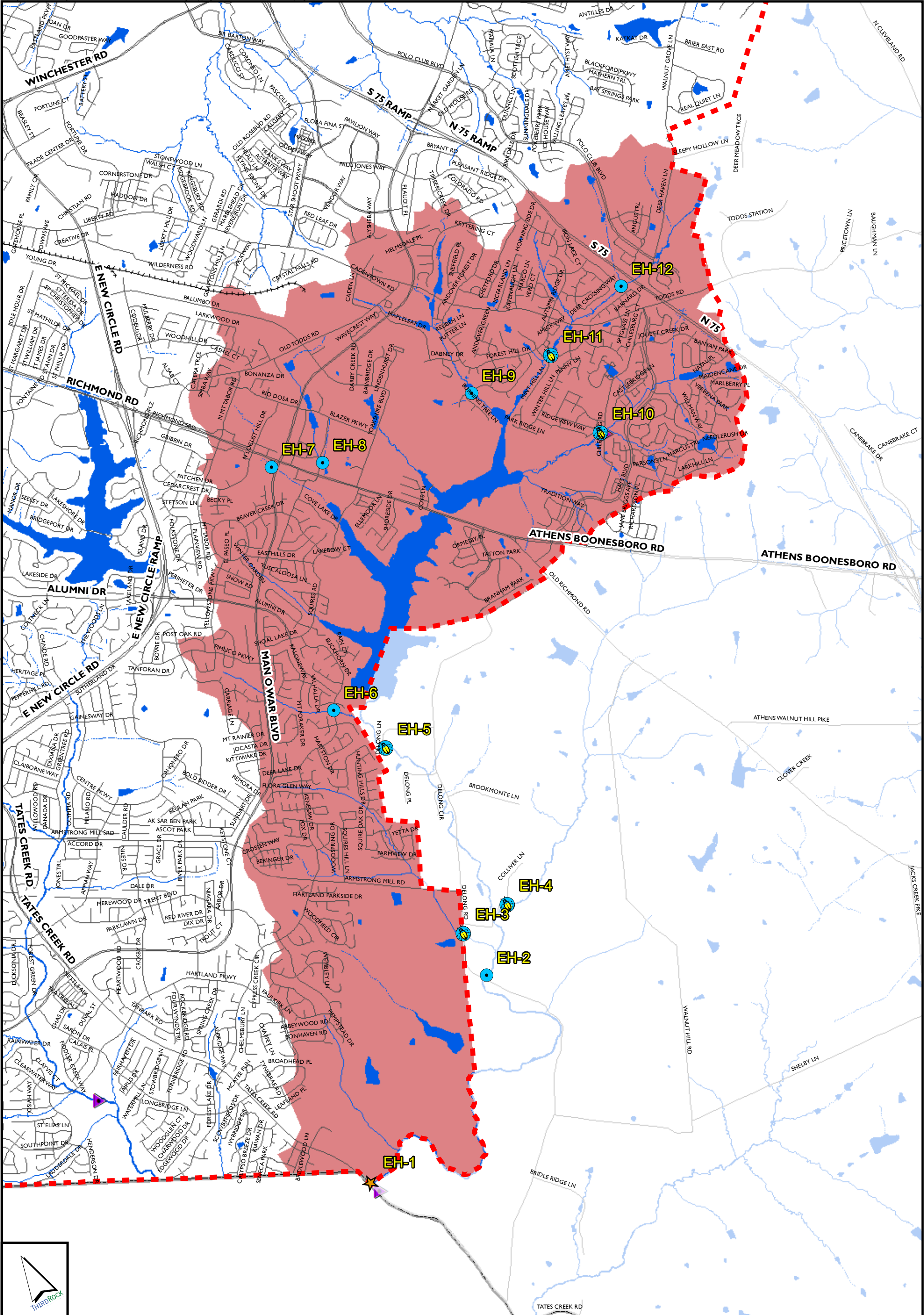


Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

Exhibit 7  
North Elkhorn Creek

Stream Corridor  
Characterization Reaches  
Fayette County,  
Kentucky

0 1,250 2,500  
Feet

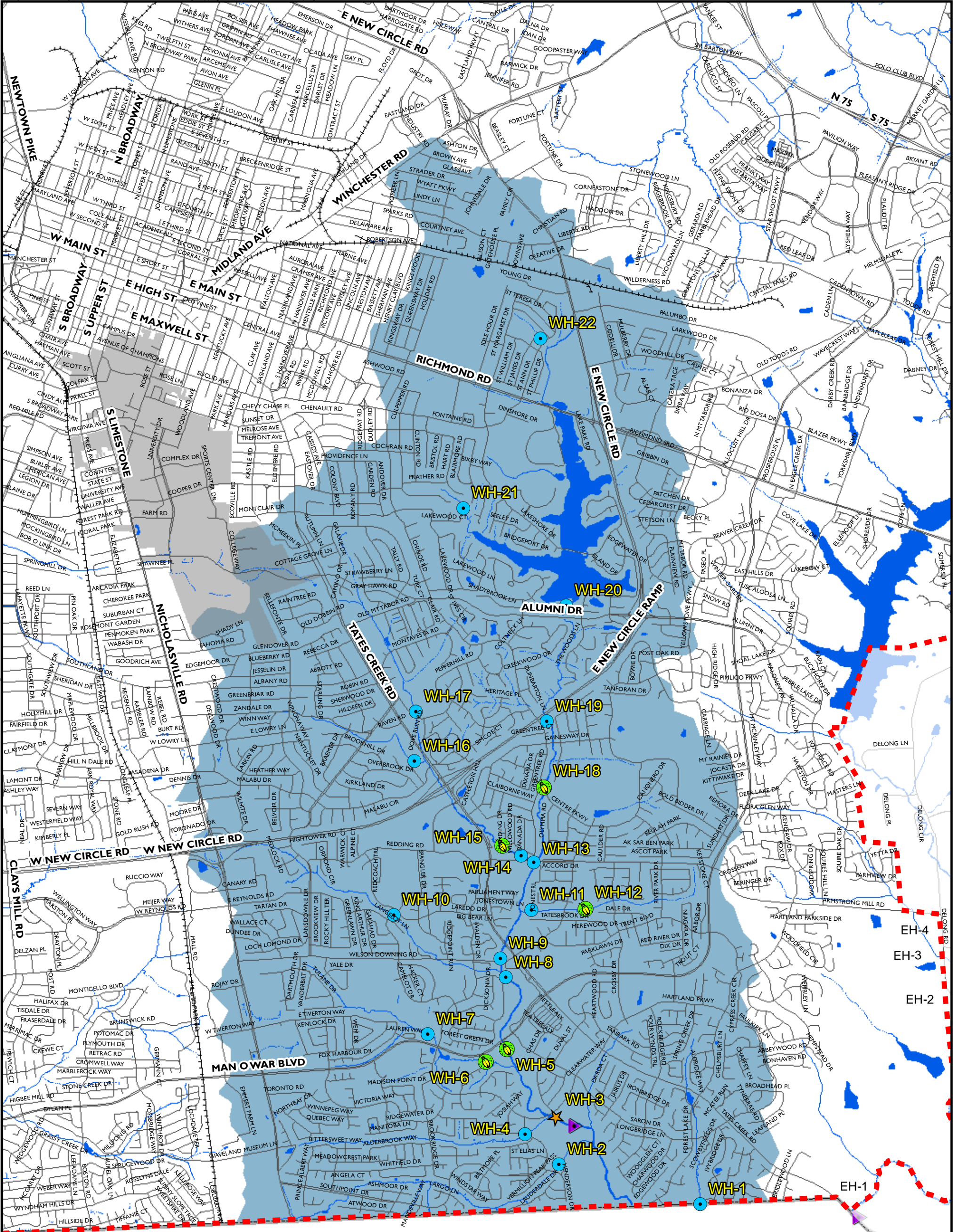


**Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky**

0 1,250 2,500  
Feet

- |               |                  |                     |
|---------------|------------------|---------------------|
| MS4 Site      | USGS Station     | Waterbody           |
| Macro Site    | Railroad         | Urban Service Area  |
| Macro+WQ Site | Street           | County Boundary     |
| WQ Site       | Perennial Stream | Intermittent Stream |

**Exhibit 8  
Instream Sites  
East Hickman Creek**

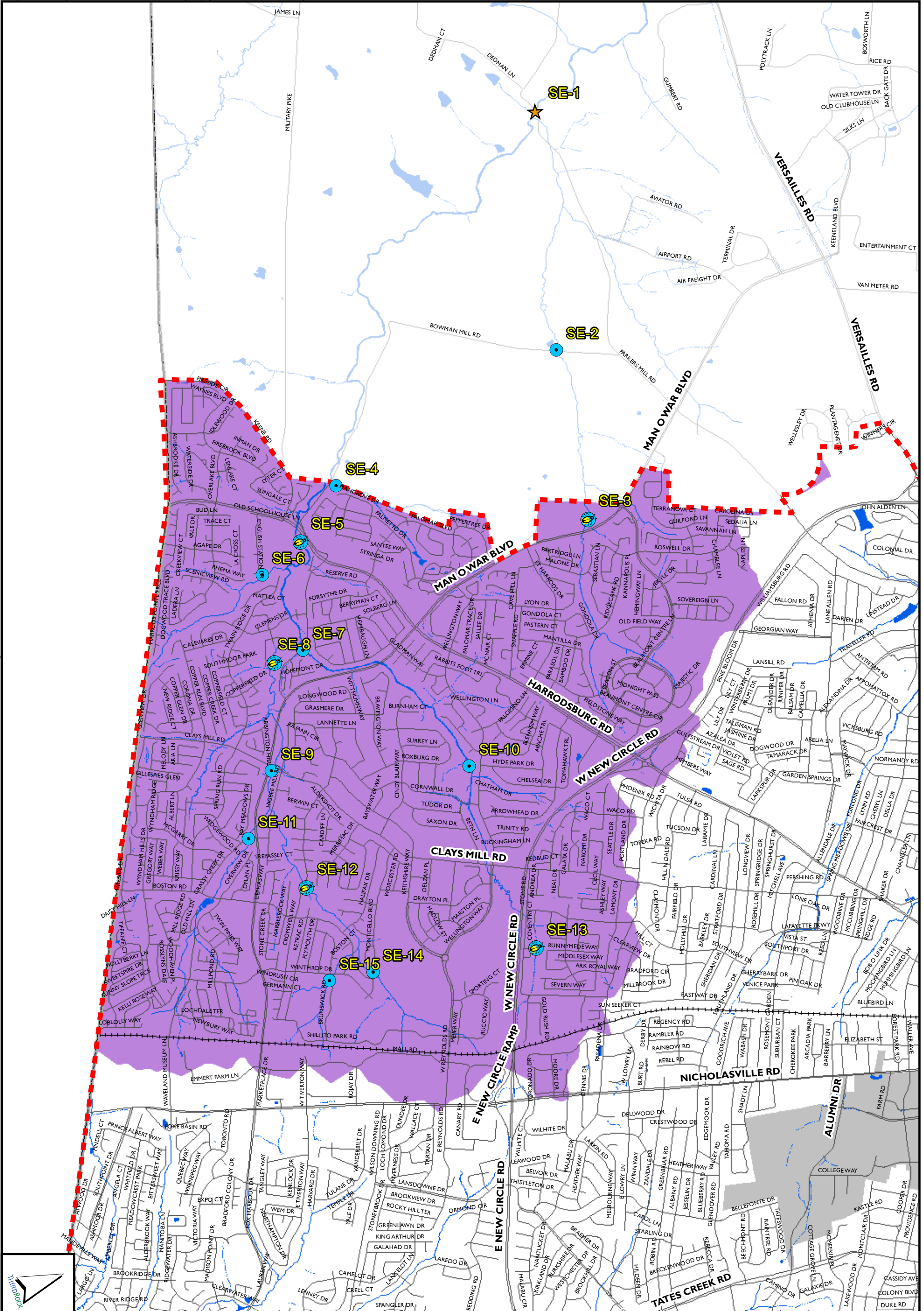


**Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky**

0 1,250 2,500  
Feet

- MS4 Site
- Macro Site
- Macro+WQ Site
- WQ Site
- USGS Station
- Railroad
- Street
- Perennial Stream
- Intermittent Stream
- Waterbody
- Urban Service Area
- County Boundary

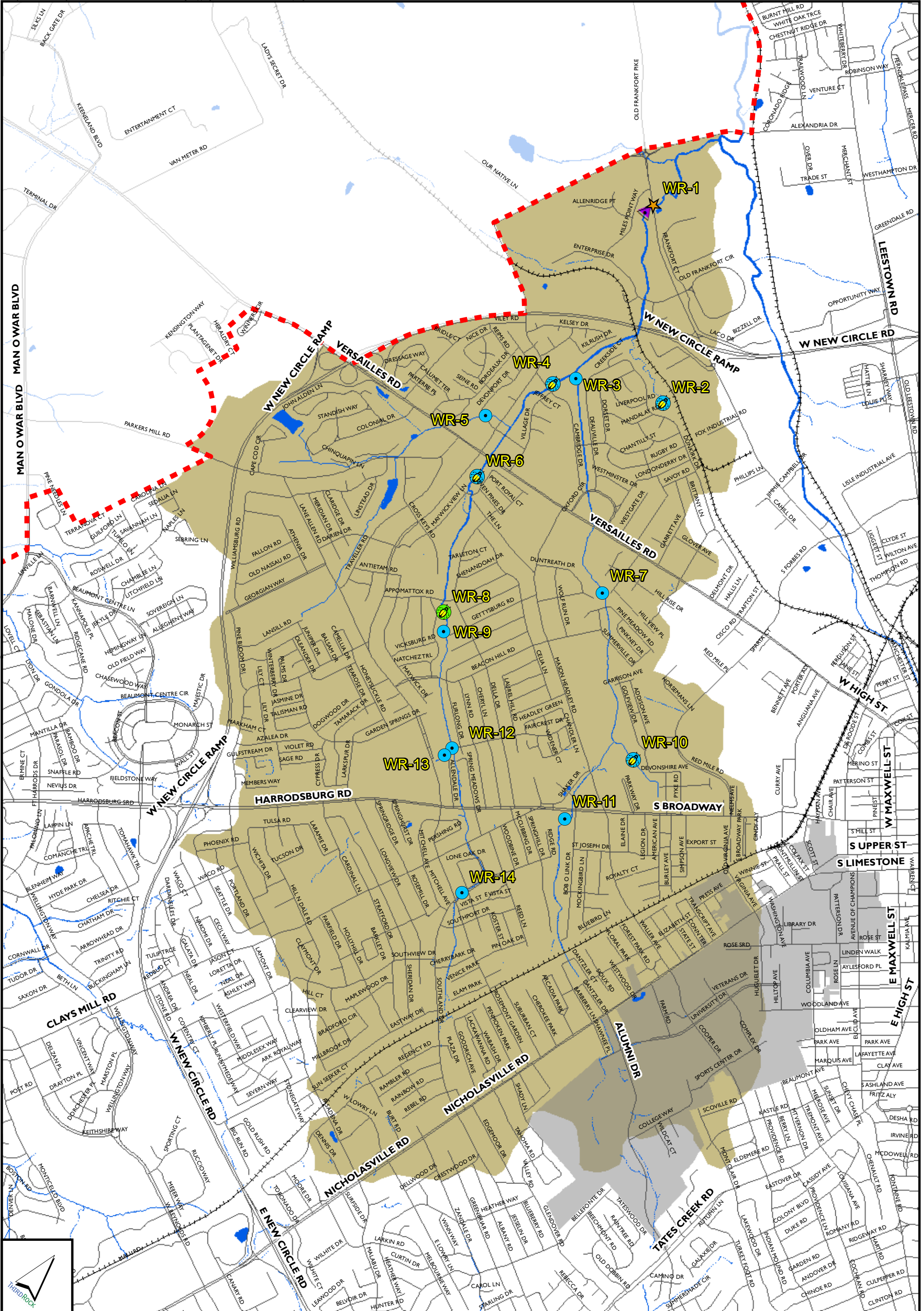
**Exhibit 9  
Instream Sites  
West Hickman Creek**



Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

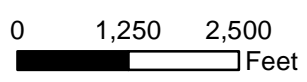
- MS4 Site
- Macro Site
- Macro+WQ Site
- WQ Site
- USGS Station
- Railroad
- Street
- Perennial Stream
- Intermittent Stream
- Waterbody
- Urban Service Area
- County Boundary

**Exhibit 10**  
**Instream Sites**  
**South Elkhorn Creek**

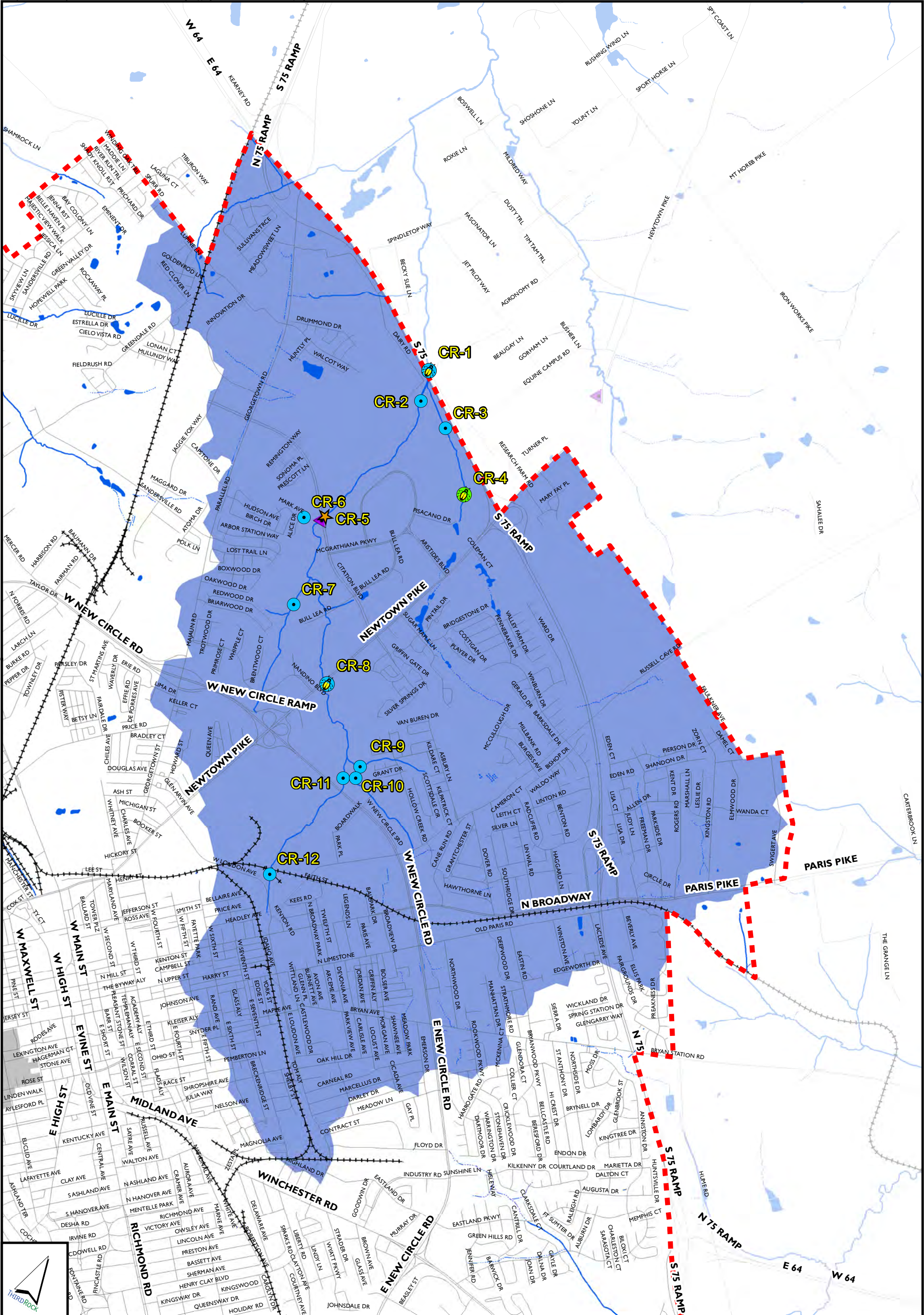


**Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky**

- MS4 Site
- Macro Site
- Macro+WQ Site
- WQ Site
- USGS Station
- Railroad
- Street
- Perennial Stream
- Intermittent Stream
- Waterbody
- Urban Service Area
- County Boundary



**Exhibit 11  
Instream Sites  
Wolf Run**

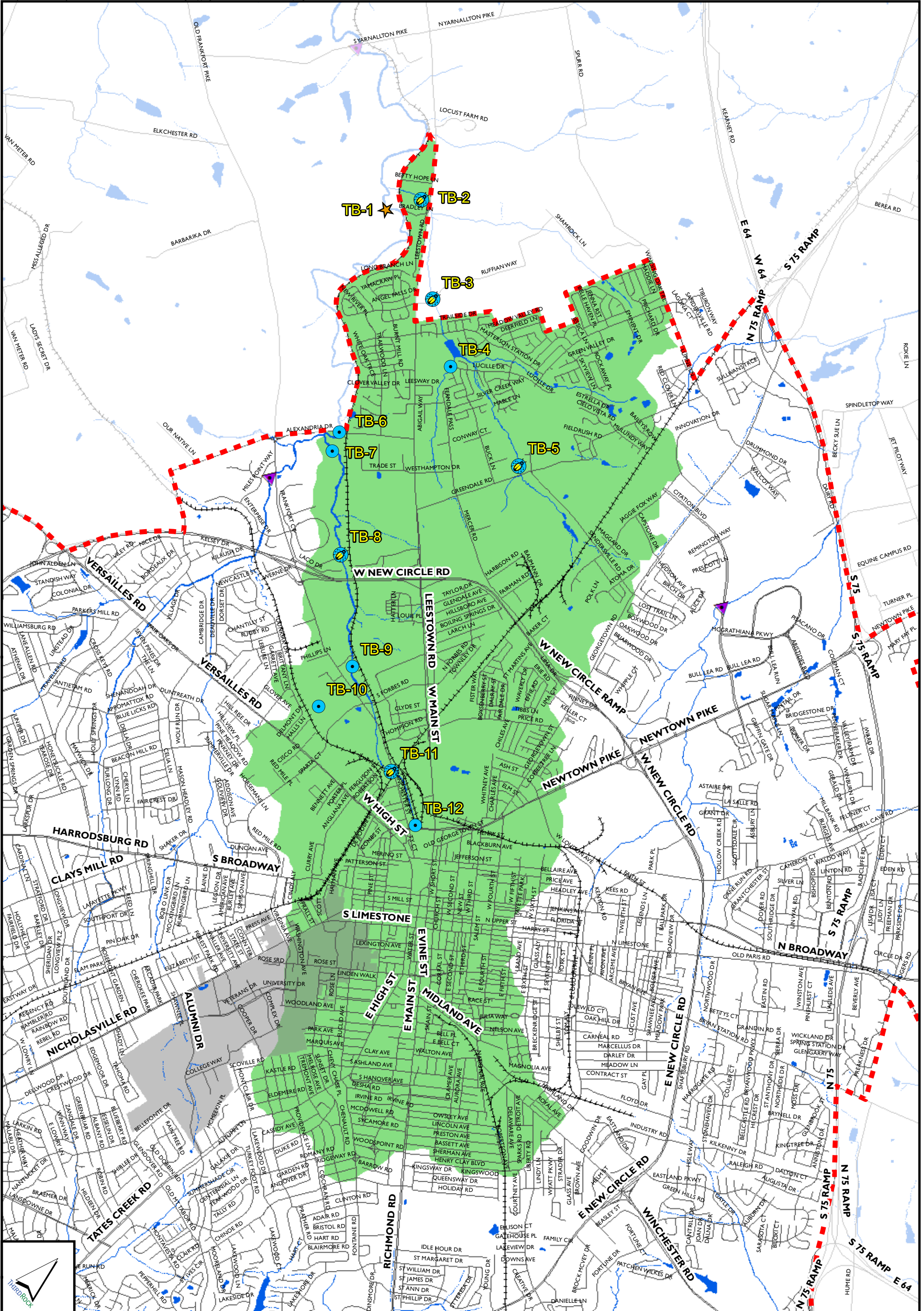


Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

- MS4 Site
- Macro Site
- Macro+WQ Site
- WQ Site
- USGS Station
- Railroad
- Street
- Perennial Stream
- Intermittent Stream
- Waterbody
- Urban Service Area
- County Boundary

Exhibit 12  
Instream Sites  
Cane Run



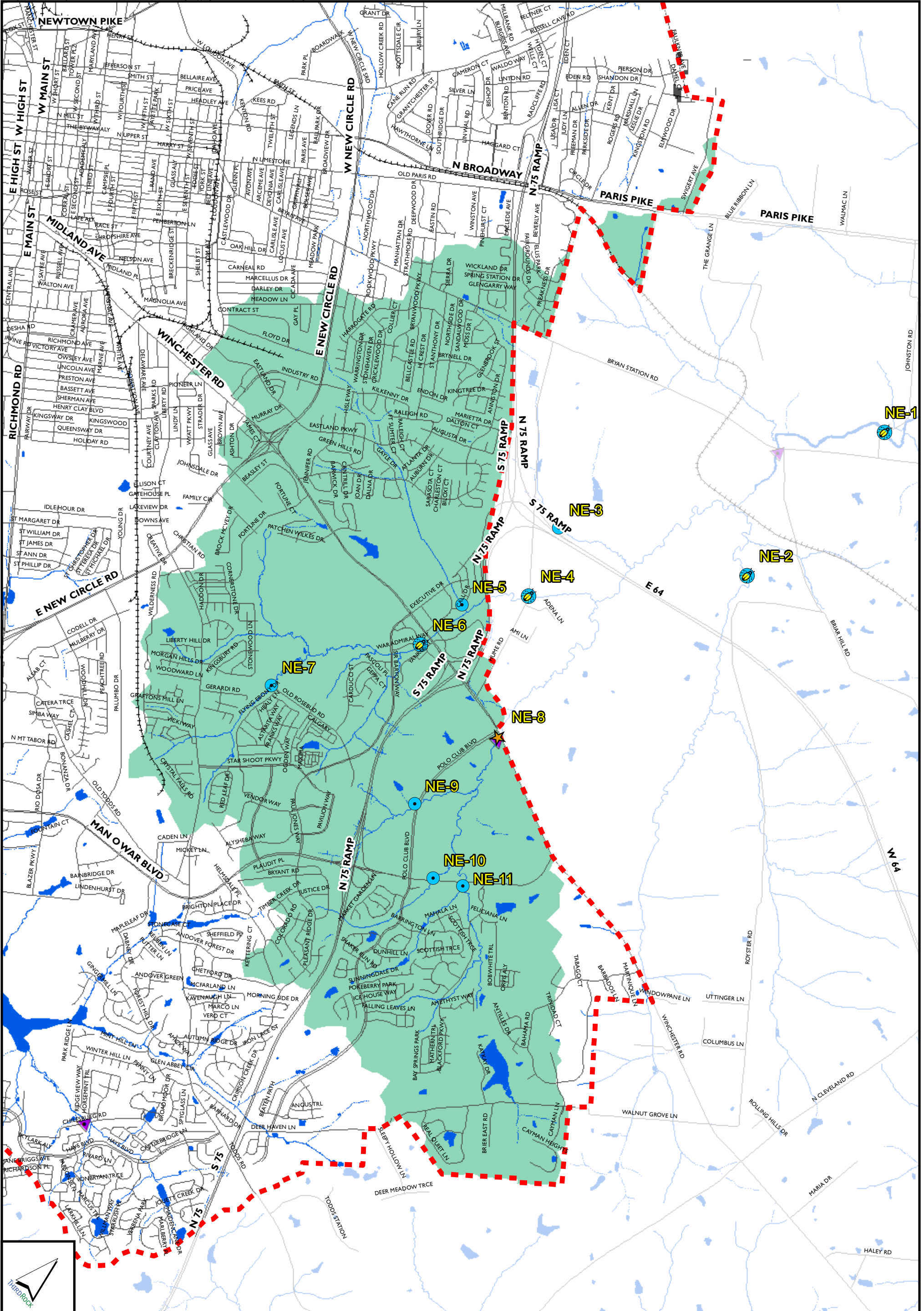


**Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky**

- MS4 Site
- Macro Site
- Macro+WQ Site
- WQ Site
- USGS Station
- Railroad
- Street
- Perennial Stream
- Intermittent Stream
- Waterbody
- Urban Service Area
- County Boundary












**Exhibit 13  
Instream Sites  
Town Branch**

0 1,250 2,500 5,000  
Feet

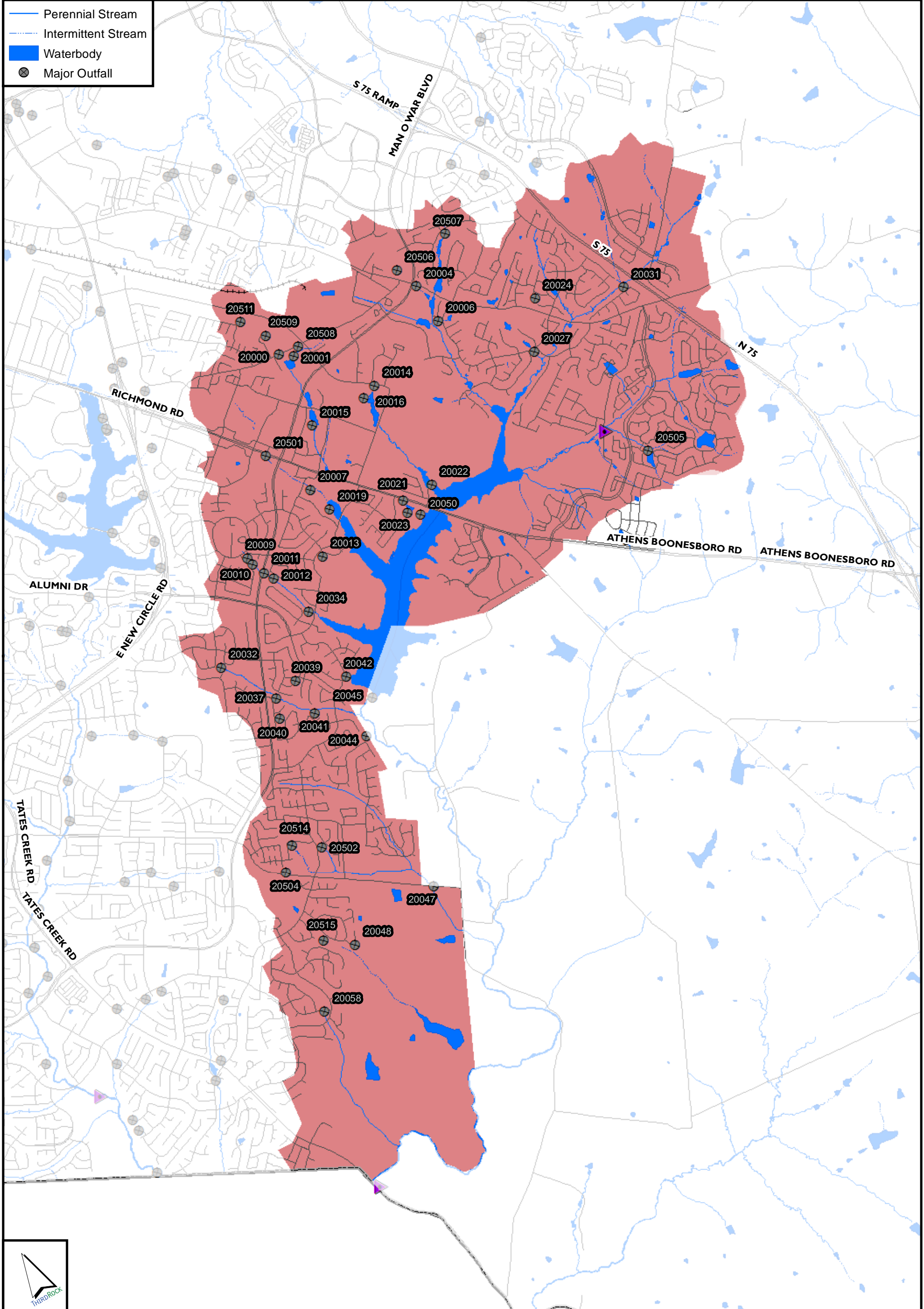


**Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky**

0 1,250 2,500  
Feet

-  MS4 Site
-  USGS Station
-  Macro Site
-  WQ Site
-  Railroad
-  Street
-  Perennial Stream
-  Intermittent Stream
-  Waterbody
-  Urban Service Area
-  County Boundary

**Exhibit 14  
Instream Sites  
North Elkhorn Creek**



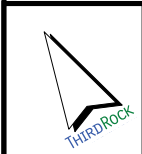
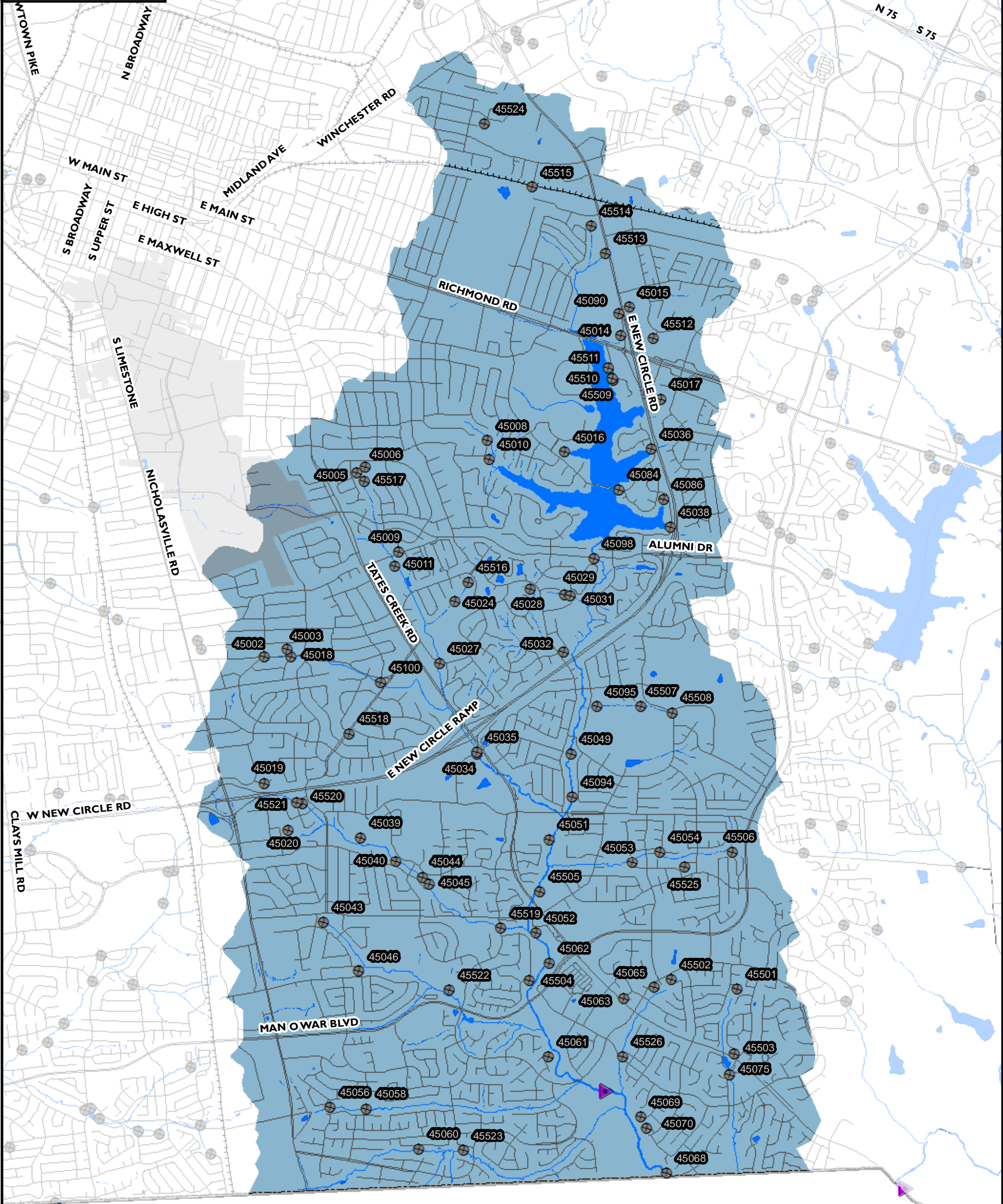
Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

0 1,250 2,500  
Feet

Exhibit 15  
East Hickman Creek

Major Outfalls  
Fayette County,  
Kentucky

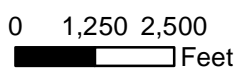
- Perennial Stream
- Intermittent Stream
- Waterbody
- Major Outfall



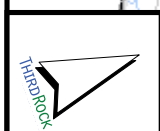
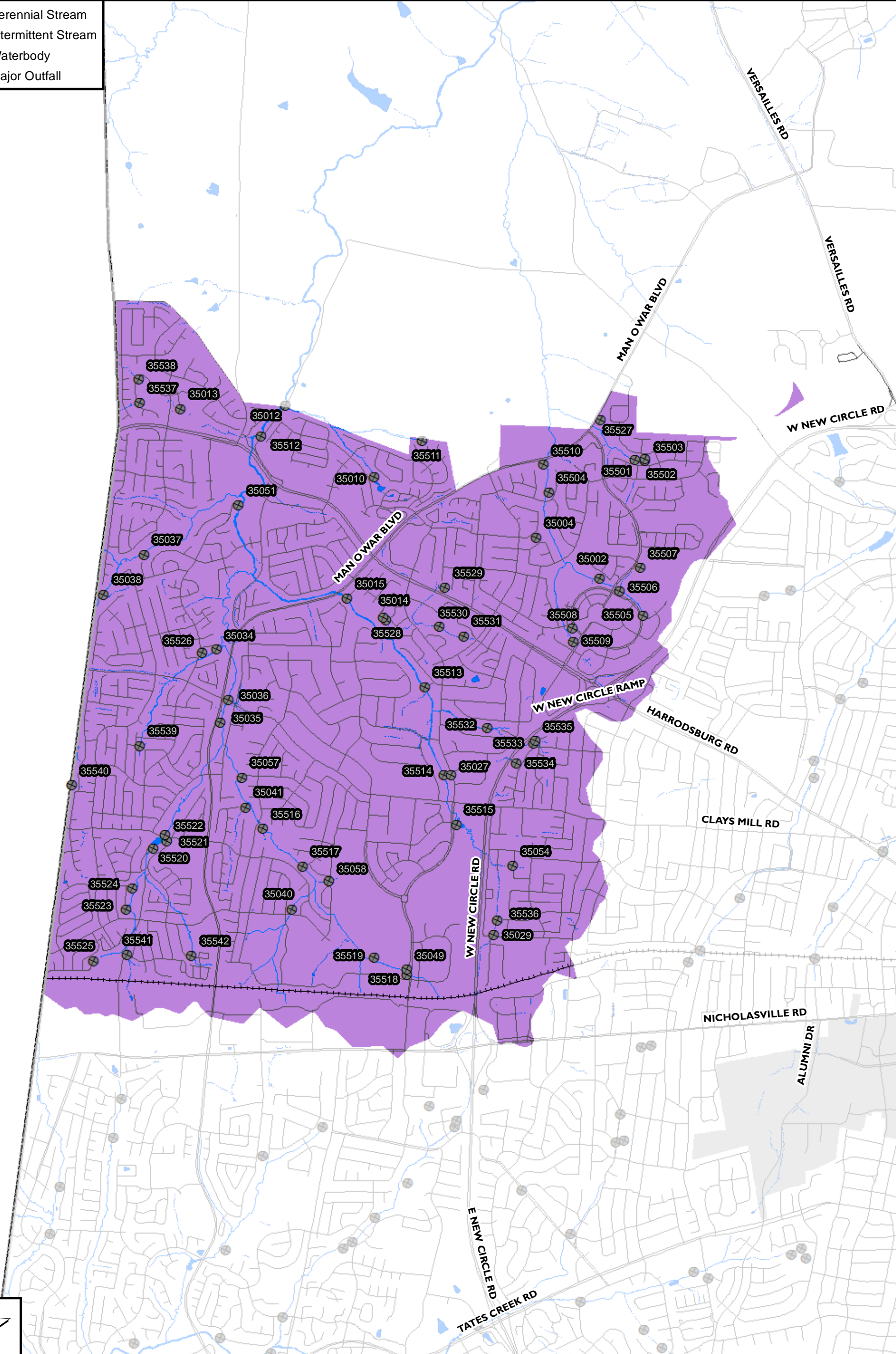
Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

Exhibit 16  
West Hickman Creek

Major Outfalls  
Fayette County,  
Kentucky



- Perennial Stream
- - - Intermittent Stream
- Waterbody
- ⊗ Major Outfall



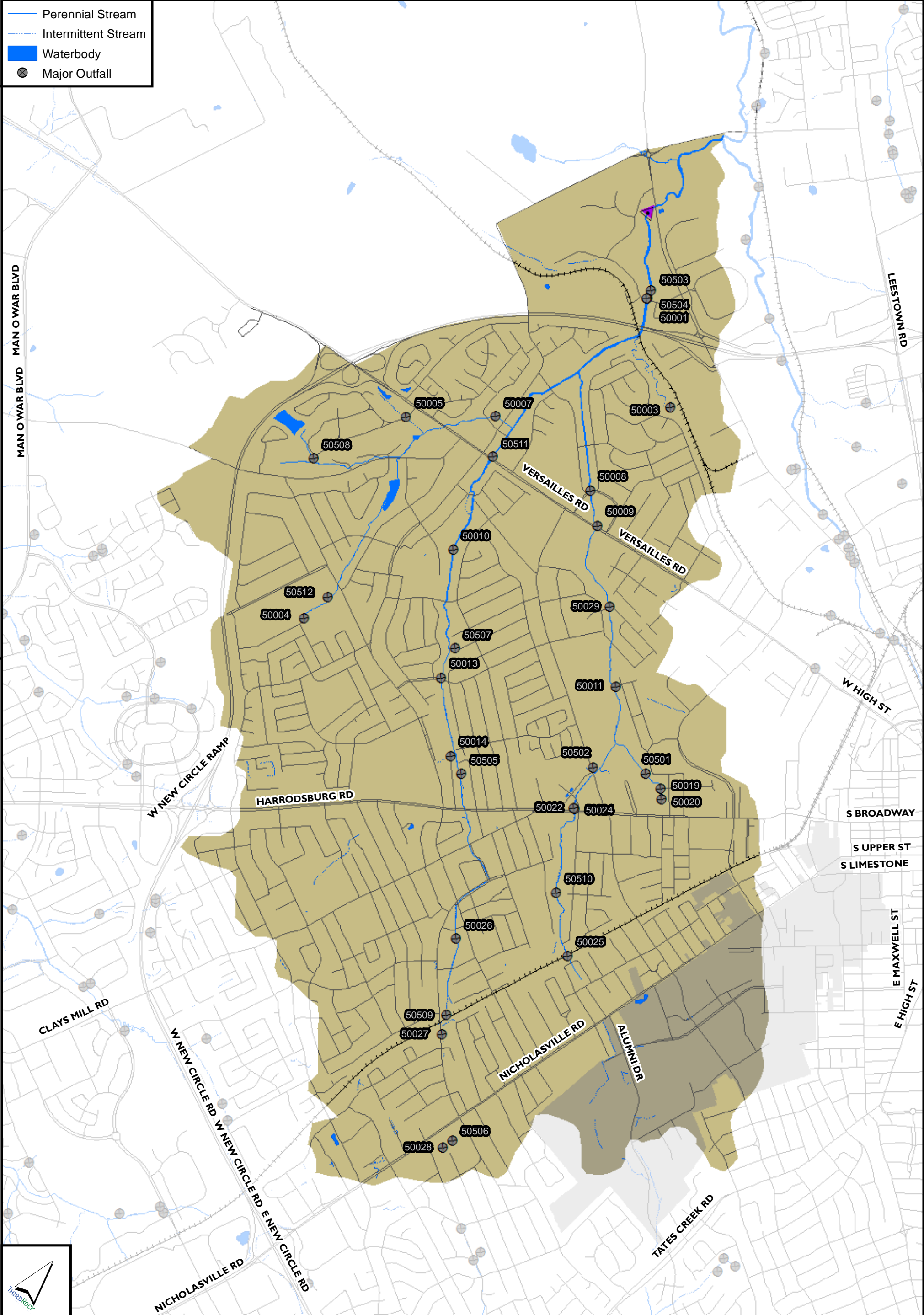
Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

0 1,250 2,500  
Feet

Exhibit 17  
South Elkhorn Creek

Major Outfalls  
Fayette County,  
Kentucky

- Perennial Stream
- - - Intermittent Stream
- Waterbody
- ⊗ Major Outfall



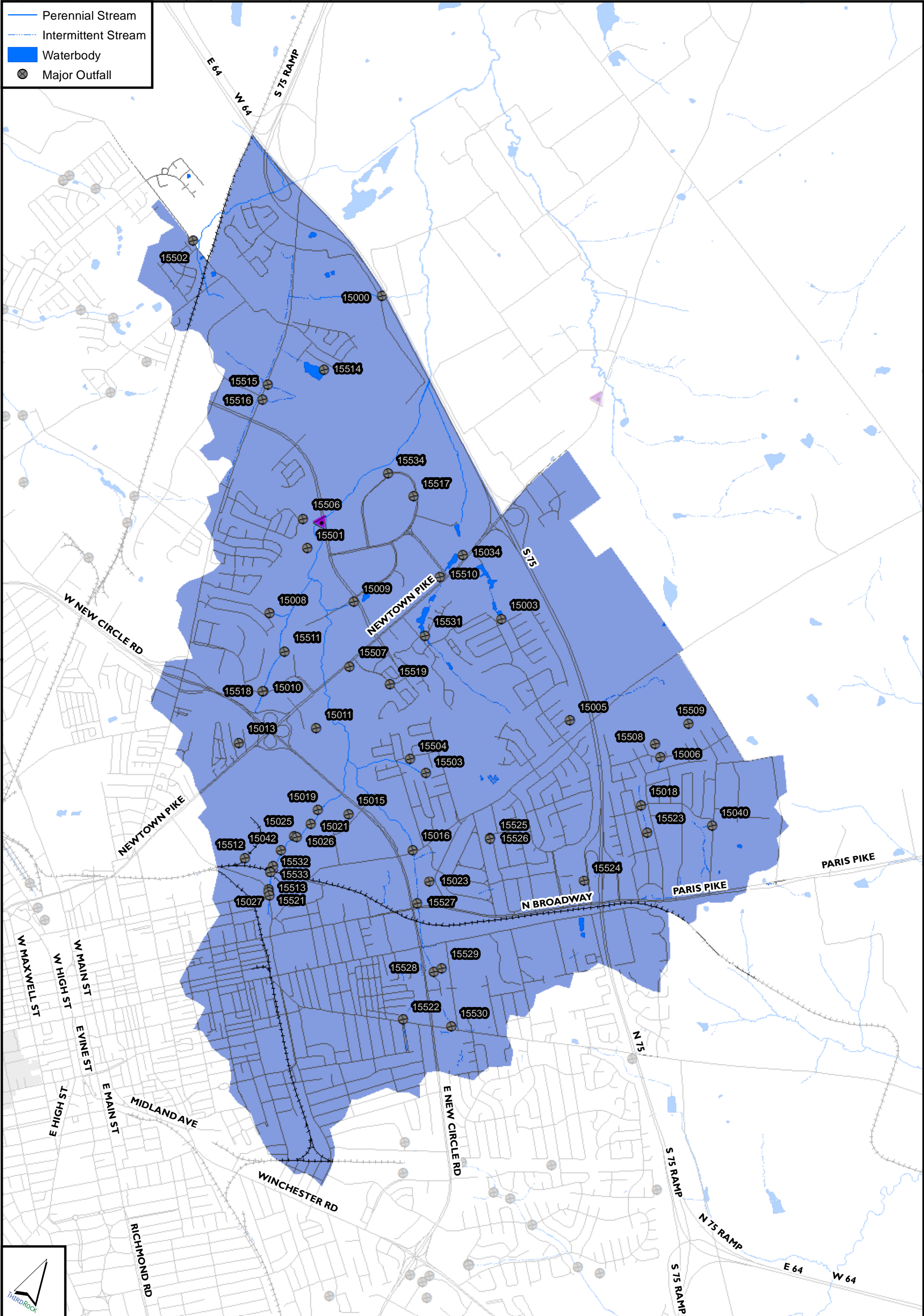
Watershed Focused Monitoring  
 Lexington Urban Service Area  
 Fayette County, Kentucky

0 1,250 2,500  
 Feet

Exhibit 18  
 Wolf Run

Major Outfalls  
 Fayette County,  
 Kentucky

- Perennial Stream
- - - Intermittent Stream
- Waterbody
- Major Outfall



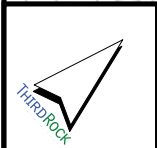
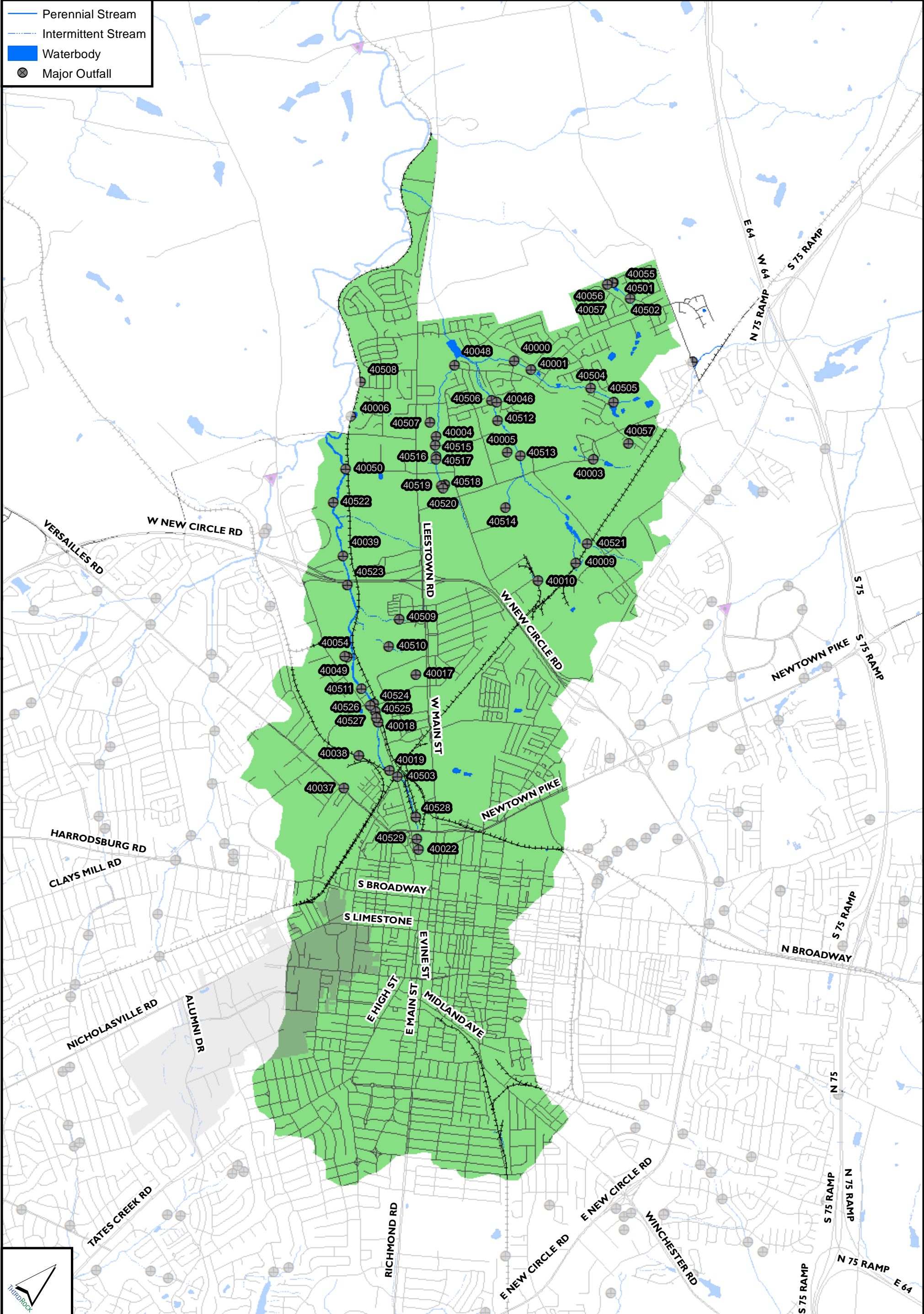
Watershed Focused Monitoring  
 Lexington Urban Service Area  
 Fayette County, Kentucky

0 1,250 2,500  
 Feet

Exhibit 19  
 Cane Run

Major Outfalls  
 Fayette County,  
 Kentucky

- Perennial Stream
- Intermittent Stream
- Waterbody
- Major Outfall



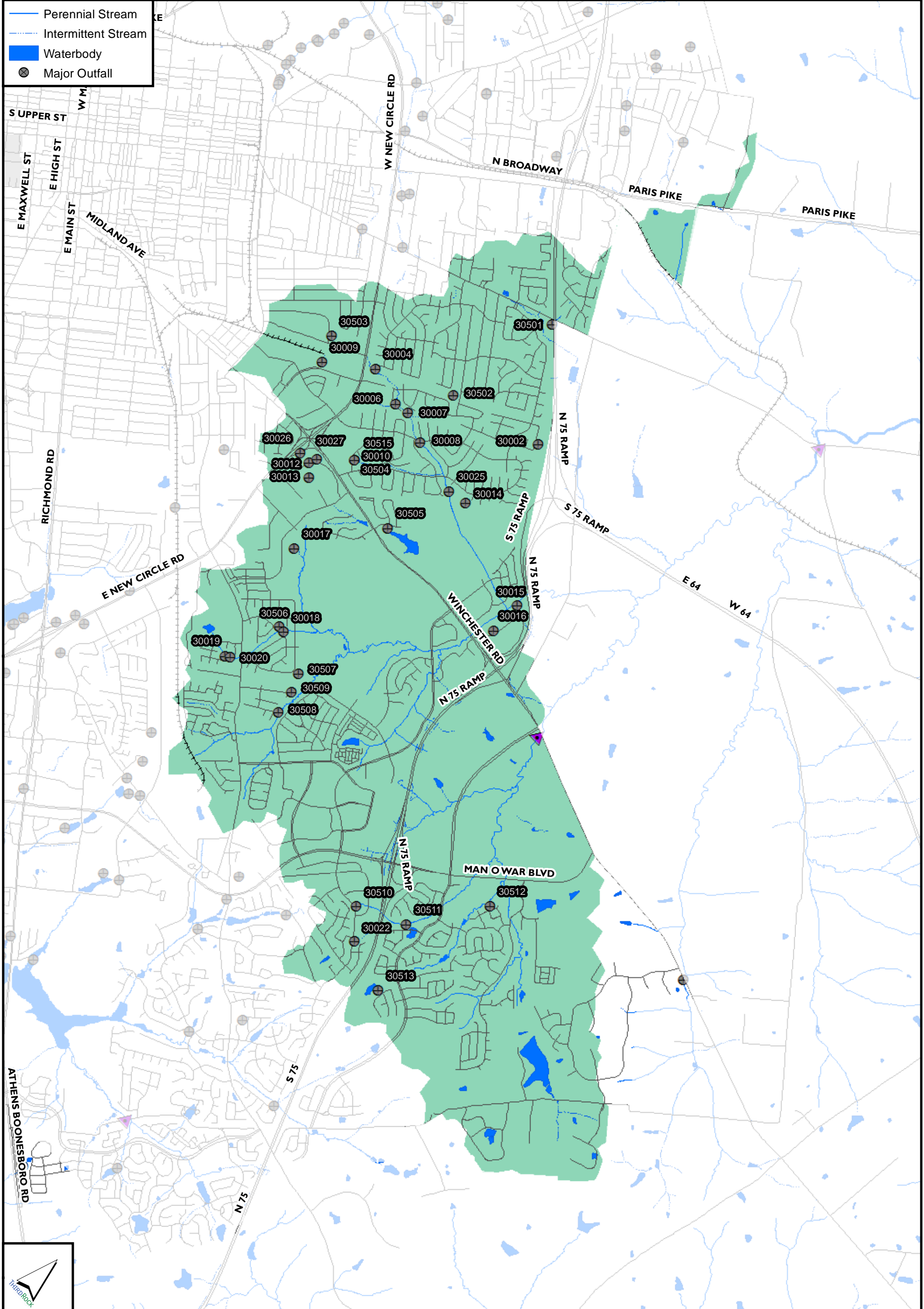
Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

0 1,250 2,500 5,000  
Feet

Exhibit 20  
Town Branch

Major Outfalls  
Fayette County,  
Kentucky

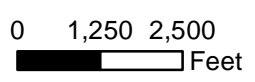




Watershed Focused Monitoring  
Lexington Urban Service Area  
Fayette County, Kentucky

Exhibit 21  
North Elkhorn Creek

Major Outfalls  
Fayette County,  
Kentucky



### Cane Run Watershed Focused Monitoring Locations

Site Id	Location	Sampling Type	Latitude	Longitude
CR-1	Cane Run at I-75	MACRO+WQ	38.107090	-84.499634
CR-2	Cane Run upstream of UNT at RM 12.9 near Lower Pump Station	WQ	38.104565	-84.498776
CR-3	UNT to Cane Run at RM 12.9 at Coldstream Park Trail	WQ	38.103625	-84.495076
CR-4	UNT to Cane Run at RM 12.9 downstream of Pisacano Dr	MACRO	38.099624	-84.489882
CR-5	Cane Run at Citation Blvd	BASE	38.092322	-84.501381
CR-6	Highlands Spring near Citation Blvd	WQ	38.091291	-84.503276
CR-7	UNT to Cane Run behind Eastern State Hospital	WQ	38.084584	-84.499572
CR-8	Cane Run at Newtown Pike	MACRO+WQ	38.080261	-84.492350
CR-9	UNT to Cane Run at 15.7 at LexMark	WQ	38.075682	-84.484965
CR-10	Cane Run at LexMark	WQ	38.074671	-84.484741
CR-11	UNT to Cane Run at 15.6 at LexMark	WQ	38.074155	-84.485888
CR-12	UNT to Cane Run at 15.6 u/s of RJ Corman Railroad near Loudon	WQ	38.064165	-84.487503

### East Hickman Watershed Focused Monitoring Locations

Site Id	Location	Sampling Type	Latitude	Longitude
EH-1	East Hickman at Tates Creek Road	BASE	37.938570	-84.478790
EH-2	East Hickman Creek at DeLong Road	WQ	37.949904	-84.454745
EH-3	DeLong Tributary at DeLong Road	MACRO+WQ	37.954342	-84.454701
EH-4	UNT to East Hickman Creek at Colliver Ln	MACRO+WQ	37.954647	-84.448543
EH-5	East Hickman Creek at DeLong Ln	MACRO+WQ	37.972934	-84.451769
EH-6	Squires Road Tributary at Burkhorn Dr	WQ	37.978371	-84.454848
EH-7	UNT to Richmond Road Tributary behind Walmart	WQ	38.000909	-84.446924
EH-8	Richmond Road Tributary upstream of Richmond Rd	WQ	37.998877	-84.441456
EH-9	Cadentown Branch at Gingermill Ln	WQ	37.997587	-84.422167
EH-10	UNT to East Hickman Cr at Chilesburg Rd	MACRO+WQ	37.988410	-84.411390
EH-11	Andover Creek at golf cart path off Amick Way	MACRO+WQ	37.996950	-84.411910
EH-12	Andover Creek at Autumn Ridge Park	WQ	37.999280	-84.400670

**North Elkhorn Watershed Focused Monitoring Locations**

<b>Site Id</b>	<b>Location</b>	<b>Sampling Type</b>	<b>Latitude</b>	<b>Longitude</b>
NE-1	North Elkhorn Creek at Johnston Rd (KY3327)	MACRO+WQ	38.084566	-84.406570
NE-2	David Fork at Private Drive Bridge off of Royster Rd	MACRO+WQ	38.066467	-84.405250
NE-3	UNT off Private Dr off of Hume Road near I-64 Interchange	WQ	38.056855	-84.424101
NE-4	Bryan Station Cr at Hume Rd	MACRO+WQ	38.050574	-84.420704
NE-5	UNT to Bryan Station Cr at Call Dr	WQ	38.045601	-84.425197
NE-6	Bryan Station Cr u/s of Winchester Rd off horse cemetery trail	MACRO+WQ	38.040331	-84.425096
NE-7	Bryan Station Creek at Old Rosebud Rd	WQ	38.027836	-84.433365
NE-8	North Elkhorn Creek at Winchester Road	BASE	38.039790	-84.411120
NE-9	UNT to North Elkhorn at Polo Club Blvd	WQ	38.030052	-84.412093
NE-10	UNT to North Elkhorn at Man-O-War	WQ	38.026676	-84.404341
NE-11	North Elkhorn Creek at Man-O-War Blvd	WQ	38.028170	-84.401350

**South Elkhorn Watershed Focused Monitoring Locations**

<b>Site Id</b>	<b>Location</b>	<b>Sampling Type</b>	<b>Latitude</b>	<b>Longitude</b>
SE-1	South Elkhorn at Parkers Mill Road	BASE	38.025930	-84.617830
SE-2	Cave Creek at Bowman Mill Road	WQ	38.020876	-84.593757
SE-3	Cave Creek at Man-O-War Blvd	MACRO+WQ	38.018599	-84.576001
SE-4	Bowman Mill Tributary at Mouth	WQ	37.999981	-84.588218
SE-5	South Elkhorn upstream of Harrodsburg Road	MACRO+WQ	37.995606	-84.583966
SE-6	Drive-In Tributary near Rhema Way	WQ	37.991775	-84.582051
SE-7	Stonewall Estates Tributary us Old Higbee Mill Rd	WQ	37.992812	-84.573243
SE-8	South Elkhorn Creek ds Steamboat Road Trib	MACRO+WQ	37.990226	-84.573022
SE-9	South Elkhorn us Clays Mill Road	WQ	37.986989	-84.562537
SE-10	Stonewall Estates Trib at Stonewall Elem, ds Indian Hills Trib	WQ	38.002500	-84.556000
SE-11	Clemens Run at Grassy Creek Dr	WQ	37.983310	-84.556685
SE-12	South Elkhorn us Cromwell Way	MACRO+WQ	37.986390	-84.549834
SE-13	Stonewall Estates Tributary us of Wellington Way	MACRO+WQ	38.001453	-84.543922
SE-14	South Elkhorn at Monticello Blvd	WQ	37.989248	-84.539180
SE-15	UNT to South Elkhorn at Brunswick Rd in Shilitto Park	WQ	37.985618	-84.539896

### Town Branch Watershed Focused Monitoring Locations

Site Id	Location	Sampling Type	Latitude	Longitude
TB-1	Near Bracktown	BASE	38.094230	-84.569680
TB-2	Bracktown Branch downstream of Leestown Road	MACRO+WQ	38.097539	-84.567491
TB-3	Bracktown Branch btwn Ruffian Way and Masterson Station Dr	MACRO+WQ	38.091402	-84.556891
TB-4	UNT to Bracktown Branch at Lucille Dr terminus	WQ	38.088014	-84.548792
TB-5	Branchtown Branch at Greendale Rd	MACRO+WQ	38.086146	-84.533102
TB-6	TB, WR D/S	WQ	38.074896	-84.552422
TB-7	Above Wolf Run	WQ	38.073040	-84.551220
TB-8	TB PLANT D/S	MACRO+WQ	38.066343	-84.540471
TB-9	Above WWTP	WQ	38.059360	-84.528670
TB-10	McConnell Springs	WQ	38.053976	-84.527825
TB-11	collect at mouth of outfall	MACRO+WQ	38.054895	-84.515048
TB-12	downstream of bridge 10 feet	WQ	38.052933	-84.507736

**West Hickman Watershed Focused Monitoring Locations**

<b>Site Id</b>	<b>Location</b>	<b>Sampling Type</b>	<b>Latitude</b>	<b>Longitude</b>
WH-1	Forest Lake Tributary at Ivy Bridge Road	WQ	37.945732	-84.493492
WH-2	Southpoint Tributary at Veterans Park	WQ	37.955363	-84.505411
WH-3	West Hickman Creek at Veterans Park Bridge	BASE	37.959320	-84.503050
WH-4	Emmett Creek at Southpoint Drive	WQ	37.959315	-84.507082
WH-5	West Hickman Creek downstream of Man-O-War	MACRO	37.966949	-84.504001
WH-6	Tiverton Way Tributary at Watertrace Drive Terminus	MACRO	37.966895	-84.506891
WH-7	Tiverton Way Tributary at Man-O-War	WQ	37.971749	-84.511111
WH-8	Wilson Downing Tributary at Belleau Woods Park	WQ	37.972736	-84.499957
WH-9	West Hickman Creek at Wilson Downing Road	WQ	37.974460	-84.499420
WH-10	Lansdowne Tributary at Camelot Drive	WQ	37.982813	-84.507618
WH-11	Mill Creek at Appian Crossing Way	WQ	37.976926	-84.493459
WH-12	Mill Creek at Mill Creek Elementary School	MACRO	37.974530	-84.487974
WH-13	West Hickman Creek at Armstrong Mill Road	WQ	37.980598	-84.490483
WH-14	Tates Creek at Armstrong Mill Road	WQ	37.981734	-84.491374
WH-15	Lansdowne Drive Tributary Upstream of Armstrong Mill	MACRO	37.983393	-84.492707
WH-16	Lansdowne Tributary at Lansdowne Shopping Center	WQ	37.994143	-84.496654
WH-17	Tates Creek at Montavesta Road	WQ	37.998019	-84.493658
WH-18	West Hickman Creek at Centre Parkway	MACRO	37.986126	-84.485158
WH-19	West Hickman Creek at New Circle Road	WQ	37.991261	-84.481026
WH-20	West Hickman Creek at Reservoir Spillway	WQ	37.999610	-84.472370
WH-21	UNT to Reservoir at Lakewood Court	WQ	38.012097	-84.477112
WH-22	UNT to Idle Hour Tributary at St Ann Drive	WQ	38.022094	-84.459508

### Wolf Run Watershed Focused Monitoring Locations

Site Id	Location	Sampling Type	Latitude	Longitude
WR-1	Wolf Run at Old Frankfort Pike	BASE	38.067280	-84.554240
WR-2	McConnel Run at Preston Cave	MACRO+WQ	38.057347	-84.542568
WR-3	Vaughns Branch at Valley Park	WQ	38.054800	-84.549700
WR-4	Wolf Run at Valley Park u/s of Vaughns Branch	MACRO+WQ	38.053500	-84.550900
WR-5	Cardinal Run at Devonport Dr	WQ	38.048900	-84.553600
WR-6	Wolf Run at Wolf Run Park	MACRO+WQ	38.045340	-84.550740
WR-7	Vaughns Branch at Tazwell Dr	WQ	38.044800	-84.536000
WR-8	Wolf Run upstream of Appomattox Road	MACRO	38.036802	-84.545388
WR-9	Gardenside Spring off of Gettysburg Road	WQ	38.035787	-84.544333
WR-10	Vaughns Branch at Picadome Golf Course	MACRO+WQ	38.037439	-84.524675
WR-11	Big Elm Tributary u/s Harrodsburg Rd	WQ	38.031370	-84.525921
WR-12	Wolf Run at Faircrest Dr	WQ	38.030100	-84.537300
WR-13	Spirng Creek at Wolf Run	WQ	38.029400	-84.537400
WR-14	Wolf Run at Lafayette Pkwy	WQ	38.023000	-84.528600



## Cane Run Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
15000	2850 Georgetown Rd	Box	216x60	RCP	1	38.11038756	-84.50797585
15003	1695 Costigan Dr	Round	54	RCP	1	38.09215898	-84.48009587
15005	1896 Feltner Ct	Round	56	RCP	1	38.08776389	-84.46846122
15006	2339 Pierson Dr	Elliptical	30x52	RCP	1	38.08886931	-84.45832987
15008	1071 Redwood Dr	Round	54	RCP	1	38.08293574	-84.50146154
15009	1490 Bull Lea Rd	Round	48	CMP	1	38.08728685	-84.49444425
15010	897 Nandino Blvd	Round	48	RCP	1	38.07701878	-84.49799315
15011	775 Newtown Ct	Round	36	RCP	1	38.07662259	-84.49113954
15013	639 Kennedy Rd	Round	36	RCP	1	38.07229602	-84.49744218
15015	1499 Boardwalk Dr	Round	52	RCP	1	38.07174636	-84.48366279
15016	1501 Russell Cave Rd	Round	36	RCP	1	38.07189642	-84.475915
15018	601 Allen Dr	Elliptical	48x72	CMP	1	38.08457742	-84.45750843
15019	740 W New Circle Rd	Round	36	RCP	1	38.07080284	-84.48667654
15021	740 W New Circle Rd	Round	48	RCP	1	38.06949246	-84.48654117
15023	438 Cane Run Rd	Round	54	RCP	1	38.0702779	-84.47267832
15025	740 W New Circle Rd	Round	36	RCP	1	38.06796351	-84.48710984
15026	740 W New Circle Rd	Round	36	RCP	1	38.06792484	-84.48742138
15027	251 W Loudon Ave	Box	60x144	RCP	1	38.06258336	-84.48657047
15034	1875 Newtown Pk	Round	24	CMP	1	38.09518199	-84.48693535
15040	525 Kingston Rd	Round	36	RCP	2	38.08609231	-84.44999867
15042	1699 McGrathiana Pkwy	Round	36	RCP	1	38.06636528	-84.48790848
15501	1875 Newtown Pk	Round	48	RCP	1	38.08916926	-84.50149141
15502	2811 Spurr Rd	Round	36	RCP	3	38.10646968	-84.52809889
15503	1560 La Salle Dr	Round	48	RCP	1	38.07795335	-84.47881045
15504	1560 La Salle Dr	Round	48	RCP	1	38.07829846	-84.48096741
15506	1980 Alice Dr	Round	48	RCP	1	38.09111684	-84.50338465
15507	760 Newtown Springs Dr	Round	48	RCP	1	38.082422	-84.49133656
15508	2200 Russell Cave Rd	Round	36	RCP	1	38.08962052	-84.45951753
15509	2200 Russell Cave Rd	Round	36	RCP	1	38.09249853	-84.4574876
15510	1500 Aristides Blvd	Round	36	HDPE	1	38.0926478	-84.48784855
15511	1033 Rushwood Ct	Round	36	RCP	1	38.08078717	-84.49804132
15512	740 W. New Circle Rd	Round	72	RCP	1	38.06431763	-84.49077472
15513	251 W. Loudon Ave	Round	15	RCP	1	38.06301242	-84.48691804
15514	2450 Georgetown Rd	Round	48	RCP	1	38.10270272	-84.50937177
15515	2400 Georgetown Rd	Round	48	RCP	1	38.09925963	-84.51366098
15516	2400 Georgetown Rd	Round	54	RCP	1	38.09798905	-84.51339325
15517	1699 McGrathiana Pkwy	Round	36	RCP	1	38.09733433	-84.49455681
15518	897 Nandino Blvd	Round	18	RCP	1	38.07704423	-84.49793602
15519	624 Saunders Springs Way	Round	36	RCP	1	38.08284119	-84.48675529
15521	251 W. Loudon Ave	Round	15	RCP	1	38.06280094	-84.48678749
15522	1443 Bryan Ave	Round	15	RCP	1	38.05922445	-84.46786188
15523	550 Parkside Dr	Box	31x50	RCP	1	38.08289847	-84.45552826
15524	1975 Haggard Ct	Round	42	RCP	1	38.07678062	-84.45873231
15525	564 Southridge Dr	Round	42	RCP	1	38.07596282	-84.46951847
15526	564 Southridge Dr	Round	36	CMP	1	38.07589394	-84.46944342
15527	1601 N Broadway	Round	15	RCP	1	38.06821158	-84.47271421
15528	175 Bryan Center Dr	Round	44	CMP	1	38.06393856	-84.46756403
15529	1624 Old Paris Rd	Elliptical	24x42	RCP	1	38.06457586	-84.46702486
15530	1651 Bryan Station	Round	48	RCP	1	38.06077917	-84.46313716
15531	1710 Newtown Pike	Round	36	RCP	1	38.08777667	-84.48612606
15532	1065 W. Loudon Ave	Round	12	RCP	1	38.06492766	-84.48777487
15533	1051 W. Loudon Ave	Round	18	RCP	1	38.06435016	-84.48766351
15534	1745 McGrathiana Pkwy	-	-	-	-	38.09792385	-84.49809446

### East Hickman Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
20000	389 Pinewood Ct	Box	48x46	RCP	1	38.00945998	-84.43988065
20001	2490 Old Todds Rd	Round	36	CMP	1	38.00862942	-84.43845079
20004	3112 Althrop Way	Round	36	CMP	1	38.00859636	-84.42180196
20006	3188 Stonecase Dr	Round	36	RCP	1	38.00478345	-84.42158607
20007	3351 Cove Lake Dr	Round	54	RCP	1	37.99706776	-84.44455513
20009	2804 Easthills Ct	Round	54	RCP	1	37.99445717	-84.45498086
20010	609 Easthills Ct	Round	48	RCP	1	37.99374251	-84.45483485
20011	3012 Tuscaloosa Ln	Round	36	RCP	1	37.99250118	-84.45423066
20012	3000 Tuscaloosa Ln	Round	36	RCP	1	37.9916018	-84.45354026
20013	440 Squires Rd	Round	48	RCP	1	37.99111807	-84.44721418
20014	2900 Palumbo Dr	Round	42	RCP	1	38.00250667	-84.43188009
20015	160 Prosperous Pl	Round	48	RCP	1	38.00217967	-84.44061481
20016	3475 Blazer Pkwy	Box	30x22	RCP	1	38.00197983	-84.43372713
20019	3359 Cove Lake Dr	Round	54	RCP	1	37.99456542	-84.44371308
20021	150 Shoreside Dr	Elliptical	40x46	RCP	1	37.99183444	-84.43570583
20022	3725 Richmond Rd	Round	48	RCP	1	37.99182935	-84.43188039
20023	150 Shoreside Dr	Elliptical	38x42	RCP	1	37.99070379	-84.43594236
20024	1000 Vero Ct	Round	48	RCP	1	38.00210844	-84.41034742
20027	700 Andover Village Dr	Round	72	RCP	1	37.99782114	-84.41358209
20031	3913 Barnard Dr	Round	42	RCP	1	37.9988792	-84.40063662
20032	3221 Mammoth Dr	Round	36	RCP	1	37.98685689	-84.46416508
20034	625 Squires Rd	Round	16	RCP	1	37.9873133	-84.45190195
20037	2901 Mt McKinley Way	Round	42	RCP	1	37.9817872	-84.4602789
20039	3225 Valhalla Dr	Round	36	RCP	1	37.98227365	-84.45727804
20040	2945 Mt McKinley Way	Round	42	RCP	1	37.97997724	-84.46117308
20041	3332 Smokey Mountain Ct	Round	48	RCP	2	37.97875642	-84.45726675
20042	3296 Buckhorn Dr	Round	36	RCP	1	37.98025702	-84.45186292
20044	3285 Featherston Dr	Round	24, 24, 15	RCP	3	37.97455749	-84.45324385
20045	3720 Buckhorn Dr	Round	48	RCP	1	37.97734496	-84.4503894
20047	2500 Armstrong Mill Rd	Box	72x108	RCP	1	37.9592608	-84.45527351
20048	3628 Timberwood Ln	Round	36	RCP	1	37.95817262	-84.466738
20050	3720 Richmond Rd	Round	15	RCP	1	37.98996216	-84.43473745
20058	4893 Wyndhurst Rd	Round	36, 42	RCP	2	37.95416557	-84.47374957
20501	3180 Richmond Rd	Box	96x96	RCP	1	38.00187104	-84.44716206
20502	3500 Kenesaw Dr	Round	12	RCP	1	37.96766843	-84.46440021
20503	4441 Athens Boonesboro Rd	Round	48	RCP	1	37.97834139	-84.41526077
20504	2261 Armstrong Mill Rd	Round	18	PVC	1	37.96720926	-84.46951168
20505	4437 Marcus Trl	Round	36	RCP	1	37.98452413	-84.40773616
20506	3050 Helmsdale Pl	Round	36	RCP	1	38.01079685	-84.42281032
20507	3225 Brighton Pl	Round	48	RCP	1	38.0115135	-84.41579729
20508	2700 Palumbo Dr	Round	42	RCP	1	38.00918486	-84.43740566
20509	488 Chelsea Woods Dr	Round	36, 36	RCP	2	38.01155003	-84.44006241
20511	457 Larkwood Dr	Round	15	RCP	1	38.01388061	-84.44182375
20514	2311 Armstrong Mill Dr	Round	48	RCP	1	37.96911223	-84.46731124
20515	2360 Woodfield Cir	Round	42	RCP	1	37.95993344	-84.46970102

## North Elkhorn Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
30002	1465 Huntsville Dr	Round	48	RCP	1	38.05761757	-84.43577355
30004	701 Dartmoor Ct	Round	48	RCP	1	38.05143543	-84.45498699
30006	1825 Hisle Way	Round	36	RCP	1	38.05060659	-84.4504573
30007	1842 Chatsworth Dr	Round	42	RCP	1	38.05085217	-84.44869391
30008	1600 Eastland Pkwy	Round	42	RCP	1	38.04988163	-84.44521526
30009	1201 Industry Rd	Round	72	CMP	1	38.04825209	-84.45973274
30010	1713 Jennifer Rd	Round	48	RCP	1	38.04437046	-84.44896981
30012	975 Beasley St	Round	56	RCP	2	38.04116936	-84.45219657
30013	975 Beasley St	Round	30	RCP	1	38.04026367	-84.45102528
30014	2255 Eastland Pkwy	Round	36	RCP	1	38.04919136	-84.4365595
30015	2211 Elkhorn Rd	Round	42	RCP	1	38.04622336	-84.4238509
30016	2261 Elkhorn Rd	Round	36	RCP	1	38.04306401	-84.42357039
30017	2432 Fortune Dr	Round	48	RCP	1	38.03482476	-84.44615387
30018	2216 Walsh Ct	Round	42	RCP	1	38.02901028	-84.43998348
30019	709 Morgan Hills Dr	Round	48	RCP	1	38.02352543	-84.44247289
30020	725 Morgan Hills Dr	Round	42	RCP	1	38.02381633	-84.44200981
30022	1543 Kilkenny Dr	Round	48	RCP	1	38.01443659	-84.40823118
30025	1703 Auburn Cir	Elliptical	36x48	CMP	1	38.0487641	-84.43884402
30026	976 Beasley St	Round	48	RCP	1	38.04115961	-84.45375902
30027	974 Beasley St	Round	60	RCP	1	38.04192509	-84.45194301
30501	1960 Bryan Station	Round	48	RCP	1	38.06600599	-84.44490435
30502	645 Bellcastle Rd	Round	36	RCP	1	38.05499128	-84.44667966
30503	1047 Contract St	Round	42	RCP	1	38.05054137	-84.46117939
30504	1713 Jennifer Rd	Round	24	RCP	1	38.04438596	-84.44894071
30505	1811 Winchester Rd	Round	36	RCP	1	38.04237717	-84.4405569
30506	869 Burkewood Dr	Round	12	RCP	1	38.02899659	-84.44074288
30507	2303 Stonewood Ln	Round	42	RCP	1	38.02737601	-84.43529007
30508	913 Revere Run Rd	Round	30	RCP	1	38.02363796	-84.43353724
30509	945 Gerardi Rd	Round	42	RCP	1	38.02580216	-84.43424348
30510	2080 Bryant Rd	Round	56	RCP	1	38.01681454	-84.41107105
30511	2980 Polo Club Blvd	Round	36	CMP	1	38.0189818	-84.40556862
30512	6660 Man O' War	Round	36	RCP	1	38.0256917	-84.4005724
30513	3280 Sweet Clover Ln	Round	36	RCP	1	38.01301598	-84.40219526
30514	2723 Martinique Ln	-	-	-	-	38.03404053	-84.37916451
30515	1713 Jennifer Rd	Round	54	RCP	1	38.04433725	-84.44891428

## South Elkhorn Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
35002	3201 Beaumont Centre Ln	Round	36	RCP	1	38.01842213	-84.5618675
35004	3384 Lyon Dr	Round	36	CMP	1	38.01477412	-84.5678785
35010	4049 Palmetto Dr	Flume	48x8	RCP	1	38.00424343	-84.57913748
35012	2651 Bowman Mill Rd	Box	54x108	RCP	1	37.99949723	-84.58893657
35013	2500 Lenlake Ct	Round	42	RCP	1	37.99154719	-84.59223364
35014	1977 Mt Joy Pl	Elliptical	46x54	RCP	1	38.00114893	-84.56552929
35015	1973 Favell Ct	Round	42	RCP	1	37.99894502	-84.56855743
35027	644 Wellington Way	Elliptical	24x56	RCP	2	38.00193921	-84.54828202
35029	601 Wellington Way	Round	48	RCP	2	38.00082454	-84.53170324
35034	4208 Heathmoor Ct	Round	36	RCP	1	37.98774261	-84.5682253
35035	1280 Higbee Mill Rd	Round	36	RCP	1	37.98609821	-84.56114543
35036	1400 Clays Mill Rd	Box	78x780	RCP	1	37.98727257	-84.56304015
35037	4353 Clemens Dr	Round	36	RCP	1	37.98487358	-84.57965418
35038	1412 Glenview Dr	Round	42	RCP	1	37.98079295	-84.57724412
35040	3451 Winthrop Dr	Round	42	RCP	1	37.98640175	-84.54096504
35041	3500 Cephas Ct	Round	36	RCP	1	37.98566912	-84.55225704
35049	3600 W Reynolds Rd	Round	36	RCP	1	37.99339761	-84.53139189
35051	2125 Twain Ridge Rd	Round	36	RCP	1	37.99330001	-84.58109489
35054	448 Kimberly Pl	Box	36x95	RCP	1	38.00413097	-84.53764995
35057	3521 Birkenhead Ct	Round	36	RCP	1	37.98619234	-84.55519705
35058	508 Monticello Blvd	Round	42	RCP	2	37.98994048	-84.54243369
35501	2252 Savannah Ln	Round	48	RCP	1	38.02427248	-84.57186129
35502	2240 Savannah Ln	Round	48	RCP	1	38.02494065	-84.57144265
35503	2233 Guilford Ln	Round	54	RCP	1	38.02503271	-84.57165385
35504	3293 Malone Dr	Round	48	RCP	1	38.01689312	-84.5717102
35505	3155 Beaumont Centre Cir	Round/ Elliptical	42x36;36	RCP	2	38.02065208	-84.55688086
35506	3199 Beaumont Centre Cir	Round	52	CMP	1	38.01957336	-84.5599623
35507	3199 Beaumont Centre Cir	Round	36	RCP	1	38.02174348	-84.5615261
35508	3401 Beaumont Centre Cir	Round	42	RCP	1	38.01499152	-84.55805068
35509	3401 Beaumont Centre Cir	Round	48	CMP	3	38.01470767	-84.55676787
35510	2249 Lovell Ct	Round	48	RCP	1	38.01727915	-84.57459025
35511	2209 Silktree Ct	Round	36	RCP	1	38.00878634	-84.58097892
35512	2451 Bowman Mill Rd	Round	38	RCP	1	37.99686723	-84.58684446
35513	801 Blenheim Ct	Round	42	CMP	1	38.00234389	-84.55750157
35514	648 Wellington Way	Elliptical	32x52	RCP	1	38.00142085	-84.54856414
35515	601 Wellington Way	Round	36	RCP	1	38.00099793	-84.54341116
35516	529 Cromwell Way	Round	36	RCP	1	37.98642171	-84.54969291
35517	546 Halifax Dr	Round	38	RCP	1	37.98833701	-84.54470811
35518	300 W Reynolds Rd	Round	52	RCP	1	37.99323002	-84.53083808
35519	300 W Reynolds Rd	Round	42	RCP	1	37.99122729	-84.53364498
35520	730 Millpond Rd	Round	42	RCP	1	37.97762029	-84.55156602
35521	750 Millpond Rd	Round	36	RCP	1	37.97884498	-84.5517504
35522	3801 Boston Rd	Round	48	RCP	1	37.97893846	-84.5524322
35523	3765 Winthrop Dr	Round	48	RCP	3	37.97393498	-84.54665301
35524	3765 Winthrop Dr	Round	48	RCP	1	37.97501362	-84.54845044
35525	337 Silverbell Tr	Round	48	RCP	2	37.97011579	-84.54286539
35526	4240 Heathmoor Ct	Round	36	RCP	1	37.98655913	-84.56836082
35527	1505 Man O' War	Round	42	RCP	1	38.02278605	-84.5768684
35528	1948 Westmeath Pl	Round	36	RCP	1	38.00126112	-84.56516104
35529	2121 Sallee Dr	Round	38	RCP	1	38.00657074	-84.56624887
35530	3598 Rabbits Foot Tr	Round	42	RCP	1	38.00511245	-84.56277988
35531	3598 Rabbits Foot Tr	Round	54	RCP	1	38.00664615	-84.56103743
35532	3125 Chatham Dr	Round	24	RCP	1	38.00593998	-84.55157013
35533	2949 Waco Rd	Round	40	RCP	1	38.00900536	-84.54852221

### South Elkhorn Watershed Major Outfall Locations (Continued)

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
35534	3005 Crab Apple Ct	Round	42	RCP	1	38.00719204	-84.54723354
35535	716 Dardanelles Dr	Round	36	RCP	1	38.00920675	-84.54870276
35536	727 Stone Rd	Round	42	RCP	1	38.0014682	-84.53297264
35537	4856 Waterside Dr	Round	36	RCP	2	37.9886352	-84.59420834
35538	4832 Waterside Dr	Round	36	RCP	2	37.98919502	-84.59646568
35539	1065 Moylan Ln	Round	56	RCP	1	37.97939019	-84.56169882
35540	904 Redberry Cir	Round	32	RCP	1	37.97322178	-84.56034421
35541	3860 Lochdale Ter	Round	54	RCP	1	37.97279742	-84.54227406
35542	3680 Winthrop Dr	Round	60	RCP	1	37.97761861	-84.54001805

### Town Branch Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
40000	328 Masterson Station Dr	Round	48	RCP	1	38.09298995	-84.5440977
40001	334 Masterson Station Dr	Round	60	RCP	1	38.09363837	-84.54167674
40003	1055 Greendale Rd	Round	36	RCP	2	38.09209715	-84.52759234
40004	101 Mercer Ct	Round	42	CMP	3	38.08177744	-84.54367467
40005	2053 Buck Ln	Round	24	RCP	2	38.08602507	-84.53585553
40006	395 Alexandria Dr	Round	58	RCP	1	38.0766979	-84.55323664
40009	1661 Jaggie Fox Way	Round	42	RCP	1	38.0835025	-84.51919229
40010	1601 Baumann Rd	Elliptical	60x72	CMP	1	38.07935009	-84.52084839
40017	120 Lisle Industrial Ave	Box	44x87	RCP	1	38.06347596	-84.52268458
40018	190 Manchester St	Round	42	RCP	1	38.05730714	-84.52147556
40019	1158 Manchester St	Elliptical	28x36	CMP	1	38.05477379	-84.5158767
40022	142 Manchester St	Box	60x96	RCP	3	38.05140572	-84.50568619
40037	1155 Versailles Rd	Elliptical	36x64	RCP	1	38.05008215	-84.51823038
40038	1270 Manchester St	Round	48x54	CMP	1	38.05352267	-84.52004364
40039	601 Bizzell Dr	Round	36	rCP	1	38.0662458	-84.54054953
40046	2704 Mable Ln	Round	36	RCP	1	38.08877823	-84.54159478
40047	2980 Majestic View Walk	Round	48	RCP	1	38.10539641	-84.54312251
40048	189 Lucille Dr	Round	36	RCP	1	38.08819136	-84.54889354
40049	1631 Old Frankfort Pk	Round	24	RCP	1	38.05937311	-84.53076862
40050	172 Trade St	Round	56	RCP	1	38.07263379	-84.54859941
40054	416 Sandersville Rd	Round	24	RCP	1	38.05959307	-84.53049133
40055	400 Masterson Station Dr	Round	36	RCP	1	38.10601054	-84.54276126
40056	2921 Summerfield Dr	Round	36	RCP	1	38.10539903	-84.5431017
40057	145 Masterson Station Dr	Round	56	RCP	1	38.09586225	-84.52590699
40501	3076 Sandersville Rd	Round	36	RCP	1	38.10597993	-84.5427765
40502	3076 Sandersville Rd	Round	52	RCP	1	38.10612097	-84.5397101
40503	1115 Manchester St	Elliptical	24x36	RCP	2	38.05499061	-84.51456667
40504	652 Skyview Ln	Round	36	RCP	1	38.09684574	-84.53466164
40505	717 Lucille Dr	Round	48	RCP	1	38.09761988	-84.5313066
40506	353 Spring Valley Dr	Round	36	RCP	1	38.08846671	-84.54230205
40507	2601 Leestown Rd	Round	36, 24	RCP	2	38.08224012	-84.54562204
40508	281 Chestnut Ridge Dr	Round	36	RCP	1	38.07983666	-84.55562653
40509	158 Hatter Ln	Round	72	RCP	1	38.06610702	-84.52953641
40510	195 Lisle Industrial Ave	Round	56	HDPE	1	38.06342438	-84.52779021
40511	1345 Old Frankfort Pk	Round	72	CMP	1	38.05842051	-84.52621422
40512	574 Horton Ct	Round	24	RCP	1	38.08758261	-84.53979647
40513	2516 Sandersville Rd	Round	24	RCP	1	38.0868036	-84.5343883
40514	440 Greendale Rd	Round	12	RCP	1	38.08205884	-84.5307356
40515	100 Mercer Ct	Round	36	RCP	1	38.0810491	-84.54295189
40516	2048 Mercer Rd	Round	24	HDPE	1	38.08034683	-84.54182607
40517	2048 Mercer Rd	Round	18	HDPE	1	38.08018514	-84.54157516
40518	2008 Mercer Rd	Round	24	RCP	1	38.07906774	-84.53832292
40519	2008 Mercer Rd	Round	36	RCP	1	38.07870999	-84.53860794
40520	2008 Mercer Rd	Round	48	CMP	1	38.0786178	-84.5381349
40521	2300 Sandersville Rd	Round	32	RCP	1	38.08568437	-84.51999682
40522	669 Byrd Thurman	Round	30	RCP	1	38.06930347	-84.54654703
40523	1631 Old Frankfort Pike	Round	24	RCP	1	38.06461398	-84.53742566
40524	181 S Forbes	Round	22	RCP	1	38.05826427	-84.52368768
40525	1265 Manchester St	Round	14	RCP	1	38.05781794	-84.52271578
40526	1295 Manchester St	Elliptical	30x15	RCP	2	38.05787387	-84.52381777
40527	1265 Manchester St	Round	24	RCP	1	38.05747471	-84.52213895
40528	903 Manchester St	Box	36x36	RCP	2	38.05348016	-84.50901863
40529	809 Manchester St	Round	36	RCP	1	38.05200896	-84.50692514

## West Hickman Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
45002	268 Zandale Dr	Elliptical	36x58	CMP	2	38.00546844	-84.5104067
45003	336 Greenbriar Rd	Box	36x60	RCP	2	38.0050788	-84.50777865
45005	612 Galaxie Dr	Round	48	RCP	1	38.01543559	-84.4914798
45006	956 Turkeyfoot Rd	Box	52x96	RCP	1	38.0155041	-84.49034244
45008	1891 Blairmore Ct	Round	42	RCP	1	38.01216747	-84.47717171
45009	812 Turkeyfoot Rd	Round	48	RCP	1	38.00764896	-84.49180244
45010	1574 Lakewood Ct	Round	36	RCP	1	38.01070283	-84.4780665
45011	260 Old Mt Tabor Rd	Round	48	RCP	1	38.0066917	-84.49295061
45014	2397 E New Circle Rd Ramp	Box	92x120	RCP	2	38.0143789	-84.45866073
45015	245 Codell Dr	Box	36x84	RCP	2	38.01611968	-84.45631023
45016	503 Laketower Dr	Round	42	RCP	1	38.00797514	-84.47039155
45017	200 Patchen Dr	Box	48x54	RCP	1	38.00781107	-84.45833658
45018	300 Zandale Dr	Elliptical	34x58	RCP	2	38.00438971	-84.50784997
45019	2650 Wilhite Ct	Round	60	RCP	1	37.99591411	-84.51734122
45020	3240 Loch Ness Dr	Round	72	RCP	1	37.99137561	-84.51767548
45024	3190 Monavesta Rd	Round	36	RCP	1	38.00142319	-84.48910327
45027	3310 Monavesta Rd	Round	36	RCP	1	37.99739841	-84.49401322
45028	1025 Chinoe Rd	Round	48	RCP	1	37.99912738	-84.48127236
45029	3538 Cheddington Ln	Round	84	CMP	1	37.99719201	-84.47825988
45031	1050 Chinoe Rd	Round	36	RCP	1	37.99686175	-84.47782206
45032	1132 Chinoe Rd	Round	54	RCP	1	37.99289077	-84.48155361
45034	3050 Kirklevington Dr	Round	54	RCP	1	37.98891591	-84.49541176
45035	3051 Kirklevington Dr	Round	36	RCP	1	37.98905768	-84.49528993
45036	660 Lakeshore Dr	Round	54	RCP	1	38.00439368	-84.4619625
45038	899 Edgewater Dr	Round	48	RCP	1	37.99770054	-84.46448187
45039	3434 Greenlawn Dr	Round	24	CMP	1	37.98762833	-84.5111025
45040	387 Lancelot Ln	Round	36	RCP	1	37.98427873	-84.50901624
45043	205 Tulane Dr	Box	48x72	RCP	1	37.98281339	-84.51935446
45044	443 Lancelot Dr	Round	36	RCP	1	37.98190102	-84.50742103
45045	3395 Spangler Dr	Elliptical	36x45	RCP	2	37.98109325	-84.50718053
45046	372 Harvard Dr	Round/Elliptical	60/41x5	RCP/CMP	2	37.97756347	-84.51865038
45049	3500 Greentree Rd	Round	36	RCP	1	37.98482829	-84.48639697
45051	1100 Armstong Mill Rd	Round	42	RCP	1	37.97930468	-84.49320689
45052	4071 Wilson Downing Rd	Round	72	CMP	1	37.97277914	-84.49963768
45053	1265 Dale Dr	Round	36	RCP	1	37.97393768	-84.48651699
45054	1304 Ox Hill Dr	Round	48	RCP	1	37.97350425	-84.48327471
45056	4081 Foxe Basin Rd	Round	42	RCP	1	37.968511	-84.52886178
45058	221 Bittersweet Way	Round	36	RCP	1	37.9668228	-84.52547798
45060	456 Amberley Dr	Round	42	RCP	1	37.96150652	-84.52265098
45061	729 Clayvis Ct	Round	36	RCP	1	37.9628602	-84.50524121
45062	4131 Tates Creek Centre	Round	56	CMP	1	37.9699004	-84.49994869
45063	4417 Lancaster Ct	Round	36	RCP	1	37.9640354	-84.49481914
45065	1105 Ledgebrook Ct	Round	36	RCP	1	37.96351044	-84.49132434
45068	801 Edgewood Dr	Flume	D:120,T:62,B:40	Concrete	1	37.94891859	-84.50030271
45069	4516 Longbridge Ln	Round	48	CMP	1	37.95426715	-84.49971052
45070	4505 Brookglen Pl	Round	54	RCP	1	37.9531949	-84.49974544
45075	1074 Forest Lake Dr	Round	84	CMP	1	37.95361877	-84.4888781
45084	600 Lakeshore Dr	Box	120x140	RCP	1	38.00277125	-84.46728776
45086	863 Edgewater Dr	Round	42	RCP	1	38.00008852	-84.46358459
45090	2397 Richmond Rd	Box	72x72	RCP	1	38.01606767	-84.45768151
45094	3565 Olympia Rd	Round	42	RCP	1	37.98148021	-84.48862564
45095	1111 Centre Pkwy	Round	54	RCP	2	37.98729737	-84.48136253
45098	3621 Barrow Woods Ln	Round	36	RCP	1	37.99865081	-84.47348691
45100	790 Zandale Dr	Box	60x42	RCP	1	37.99852498	-84.50069338

### West Hickman Watershed Major Outfall Locations (Continued)

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
45501	4809 Laurel Creek Cir	Round	36	RCP	2	37.95976516	-84.48341926
45502	1232 Four Wynds Trl	Round	15	RCP	1	37.96338791	-84.4892014
45503	1105 Aldridge Way	Round	8	RCP	1	37.95502093	-84.48725406
45504	3770 Forest Green Dr	Round	12	RCP	1	37.96942336	-84.5028723
45505	3751 Appian Way	Round	42	RCP	1	37.97574863	-84.49695099
45506	3500 Arbor Dr	Round	36	RCP	1	37.97040176	-84.47632432
45507	3430 Pimlico Pkwy	Round	60	RCP	1	37.9854144	-84.47703571
45508	3474 Pimlico Pkwy	Round	24	RCP	1	37.98356859	-84.47444914
45509	2300 Richmond Rd	Round	40	RCP	1	38.01128053	-84.4618671
45510	2300 Richmond Rd	Round	36	RCP	1	38.01147041	-84.46178201
45511	2300 Richmond Rd	Round	40	RCP	1	38.01244651	-84.4615793
45512	205 Codell Dr	Round	24	RCP	1	38.01271057	-84.45570019
45513	212 St Ann Dr	Round	48	RCP	1	38.02124047	-84.45557191
45514	1440 E New Circle	Round	36	RCP	1	38.0239565	-84.45544193
45515	1815 Richmond Rd	Round	36	RCP	1	38.02943523	-84.45898502
45516	3190 Montavesta Rd	Round	48	RCP	1	38.0023143	-84.48683098
45517	956 Turkey Foot Rd	Round	36	RCP	1	38.01448965	-84.49118865
45518	700 Kirkland Dr	Round	56	RCP	1	37.99599475	-84.50652447
45519	604 Pebble Creek Dr	Round	36	RCP	1	37.97464896	-84.50270723
45520	3467 Lansdowne	Round	42	RCP	1	37.99270118	-84.51482771
45521	266 Argonne Cir	Round	48	RCP	1	37.99304696	-84.51538041
45522	3885 Belleau Wood Dr	Round	36	RCP	1	37.9721853	-84.51099027
45523	453 Southpoint Dr	Round	28	RCP	1	37.95944561	-84.51850583
45524	1728 Wyatt Pkwy	Round	36	RCP	1	38.03629249	-84.46000876
45525	1365 Dale Dr	Round	36	RCP	1	37.97131452	-84.48177759
45526	4484 Saron Dr	Round	36	RCP	1	37.95961919	-84.4980624



### Wolf Run Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
50001	751 Enterprise Dr	Round	48	RCP	1	38.06193608	-84.54978485
50003	1937 Dunkirk Dr	Cave	240	Natural	1	38.05727045	-84.54217185
50004	1050 Georgian Way	Octagonal	36x48x72	RCP	1	38.03025613	-84.55457395
50005	1208 Colonial Dr	Round	26	RCP	3	38.04519573	-84.55897552
50007	1321 Alexandria Dr	Round	42	RCP	1	38.04915206	-84.5531784
50008	1923 Oxford Cir	Round	48	RCP	1	38.04944029	-84.54285055
50009	1828 Versailles Rd	Box	120x120	RCP	2	38.0479611	-84.54041196
50010	1036 Della Dr	Round	28	RCP	1	38.04035012	-84.54854567
50011	802 Golfview Dr	Round	60	RCP	1	38.04040531	-84.53032259
50013	1920 Beacon Hill Rd	Box	48x120	RCP	1	38.03320578	-84.54222782
50014	805 Allendale Dr	Box	48x144	RCP	1	38.02953728	-84.53728653
50019	1215 Duncan Ave	Round	36	RCP	1	38.03704867	-84.52170798
50020	1215 Duncan Ave	Box	48x114	RCP	1	38.03654118	-84.52106987
50022	1451 Harrodsburg Rd	Box	60x174	RCP	1	38.03224396	-84.52622894
50024	1451 Harrodsburg Rd	Round	36	RCP	1	38.03225728	-84.5263301
50025	312 Dantzer Ct	Box	36x120	RCP	1	38.02427588	-84.51848244
50026	90 Southport Dr	Round	36	RCP	2	38.02030325	-84.52681642
50027	287 Southland Dr	Box	36x96	RCP	1	38.01470954	-84.52245361
50028	2134 Nicholasville Rd	Box	36x60	RCP	1	38.00885576	-84.51603722
50029	1493 Pine Meadow Rd	Round	36	RCP	1	38.04427169	-84.53515584
50501	500 Addison Ave	Round	24	CMP	1	38.03716639	-84.52351789
50502	469 Parkway Dr	Round	30	RCP	1	38.03517155	-84.52732214
50503	731 Enterprise Dr	Round	48	RCP	1	38.0624702	-84.54994297
50504	751 Enterprise Dr	Round	36	HDPE	1	38.06194566	-84.5497189
50505	842 Spring Meadows Dr	Round	36	RCP	1	38.02911913	-84.53561133
50506	2128 Nicholasville Rd	Box	88x36	RCP	1	38.00964648	-84.5158692
50507	1835 Yorktown Rd	Round	16	RCP	1	38.03531732	-84.54297316
50508	1299 Standish Way	Round	36	RCP	1	38.03900906	-84.56280898
50509	301 Southland Dr	Round	60	RCP	1	38.0158862	-84.52321
50510	396 Bob O Link Dr	Round	24	RCP	1	38.02705681	-84.52271966
50511	2233 Versailles Rd	Round	48	CMP	1	38.04694354	-84.5510737
50512	1050 Lane Allen Rd	Round	36	RCP	1	38.0323997	-84.55419057

**EXHIBIT B**

**CERTIFICATE OF INSURANCE**



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

3/05/2024

**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 have ADDITIONAL INSURED provisions or 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 any rights to the certificate holder in lieu of such endorsement(s).**

<b>PRODUCER</b> Marsh & McLennan Agency LLC 360 East Vine Street, Ste 200 Lexington, KY 40507 859 254-8023	<b>CONTACT NAME:</b> Darlene Curry		
	<b>PHONE (A/C, No, Ext):</b> -	<b>FAX (A/C, No):</b>	
	<b>E-MAIL ADDRESS:</b> Darlene.Curry@MarshMMA.com		
	INSURER(S) AFFORDING COVERAGE		NAIC #
	<b>INSURER A :</b> Homeland Insurance Company of New York		34452
	<b>INSURER B :</b> Bridgefield Casualty Ins. Company		10335
<b>INSURER C :</b> The Cincinnati Insurance Company		10677	
<b>INSURER D :</b>			
<b>INSURER E :</b>			
<b>INSURER F :</b>			

**INSURED**  
 Third Rock Consultants, LLC  
 2526 Regency Road, Suite 180  
 Lexington, KY 40503-2995

**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.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
<b>A</b>	<b>COMMERCIAL GENERAL LIABILITY</b>			<b>7930088810004</b>	<b>01/01/2024</b>	<b>01/01/2025</b>	EACH OCCURRENCE <b>\$5,000,000</b> DAMAGE TO RENTED PREMISES (Ea occurrence) <b>\$100,000</b> MED EXP (Any one person) <b>\$10,000</b> PERSONAL & ADV INJURY <b>\$5,000,000</b> GENERAL AGGREGATE <b>\$5,000,000</b> PRODUCTS - COMP/OP AGG <b>\$5,000,000</b> \$
	CLAIMS-MADE <input type="checkbox"/> OCCUR <input checked="" type="checkbox"/> GEN'L AGGREGATE LIMIT APPLIES PER: POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER:						
<b>C</b>	<b>AUTOMOBILE LIABILITY</b>			<b>EPP0225228</b>	<b>01/01/2024</b>	<b>01/01/2025</b>	COMBINED SINGLE LIMIT (Ea accident) <b>\$1,000,000</b> BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> ANY AUTO HIRED AUTOS ONLY <input checked="" type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS ONLY <input checked="" type="checkbox"/>						
<b>A</b>	<b>UMBRELLA LIAB</b>			<b>7930117600001</b>	<b>01/01/2024</b>	<b>01/01/2025</b>	EACH OCCURRENCE <b>\$2,000,000</b> AGGREGATE <b>\$2,000,000</b> \$
	EXCESS LIAB <input checked="" type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> DED <input type="checkbox"/> RETENTION \$ <b>0</b>						
<b>B</b>	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b>			<b>19616037</b>	<b>01/01/2024</b>	<b>01/01/2025</b>	X PER STATUTE    OTH-ER <input type="checkbox"/> E.L. EACH ACCIDENT <b>\$1,000,000</b> E.L. DISEASE - EA EMPLOYEE <b>\$1,000,000</b> E.L. DISEASE - POLICY LIMIT <b>\$1,000,000</b>
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input checked="" type="checkbox"/> Y / N <input type="checkbox"/> (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N/A				
<b>A</b>	<b>Professional</b>			<b>7930088810004</b>	<b>01/01/2024</b>	<b>01/01/2025</b>	<b>\$5,000,000 Per Claim</b> <b>\$5,000. Deductible</b>

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

**\*\* Workers Comp Information \*\***

**Proprietors/Partners/Executive Officers/Members Excluded:**

**Molly Foree-Cummins, Member**

**(See Attached Descriptions)**

CERTIFICATE HOLDER	CANCELLATION
Lexington-Fayette Urban County Government 200 East Main Street Lexington, KY 40507	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 

## DESCRIPTIONS (Continued from Page 1)

**Policy #7930088810004**

**Policy Term: 1/01/2024 - 1/01/2025**

**Contractors Environmental Liability: \$5,000,000 Limit with \$5,000 Deductible**

**\$5,000,000 Combined Policy Aggregate limit applies to General Liability,  
Professional Liability and Contractors Environmental Liability.**

**Lexington-Fayette Urban County Government is included as Additional Insured when required by written contract, agreement or permit but only with respect to the General Liability and Auto Liability insurance and subject to the provisions and limitations of the policy.**

**General Liability is written on a primary and non-contributory basis when required by written contract, agreement or permit and subject to the provisions and limitations of the policy.**

**30 day Notice of Cancellation applies.**

**EXHIBIT C**

**PROPOSAL OF ENGINEERING SERVICES**

**AND RELATED MATTERS**



**LEXINGTON**

**RFP-52-2023**

**Third Rock Consultants, LLC**

**Supplier Response**

**Event Information**

Number: RFP-52-2023  
Title: Engineering Services for Design of New Water Quality Feature  
Type: Request For Proposal  
Issue Date: 12/28/2023  
Deadline: 1/18/2024 02:00 PM (ET)

**Contact Information**

Contact: Brian Marcum  
Address: Central Purchasing  
Government Center Building  
200 East Main Street  
Lexington, KY 40507  
Phone: (859) 2583320  
Fax: (859) 2583322  
Email: [brianm@lexingtonky.gov](mailto:brianm@lexingtonky.gov)

## Third Rock Consultants, LLC Information

Address: 2526 Regency Road  
Suite 180  
Lexington, KY 40503  
Phone: (859) 977-2000  
Web Address: [www.thirdrockconsultants.com](http://www.thirdrockconsultants.com)

ONLY ONLINE BIDS WILL BE ACCEPTED! By submitting your response, you certify that you are authorized to represent and bind your company and that you agree to all bid terms and conditions as stated in the attached bid/RFP/RFQ/Quote/Auction documents.

Molly Foree Cummins

*Signature*

*Submitted at 1/18/2024 01:34:40 PM (ET)*

[mforee@thirdrockconsultants.com](mailto:mforee@thirdrockconsultants.com)

*Email*

## Response Attachments

### Response to RFP #52-2023, Third Rock Consultants, LLC.pdf

Third Rock Team Response to RFP #52-2023



JANUARY 18, 2024

PROPOSAL TO PROVIDE

# PROFESSIONAL ENGINEERING SERVICES FOR WOLF RUN WATERSHED WATER QUALITY IMPROVEMENTS

Response to:

RFP #52-2023

Submitted to:

Lexington-Fayette Urban County  
Government  
200 East Main Street, 3rd Floor  
Lexington, Kentucky 40507

Submitted by:

**THIRDROCK**  
CONSULTANTS

**BANKS**

**SA**  
**STRAND**  
ASSOCIATES<sup>®</sup>

**&**





January 18, 2024

Mr. Brian Marcum  
Lexington-Fayette Urban County Government  
Division of Central Purchasing  
Room 338, Government Center  
200 East Main Street  
Lexington, KY 40507

RE: RFP #52-2023: Design of New Water Quality Feature

Third Rock Consultants, LLC is pleased to submit the enclosed proposal for professional services in response to your Request for Proposals #52-2023. To facilitate your review, I've formatted the proposal in accordance with the evaluation criteria in the RFP to include the following information:

- Attachment A - resumes of primary project team members and organizational chart
- Attachment B - explanation of capacity and three (3) relevant project summaries
- Attachment C - cost of services
- Attachment D - local office information
- Attachment E - supporting information and required forms

The Third Rock Team consists of the same firms and personnel that completed the Southland Area Drainage Study in 2018, which proposed numerous stormwater management projects in the upper Wolf Run Watershed including the subject Regency and Derby detention basins as retrofit candidates. To maintain continuity, our team includes Banks Engineering, Strand Associates, and S&ME. Banks was the prime consultant for the Southland study and provide survey and construction administration / bidding services. Strand Associates will perform the necessary hydrologic and hydraulic analyses and incorporate the designs into the overall Wolf Run hydraulic model. S&ME will perform the basin dam evaluations and geotechnical analysis for the projects, including soil sampling and percolation tests. **All team members are located in Lexington with the exception of Banks Engineering which is located in neighboring Nicholasville.**

I believe our team is the most qualified to assist LFUCG with this project due to our extensive experience with the design of water quality features (*including recent water quality basins in Southland Park and the WGPL neighborhood*), our familiarity with the retrofit goals of the two (2) subject basins, and our past performance on similar projects.

Thank you in advance for your consideration. If you have any questions or need additional information, please contact me at (859) 977-2000 or by email at [mforee@thirdrockconsultants.com](mailto:mforee@thirdrockconsultants.com).

Very truly yours,

A handwritten signature in blue ink that reads "Molly Foree Cummins".

Molly Foree Cummins, JD

Pc: John Steinmetz, PE, Banks Engineering  
Steve Vogel, PE, Strand Associates

# Attachment

Third Rock Consultants, LLC  
Response to LFUCG Invitation to Bid #52-2023 Engineering  
Services for Design of New Water Quality Feature

## Project Team



# Project Team

Stormwater professionals with a proven record of performance.

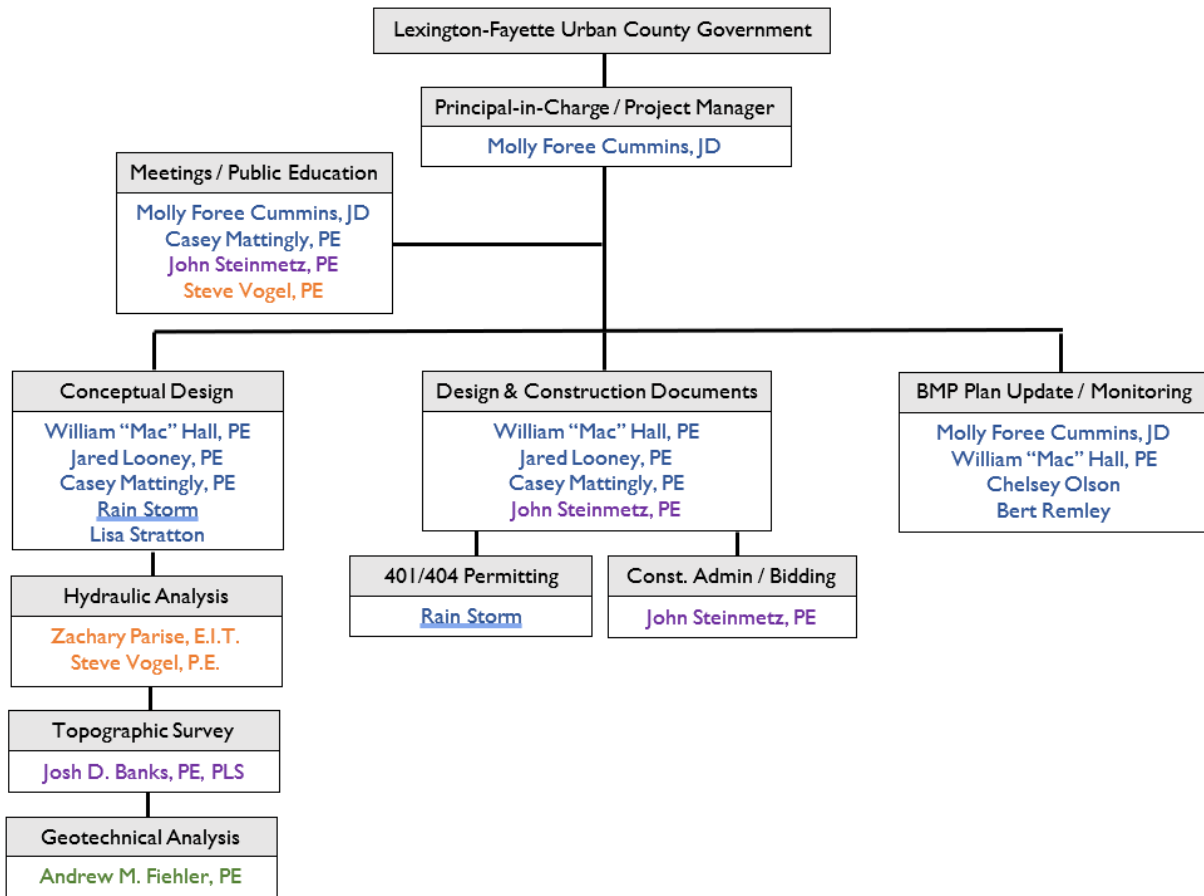


Third Rock Consultants, LLC (Third Rock) takes a collaborative approach to planning and designing stormwater green infrastructure projects. With a full-time multi-disciplinary staff, engineering, the major component of stormwater design, is augmented by experienced specialists in aquatic and terrestrial ecology, hydrogeology, geomorphology, botany, natural channel design and wetland design. The synergistic effect of these diverse backgrounds gives us a unique and unparalleled perspective for designing green infrastructure projects.

To supplement Third Rock's expertise, we have partnered Strand Associates, Inc. (Strand), Banks Engineering Inc. (Banks), and S&ME (S&ME). Strand will support Third Rock by taking the lead role on the hydrologic and hydraulic modeling and Banks will support by taking the lead on the surveying tasks. This Third Rock Team consists of the same firms and personnel that completed the Southland Area Drainage Study in 2018, which proposed numerous stormwater management projects in the upper Wolf Run Watershed including the subject Regency and Derby detention basins as retrofit candidates. Our team also includes S&ME for soil sampling and geotechnical engineering. All the team members are Lexington firms with the exception of Banks Engineering which is located in neighboring Nicholasville.

We believe our team is the most qualified to assist the Urban County Government with this project due to our extensive experience with the design of water quality features (including recent water quality basins in Southland Park and the WGPL neighborhood), our familiarity with the retrofit goals of the two subject basins, and our past performance on similar projects for the Urban County Government.

What follows is a chart that illustrates the organizational structure of our design team. The composition of disciplines and personnel provide redundancy in the required services to ensure excess capacity for completing projects, as well as expertise for internal peer review. Brief resumes for Third Rock and partner key staff are included in this Attachment as well to demonstrate professional qualifications, experience, and training germane to this RFP.





**Molly Foree Cummins, JD**  
**Principal in Charge**

**Years Experience**

31 Total, 23 with Third Rock

**Education**

Juris Doctor, 1993

BA in English, 1990

**Career Highlights**

23 Years as President and Owner of  
 Third Rock Consultants, LLC  
 Former Environmental Associate in the  
 Firm of Greenbaum, Doll, & McDonald  
 Unique Working Knowledge of  
 Environmental Regulatory Programs

**License(s) / Certification(s)**

Licensed Attorney KBA #84944

**Professional Associations**

Kentucky Bar Association  
 Commerce Lexington  
 Anderson Forward (Board Member)

Molly is a licensed attorney specializing in state and federal environmental law. As the President of Third Rock, she oversees the day-to-day business of the company and administers all professional service contracts, including those with LFUCG. She personally manages all LFUCG work orders, negotiating and coordinating all work, reviewing all deliverables, and providing a single point of contact to the City.

From a technical standpoint, Molly's extensive background in environmental policy makes her oversight of Third Rock's projects invaluable. She has an intimate understanding of the statutes and implementing regulations that drive the NPDES and other programs at both the federal and state level. She is also uniquely qualified to assimilate vast amounts of varied data in a way that translates to both technical and non-technical audiences.

In addition to her role as contract administrator and project manager for all LFUCG work orders, Molly personally manages all work under current Tennessee Department of Transportation, Kentucky Finance and Administration Cabinet, and Kentucky Transportation Cabinet on-call contracts. Work under the ID/IQ contracts consists of water resource permitting, stream/wetland restoration design and functional assessment, and NEPA documentation (baseline surveys, environmental assessments, environmental impact statements, and categorical exclusion documents).



**William "Mac" Hall, PE**  
**Professional Engineer**

**Years Experience**

6 Total, 6 with Third Rock

**Education**

BS in Civil Engineering, 2018

**License(s) / Certification(s)**

Kentucky PE #37751

Tennessee PE #128564

KEPSC Inspector #221100110

MSD EPSC Contractor #15705019

MSD QPC Inspector #202145

**Relevant Professional Training**

Applied Fluvial Geomorphology  
 (Rosgen Level I)

River Morphology / Applications  
 (Rosgen Level II)

River Assessment / Monitoring  
 (Rosgen Level III)

MSD Post-Construction Inspector Training

MSD EPSC Ordinance / Contractor Training

Introduction to HEC-RAS Culvert Hydraulics

HEC-RAS Errors, Warnings, and Notes

Troubleshooting HEC-RAS Models

Post-Construction Stormwater Management

KEPSC Inspectors Qualification Course

Mac is a licensed professional engineer that is responsible for supplemental design, specifications, and water quality considerations for Third Rock's green infrastructure projects. While working with Third Rock's biologist, geologist, ecologist, and engineers, Mac produces multi-faceted and collaborative green infrastructure that features stream and wetland design elements. His list of responsibilities includes green infrastructure design, hydrologic/hydraulic modeling, water quality sampling design, water quality data management and analysis, design plan productions, specification production, construction administration and oversight.

Mac has been involved with the design, construction, and oversight of several green infrastructure and stream restoration projects throughout Kentucky and Tennessee. Two recent green infrastructure projects have been located in the Wolf Run watershed, the bioretention basin constructed in the Wabash Drive, Goodrich Avenue, Pensacola Drive, and Lackawanna Drive (WGPL) community and the green infrastructure basins located in Southland Park. Along with his green infrastructure work, Mac works extensively with Lexington-Fayette Urban County Government (LFUCG), providing assistance in managing their Watershed Focused Monitoring Program (WFMP). From 2022 to present, as part of the WFMP, Mac has analyzed data from over 300 water quality samples, 16 Microbial Source Tracking (MST) samples, 22 Optical Brightener (OB) samples, and assisted in macroinvertebrate analysis in the Wolf Run watershed. Throughout all of his work in the Wolf Run Watershed, Mac has collaborated with the community through the Friends of Wolf Run to ensure the watershed groups needs are met by providing reasonable and feasible solutions to the design teams.



**Jared Looney, PE**  
**Professional Engineer**

**Years Experience**

5 Total, 5 with Third Rock

**Education**

BS in Biosystems and Ag. Engineering, 2019

**License(s) / Certification(s)**

Kentucky PE #3948

KEPSC Inspector #221100113

MSD EPSC Contractor #15764021

MSD QPC Inspector #202139

TN EPSC Level I #146379

TN EPSC Level 2 #1146379-D2

Asbestos Inspector License #74088

Lead Inspector #C111622-03

**Relevant Professional Training**

Applied Fluvial Geomorphology  
(Rosgen Level I)

River Morphology / Applications  
(Rosgen Level II)

River Assessment / Monitoring  
(Rosgen Level III)

Turner School of Construction Management

MSD Post-Construction Inspector Training

MSD EPSC Ordinance / Contractor Training

Post-Construction Stormwater Management

KEPSC Inspectors Qualification Course

Jared is a licensed professional engineer specializing in design, bid document development, construction oversight, and erosion prevention and sediment control (EPSC) administration for Third Rock's design and construction projects. His responsibilities include stormwater runoff calculations, hydraulic modeling, natural channel design, basin design for green infrastructure, construction plan drafting, bid package production, construction inspection, EPSC inspections, and post-construction monitoring.

During his time at Third Rock, Jared has worked with our multi-faceted design team to produce several designs for stream restoration, stormwater management, and green infrastructure projects. These designs have ranged from retrofitting existing gray infrastructure with wetlands and stream bank protections to relocating streams for industrial development using natural channel design techniques. Jared also provides construction oversight and administration support for these projects, working closely with contractors to verify design features are installed according to construction plans and technical specifications. He has developed EPSC plans, stormwater pollution prevention plans (SWPPPs), and conducted EPSC inspections. Jared's construction and EPSC experience helps Third Rock deliver successful design implementation in an environmentally responsible manner.



**Casey Mattingly, PE**  
**Professional Engineer**

**Years Experience**

19 Total, 12 with Third Rock

**Education**

BS in Physics, 2005

BS in Biosystems and Ag. Engineering, 2004

**License(s) / Certification(s)**

Kentucky PE #27059

KEPSC Inspector #161100080

**Relevant Professional Training**

Stream Functions Pyramid Workshop  
(Stream Mechanics)

Stream Restoration Design & Monitoring  
(Canadian Rivers Institute)

Applied Fluvial Geomorphology  
(Rosgen Level I)

River Morphology / Applications  
(Rosgen Level II)

River Assessment / Monitoring  
(Rosgen Level III)

River Restoration / Natural Channel Design  
(Rosgen Level IV)

Natural Rivers: Mechanisms, Morphology,  
and Management (Dr. Hey)

Casey is a licensed professional engineer and Engineer of Record (EoR) responsible for the design and construction phases of all Third Rock projects. Working collaboratively with Third Rock's project engineers, permitting specialists, and support staff, his responsibilities include design development including engineering calculations and hydrologic/ hydraulic modeling, production of construction plans and bid documents, cost estimation, scheduling, and construction administration and oversight. Casey's project portfolio is diverse, ranging from stream and wetland restoration using natural channel techniques to traditional site/civil projects.

Casey's areas of design expertise include stream and wetland restoration, nonpoint source pollution and stormwater management, and "green" stormwater infrastructure. He has successfully restored over two dozen miles of stream and wetland using both natural channel and urban channel design and incorporating a wide variety of in channel grade control structures, in channel bank stabilization structures, bio-engineering bank techniques, habitat improvement structures, floodplain restoration, and riparian buffer enhancement. He has also worked closely with Phase II communities to design site-specific, cost-effective best management practices (BMPs) such as bioretention basins, stormwater wetlands, and/or other "green" infrastructure to achieve stormwater management and water quality goals. He is well-versed in the NPDES (KPDES) requirements related to erosion prevention and sediment control (EPSC) having developed EPSC and stormwater pollution prevention plans (SWPPPs) and performed construction oversight for all Third Rock design projects.



**Chelsey Olson**  
**Project Ecologist**

**Years Experience**

19 Total, 19, with Third Rock

**Education**

MS in Biology, 2006

BA in Biology, 2001

**License(s) / Certification(s)**

DOT FAA Remote Pilot #4422310

SFS Eastern EPT Certification

SFS Chironomidae Certification

**Permits**

USFWS Permit #ES049738-12

KY DFWR Permit #SC2311142

**Relevant Professional Training**

Applied Fluvial Geomorphology

(Rosgen Level I)

River Morphology / Applications

(Rosgen Level II)

KDOW Macro / Water Quality Collection and  
Habitat Assessment (Annually)

Floodplains, Riparian Zones, and Buffer Strips

Chelsey's specialties include the identification and ecology of aquatic species including fish, mussels, and invertebrates; the planning and implementation of watershed-scale water quality monitoring plans; geographic information systems (GIS) and drone videography.

While there's no substitute for on-the-ground watershed evaluation, Chelsey's expertise in the area of GIS analysis provides the framework for Third Rock's multi-disciplinary team to identify and prioritize unique management strategies involved with watershed planning and monitoring. He utilizes GIS analysis to organize and interpret all available data and monitoring results in order to effectively target and prioritize locations for environmental projects and management practices that will be beneficial for specific watersheds.

Specifically, his expertise in GIS analysis and mapping is essential to Third Rock's watershed-focused monitoring for LFUCG. His combined experience in GIS analysis, statistical analysis, and data management is invaluable when evaluating causes of watershed impairment, assessing potential sources of pollution, linking pollutant loading to suspected land uses, and identifying environmentally sensitive areas.

Chelsey also use state-of-the-art drone technology to record pre- and post-construction conditions at Third Rock restoration projects using a DJI Phantom 3 4K quadcopter.





**Bert Remley**  
**Senior Ecologist**

**Years Experience**

27 Total, 23 with Third Rock

**Education**

MS in Biology, 1997

BA in Anthropology, 1991

**License(s) / Certification(s)**

SFS Eastern EPT Certification

SFS Chironomidae Certification

SFS General Arthropods Certification

OH EPA Level 3 QDC #00837

Certified Wetland Delineator

Open Water Diver #I19879299

**Permits**

USFWS Permit #ES049738-12

KY DFWR Permit #SC2311143

**Relevant Professional Training**

Applied Fluvial Geomorphology  
(Rosgen Level I)

River Morphology / Applications  
(Rosgen Level II)

USACE Qualitative Habitat Evaluation Index  
KDOW Macro / Water Quality Collection and  
Habitat Assessment (Annually)

Stream and BMP Monitoring (Center for  
Watershed Protection)

Wetland Delineator Certification Program (WTI)

Bert is a nationally certified aquatic taxonomist and Senior Ecologist with Third Rock. He specializes in the identification and ecology of aquatic species including fish, mussels, and invertebrates, conducting hundreds of surveys for threatened and endangered species for a variety of clients, including LFUCG.

Bert has led the effort to sample Fayette County streams each year for more than 20 years to ensure compliance with LFUCG's MS4 permit and the stormwater provisions in the 2011 EPA Consent Decree. Bert is currently an integral part of Third Rock's Water Quality and Watershed-Focused Monitoring teams.

Bert routinely conducts aquatic sampling and stream habitat assessment (Rapid Bioassessment Protocol) and collects field physiochemical measurements such as dissolved oxygen, pH, temperature, and specific conductance. He has collected thousands of invertebrate samples from the Southeast and Midwest employing several different sampling protocols including semi-quantitative riffle kick sample (SQKICK).

As the Quality Control/Quality Assurance Officer for Third Rock's aquatic laboratory, Bert is responsible for calculating macroinvertebrate bioassessment indices, training and assisting taxonomists with their identifications, managing samples within the laboratory, reviewing and reporting data. He is familiar with sorting procedures, including (sub-sample 200 +/- 20% count) and has personally identified over 2,500 samples from 10 different states within the Southeast, Midwest, and Pacific Northwest.

Bert also plays an integral role in the development of restoration design and post construction monitoring plans collaborating with Third Rock engineers to incorporate the appropriate features to restore or enhance existing aquatic habitat.



**Rain Storm**  
**Senior Ecologist**

**Years Experience**

24 Total, 19 with Third Rock

**Education**

BS in Wildlife Management, 2000

**License(s) / Certification(s)**

Certified Wetland Delineator

**Permits**

USFWS Permit #ES049738-12

KY DFWR Permit #SC2311145

**Relevant Professional Training**

Applied Fluvial Geomorphology  
(Rosgen Level I)

River Morphology / Applications  
(Rosgen Level II)

River Assessment / Monitoring  
(Rosgen Level III)

River Restoration / Natural Channel Design  
(Rosgen Level IV)

Stream Functions Pyramid Workshop  
(Stream Mechanics)

USACE Qualitative Habitat Evaluation Index  
USACE KY Headwater Streams, Functional  
Assessment Protocol

Wetland Flora, Institute of Botanical Training  
Constructed Wetlands Site Selection and  
Hydrology (Wetland Training Institute)

Rain's areas of expertise include water resource permitting and delineation, stream and wetland restoration design, and threatened and endangered species surveys. She's uniquely versed in the federal and state regulatory programs that dictate the permitting process for impacts to water resources in Kentucky. Her strong working relationship with both state and federal permitting agencies with jurisdiction in Kentucky help ensure the issuance of permits in a timely manner. Rain routinely guides clients through the complicated process of identifying impacts, analyzing alternatives, acquiring permits, and developing mitigation to compensate for unavoidable impacts to jurisdictional water resources. Rain works closely with Third Rock clients to develop innovative avoidance and minimization solutions that have the additional advantage of improving aesthetics, reducing overall costs, and preventing delays.

Acquiring an USACE Section 404 Department of Army (DA) permit for unavoidable impacts to water resources also requires coordination with the US Fish and Wildlife Service (USFWS) to ascertain compliance with Section 7 of the Endangered Species Act. Rain is uniquely qualified to coordinate directly with the USFWS on behalf of Third Rock clients. She currently holds USFWS Region 3 and Region 4 federal collection permits, as well as state collection permits in KY, TN, GA, MO, OH, WV, NC, and PA. She has conducted hundreds of Biological Assessments across the southeast.

Rain also works collaboratively with Third Rock engineers to develop projects using natural channel design techniques. Her involvement includes hydrologic determinations, rapid bioassessment (RBP) and function-based assessment, planting plans, and invasive species management. She authors Third Rock's Mitigation and Restoration Plans and is primarily responsible for post-construction mitigation monitoring and reporting.

# Zachary Parise, E.I.T.

## AREAS OF EXPERTISE

- Stormwater Modeling and Design
- Commercial Site Design
- Regulatory Permitting Support
- Residential Site Design and Plan Preparation
- BMP Planning and Design
- Field Inventories and Data Collection

## PROFESSIONAL EXPERIENCE

As Project Engineer, Zachary has assisted with a variety of public projects that include stormwater modeling and design, transportation design, residential and commercial site design and plan preparation.

**Meadowthorpe Stormwater Improvements, Lexington, Kentucky** – Zachary serviced as the project engineer and lead designer for a storm sewer retrofit in the Meadowthorpe neighborhood. The area currently has few existing stormwater inlets and areas along the radius at the intersections pond due to pavement overlays. The proposed system will provide inlets at these created sag locations to prevent ponding following rainfall events. The first phase of construction is currently underway with subsequent phases planned as city budget allows.

**Southland Park Basins, Lexington, Kentucky** – Served as design engineer for implementation of the stormwater basins and control structures in Southland Park to support storm sewer improvements at Pasadena and Tucson. Involved in stormwater modeling, basin grading and stabilization, and control structure detailing for the project. Design elements included three interconnected detention basins, modification of an existing basin, maximizing volume using retaining wall, a pedestrian pathway, and connection to existing amenities in the park.

**Pasadena Drive Relief Storm Sewer Improvements, Lexington, Kentucky** – Served as the design engineer for the implementation of a relief storm sewer serving the sag along Pasadena Drive near Wichita Drive. The elliptical sewer and improved inlets along Pasadena are designed to leverage the existing infrastructure capacity and provide relief conveyance to mitigate ponding issues in the roadway sag and at the rear of the residences on Yuma Court.

**Streamland Neighborhood Stormwater Improvements, Danville, Kentucky** – Zach served as project engineer on the design for a stormwater conveyance system to mitigate street and yard flooding in the Streamland neighborhood. This first phase of neighborhood improvements resulted from the stormwater masterplan for the area. The project included closed pipe and open channel conveyance that leverages existing infrastructure. Community engagement was an important part of both this project and the area masterplan.

**Cane Run Creek Bank Stabilization, LFUCG, Lexington, KY** – Zach served as project engineer for the stabilization of Cane Run Creek in the Coldstream Research Campus along the Legacy Trail. Stabilization included hard armoring underneath the Citation Boulevard bridge and transition to native plantings in the downstream area. The project also included access agreements with adjacent property owner, engagement with USGS, a FEMA Floodplain analysis, and a design that supported a “no rise” condition to expedite permitting.

**Mason Headley Turn Lane Improvements, Lexington, Kentucky** – Currently serving as a project engineer and stormwater modeler for the city-led improvements to Mason Headley that include the addition of turn lanes and improvement of the urban section. Zach prepared the drainage design and calculations for a new stormwater collection and conveyance system.

**Town Branch Trail Phase 6, LFUCG, Lexington, Kentucky** – Zach served as lead HEC-RAS modeler to floodplain permitting related to the trail. Challenges included work within the FEMA regulatory floodplain and designing to a “no rise” condition to support permitting and tight construction scheduling.

## YEARS OF EXPERIENCE

5

## YEARS WITH FIRM

5

## EDUCATION

B.S. Civil Engineering,  
University of Kentucky

## REGISTRATION

Engineer-in-Training





### Steve Vogel, P.E. – Stormwater Modeling and Design

Steve has 18 years of applied experience as certified educator and professional engineer, having a strong emphasis in the area of stormwater management. In addition to general civil engineering core capabilities, his background includes hydrologic and hydraulic modeling, stormwater management systems analysis and design, floodplain analysis and preparation of FEMA CLOMR/LOMR requests and local, state, and federal permitting for compliance with environmental regulatory requirements. Steve possesses very capable working knowledge of various modeling platforms including XPSWMM, HydroCAD, HEC-RAS, HEC-HMS, DAMBRK, and HY8 among others. Steve has led a wide variety of stormwater management projects for all phases including planning, design, bidding and construction-related services as well as support for large scale programmatic efforts. His design experience includes open channel and closed system conveyance, flood control, flood pump station and levee systems, and spillway designs. Steve also has extensive experience facilitating workshops and public meetings with crafted presentations designed to promote feedback on project objectives. Steve’s credentials include significant involvement with design and/or construction of over 77 stormwater related projects and his stormwater modeling and flood evaluation experience are a tremendous asset to our team.



B.S. Civil Engineering –  
University of Kentucky

M.S. Secondary Education  
– University of Kentucky

Professional Engineer in  
Kentucky (No. 32001) and  
Tennessee

### Relevant Projects Experience:

- **Comprehensive Storm Water Master Plan, Paducah, KY** – Project team manager and lead stormwater engineer for the evaluation of urban and rural watersheds in McCracken County. This effort included the evaluation of existing combined sewer facilities, design of proposed mitigation projects, and citizen education. The key to success for this project was the stakeholder engagement and education process that helped to define the goals and measure the success of various alternatives.
- **Southland Area Stormwater Master Plan, LFUCG, Lexington, KY** – Served as Deputy Project Manager and H&H modeler for study of the Southland Drive area drainage system. Using HEC-RAS and XPSWMM 2D, Steve led development of an existing conditions model including major bridges and culverts along the upper reaches of Cane Run. Alternatives including culvert, bridge, and storage area modifications, were then developed for the eight delineated project areas comprising a \$9 million Master Plan. Implementation of this plan is currently in process. The completed WGPL Neighborhood project included the retrofit of a stormwater conveyance system within a historic urban corridor that lacked conveyance infrastructure. Additionally, laterals and cleanouts were installed to allow for sump-pump redirection from the sanitary sewer to connection to the storm infrastructure. Design and construction for the Southland Park Detention basin to support a proposed urban stormwater relief sewer is underway.
- **Town Branch Commons Corridor Reconstruction, LFUCG, Lexington, KY**– Steve served as Lead Drainage Engineer on this \$20M KYTC TIGER-funded multimodal corridor reconstruction initiative for Vine Street and Midland Avenue. A key component of the project involved daylighting stormwater along Midland Avenue to create a realistic interpretation of Central Kentucky’s typical upland riparian ecosystem. This has required in-depth analysis of the existing corridor storm sewer system and assessment of lateral inflow potential to develop an open channel flow regime for compatibility with the reconstructed roadway and enhance water quality.
- **Second Street (US 60) Corridor “Complete Street” Improvements, City of Frankfort, KY** – As the Stormwater Quality Control Engineer, Steve led the preliminary evaluation and development of this USDOT \$8 Million TIGER funded urban roadway reconstruction project for the stormwater infrastructure along the Second Street Corridor to support the proposed streetscape improvements. This included the development of alternatives to address street flooding concerns, combined sewer separation, and integration of the proposed stormwater infrastructure with the existing flood wall.

## Josh D. Banks, PE, PLS

Vice President



### Experience and Qualifications

Mr. Banks has 22 years of experience in civil engineering and land surveying and directs the survey operations for Banks Engineering's municipal projects. He has strong expertise in surveying, planning services, site development, engineering design, permitting, easement acquisition, and bidding and construction administration. Relevant experience includes the following:

#### Southland Area Storm Drainage Study – Lexington, KY

Directed the surveys and base plan preparation modeling for the upper Wolf Run watershed to address structure and major street flooding.

#### Joyland Drainage Study – Lexington, KY

Directed the surveys, base plan preparation, and easement development for this project involving \$2.8 million in detention basins and storm sewer improvements.

#### Southland Park Stormwater Improvements – Lexington, KY

Directed the surveys, base plan preparation, and easement development for storm sewers and four separate detention basins and natural stream channels within Southland Park.

#### Cooper Drive Stormwater Improvements – Lexington, KY

Survey Manager for storm sewer improvements for 3,000 linear feet of new storm sewers to reduce street flooding in the Chevy Chase neighborhood.

#### North Broadway (US 27/68) Drainage Study – Lexington, KY

Survey Manager for modeling and designs to reduce street and structure flooding in downtown Lexington from West Main Street to West Fourth Street.

#### Jessamine County Schools Surveys – City of Nicholasville, KY

Directed the preparation of boundary and topographic surveys of both high schools in Jessamine County to facilitate planned campus improvement projects.

#### Nicholasville Industrial Park Offsite Sewer

Directed field surveys and easement acquisitions for 2,400 feet of 12-inch gravity trunk sewer to provide service to a new industrial park.

#### FedEx Ground Distribution Facility – Louisville, KY

Principal Engineer for a new ground distribution facility on a 46-acre parcel in Louisville, including navigating the challenging development approval process.

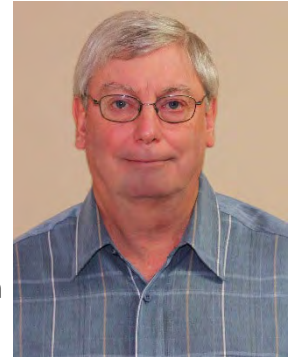
**Education** – University of Kentucky, Bachelor of Science Civil Engineering, 2002

**Professional Registrations** – Professional Engineer – Kentucky #25062

Professional Surveyor – Kentucky #3943

## John B. Steinmetz, PE

Senior Engineer



### Experience and Qualifications

Mr. Steinmetz has 42 years of experience in a wide range of projects including transportation, stormwater management, utilities, and private development. He has an extensive background in stormwater management, including master planning, capital project implementation, stormwater utilities, NPDES permitting, stream restoration, and watershed modeling with HEC-RAS, SWMM, HEC-HMS, and other software packages. Relevant experience as Project Manager or Principal in Charge follows.

#### Southland Area Storm Drainage Study – Lexington, KY

Project Manager for the surveys, modeling, public involvement, and improvements (budgeted at \$10 million) for the upper Wolf Run watershed to address structure and major street flooding.

#### Southland Park Stormwater Improvements – Lexington, KY

Project Manager for the modeling, public involvement, and designs for four separate detention basins and natural stream channels within Southland Park to receive flow from upstream storm sewer improvements without increasing downstream flooding.

#### WGPI Stormwater Improvements – Lexington, KY

Project Manager for nearly one mile of new storm sewers to reduce street and structure flooding, and to provide a discharge system for redirected sump pumps. A second project phase included a bioretention basin and bioswale to provide water quality improvements.

#### Joyland Drainage Study – Lexington, KY

Project Manager for the surveys, modeling, public involvement, and improvements (budgeted at \$2.8 million) for detention basins and storm sewer improvements to reduce flooding impacts in this neighborhood.

#### Town Fork Stream Restoration - Nicholasville, Kentucky

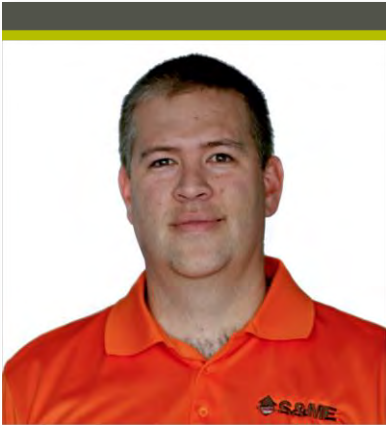
Reconstruction of approximately 900 LF of deteriorated and failing concrete stream bank for the major drainage system of downtown Nicholasville.

#### LCC (BCTC) Detention Basin, University of Kentucky

Project manager for stormwater improvements necessary to prevent flooding of the Oswald Building on the LCC (now BCTC) campus. The project included construction of an aesthetically pleasant detention basin to mitigate increases in downstream runoff.

**Education** – University of Kentucky, Bachelor of Science Civil Engineering, 1982

**Professional Registrations** – Professional Engineer, KY #14730, OH #E-56661



## Andrew M. Fiehler, PE

### Project Geotechnical Engineer

Since joining S&ME, Mr. Fiehler has acquired his license to practice Professional Engineering in the Commonwealth of Kentucky, and has progressed from Staff Engineer to Project Engineer / Project Manager. Mr. Fiehler has successfully completed formal training in Project Management and Loss Prevention as well as ASFE's Fundamentals of Professional Practice course.

Mr. Fiehler brings several years of hands-on experience in geotechnical, construction materials testing, and forensic geotechnical engineering. He has experience on projects throughout Kentucky, Indiana, Ohio, Virginia, North Carolina and Tennessee. His experience encompasses most geotechnical and construction aspects of manufacturing, educational, institutional and municipal building sites, as well as water tanks and towers, treatment plants, cellular towers, slope stability evaluations, dams, bridges and highways. His specific responsibilities have included design, coordination and performance of subsurface explorations, construction monitoring and observation, laboratory testing programs, data compilation and analysis, geotechnical engineering analysis and design, preparation of engineering reports and proposals and project management of geotechnical engineering and construction monitoring projects. Mr. Fiehler has also participated in several forensic geotechnical and materials testing projects.

#### PROJECT ROLE

Project Geotechnical Engineer

#### LOCATION

Lexington, KY

#### EDUCATION

- BS, Geological Engineering, 2000, University of Missouri, Rolla

#### YEARS OF EXPERIENCE

Joined S&ME in 2000

#### REGISTRATIONS

- Professional Engineer  
KY #23,977  
IN #PE11200481

### Key Projects and Assignments

#### Man-O-War Boulevard

##### Lexington, Kentucky

Mr. Fiehler served as the Project Engineer / Project Manager of the geotechnical exploration, laboratory testing, stability evaluation and construction monitoring of a ¼ mile section of Man-O-War Boulevard adjacent to the Polo Club subdivision. The development of the Polo Club subdivision, and requisite stormwater detention basins, required re-grading Man-O-War Boulevard to serve as the detention basin dam for the subdivision. Also included in the project was construction of a three-barrel box culvert with a semi-circular weir structure.

#### KY American Pump Station, Water Tanks and Water Main

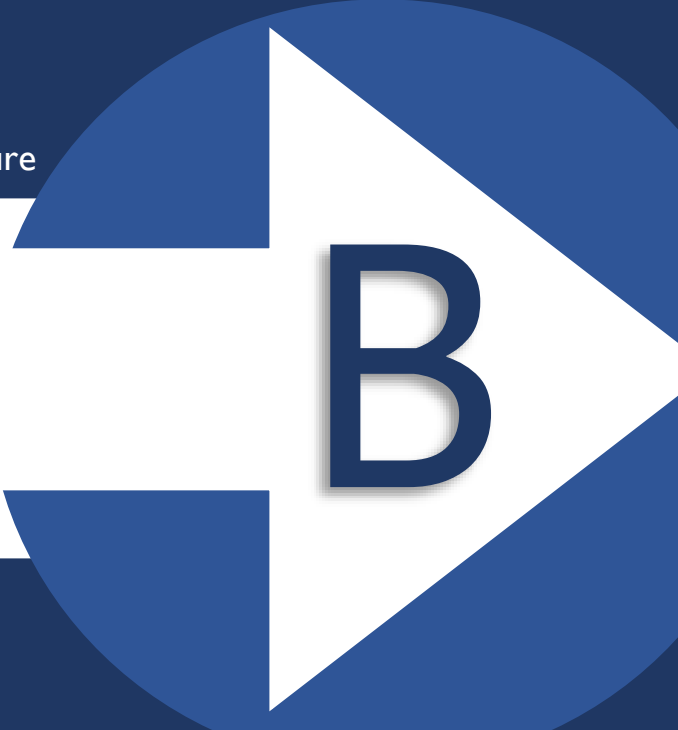
##### Franklin, Scott and Fayette Counties, Kentucky

Mr. Fiehler served as the Project Engineer / Project Manager of the geotechnical exploration and laboratory testing of the pump station, water storage tanks and water main route of the new water main being constructed through Franklin, Scott and Fayette Counties. The new pump station and water tanks are located in eastern Franklin County. The pump station includes several structures which house the control room and pumps for the 30 million gallon per day pump station. At the pump station facility there is also a 2 million gallon water tank with an area set aside for a second water tank. The pump station is tied to the treatment plant by 60-inch diameter ductile iron piping. Mr. Fiehler oversaw the geotechnical exploration and laboratory testing along the piping right-of-way through Franklin, Scott and Fayette Counties. Included in the piping route are tunnel bore crossings beneath a rail road and Interstate I-75 near the Horse Park.

# Attachment

Third Rock Consultants, LLC  
Response to LFUCG Invitation to Bid #52-2023  
Engineering Services for Design of New Water Quality Feature

## Qualifications





# Statement of Qualifications

Stormwater professionals with a proven record of performance.



**Third Rock's unique and diverse staff of environmental professionals has extensive experience in the design of various types of green infrastructure and environmental restoration projects.** We have worked extensively for more than ten (15) years to design and monitor stormwater green infrastructure projects, wetland restoration projects and stream restoration site designs. Our design clients include LFUCG, Louisville Metropolitan Sewer District, Sanitation District #1 of Northern KY, City of Covington MS4 Program, Kentucky Department of Fish and Wildlife Resources, Kentucky Finance and Administration Cabinet and numerous other agencies within the Commonwealth.

## **Office Where Principal Amount of Work Will be Performed**

100% of this work will be performed by professionals who live and work in Kentucky, and 85% of it within the Lexington Area Codes. Of the 4 teaming partners, 3 of the firms are based within the Lexington Service Area. The following offices will be utilized for the work:

Third Rock Consultants, LLC  
2526 Regency Road, Suite 180  
Lexington, Kentucky 40503  
Phone: (859) 977-2000  
E-mail: [mforee@thirdrockconsultants.com](mailto:mforee@thirdrockconsultants.com)

Strand Associates, Inc.  
651 Perimeter Drive, Suite 220  
Lexington, Kentucky 40517  
Phone (859) 225-8500  
E-mail: [Steven.Vogel@strand.com](mailto:Steven.Vogel@strand.com)

Banks Engineering, Inc.  
1211 Jessamine Station  
Nicholasville, KY 40356  
Phone (859) 881-0020  
E-mail: [jsteinmetz@banksengineering.net](mailto:jsteinmetz@banksengineering.net)

S&ME, Inc.  
2020 Liberty Road, Suite 105  
Lexington, Kentucky 40505  
Phone: (859) 293-5518  
E-mail: [AFiehler@smeinc.com](mailto:AFiehler@smeinc.com)

**Our outstanding Lexington-based team of professionals is capable of handling every aspect of services required under this RFP.** The Third Rock Team's full-time staff has the expertise, specialized training, and relevant, local experience to efficiently provide all services required by this RFP. Having worked extensively within the Wolf Run Watershed for more than a decade together, we have learned a lot. Stormwater Quality projects are most effective when it benefits from systematic learning from previously studies and projects. Our engineers, geomorphologists, modeling experts, stream designers, wetland scientists, ecologists and other environmental professionals have extensive experience within the Wolf Run Watershed. This gives us a unique insight into constructability issues and unparalleled knowledge of successful, cost-effective techniques and practices.

*Detailed project summaries are included for your consideration on the pages that follow.*

# Statement of Qualifications

Stormwater professionals with a proven record of performance.

# B

## **SOUTHLAND AREA STORM DRAINAGE STUDY AND ASSOCIATED STORMWATER QUALITY IMPROVEMENTS** Lexington, KY

The Third Rock Team (Banks (Prime Consultant), Third Rock, Strand) served as conducted a study of the upper Wolf Run Watershed to develop recommended improvements to reduce flooding of structures and roadways.

Numerous previous studies assessed flooding, stream stability, and water quality issues in the Wolf Run Watershed, and this project was intended to incorporate existing information with new watershed modeling of the 1,830-acre study area and develop a capital improvement plan to be constructed within a 4-year window. The budgeted \$10 million in improvements are part of the Urban County Government's EPA Consent Decree requirements.

The team completed the following work elements:

- Reviews of existing studies, reports, improvement plans, and past public involvement
- Extensive public involvement to solicit input from property owners and document the severity and extent of structural and street flooding
- Development of hydrologic and hydraulic models for identified areas of flooding, to be used to confirm flooding severity and evaluate potential improvement alternatives
- Coordination of other public initiatives (PIIE program, traffic calming), as well as water quality best management practices (BMPs)
- Stakeholder meetings with affected property owners, elected officials, neighborhood associations, etc.
- Identification of potential funding sources for proposed improvements
- Coordination with the Wolf Run Watershed Master Plan
- Conceptual designs and cost estimates for proposed improvements to reduce flooding based on the 25-year, 24-hour storm event.

The WGPL and Southland Park stormwater improvements projects were two of the initial projects to be constructed from the 2018 Southland Area Storm Drainage Study. The projects were to provide stormwater detention to mitigate downstream flooding when upstream storm sewers are installed and provide environmental benefits with water quality features and native plantings.

### **Client/Owner:**

Lexington-Fayette Urban County Government

### **Project Duration:**

2016-2020

### **Project Staff:**

John Steinmetz, PE  
*Project Manager*

Casey Mattingly, PE  
*Water Resource Engineer*

Molly Foree, JD  
*Permitting*

William "Mac" Hall, PE  
*Project Engineer*

Jared Looney, PE  
*Project Engineer*

Rain Storm  
*Ecologist*

Bert Remley  
*Senior Aquatic Ecologist*

Chelsey Olson  
*Project Ecologist / GIS Analyst*

Steven Vogel, PE  
*Design Engineer*

### **Reference:**

Lexington-Fayette Urban County Government  
Division of Water Quality  
125 Lisle Industrial Avenue, Suite 180  
Lexington, KY 40511



*Residential flooding June 23, 2017*

# Statement of Qualifications

Stormwater professionals with a proven record of performance.

# B

## WGPL Bioswale and Bioretention

From this effort, a project was identified to construct a stormwater and green infrastructure in the WGPL neighborhood. Stormwater is ultimately routed to a LFUCG-owned green space, locally called Pensacola Park, adjacent to Wolf Run. The Third Rock team sited and designed two (2) bioswales and a bioretention area within the park to receive and treat stormwater runoff, while keeping with existing master plans for the area.

Because of its location, both in terms of its accessibility and visibility, the green infrastructure projects provide a unique opportunity to educate the public regarding the function of bioswales and bioretention areas and the treatment of stormwater runoff. Third Rock designed the green infrastructure features with a paved access trail and room to accommodate future recreational amenities to enhance the experience of residents and users of Pensacola Park.



*The WGPL WQ Basin includes native plantings, bioretention, and boulders marking the no-mow zone.*

## Southland Park Stormwater Improvements Project

The Southland Park project is the first of two phases of construction to improve stormwater management in the neighborhood immediately upstream of Southland Park. The Southland Park Basin phase is to provide stormwater detention and improve water quality of stormwater discharged into the park. Improvements constructed in the park include:

- I. Construction of four (4) separate detention basins to store the runoff and improve interior park drainage. Three (3) of the basins are bioretention facilities with select filter media to improve water quality. Native plantings and natural stream designs were included to provide stable channels, reduce park maintenance, and provide features of interest to park visitors.

# Statement of Qualifications

Stormwater professionals with a proven record of performance.

# B

2. Relocation of an existing sidewalk / trail as needed to construct the basins to maintain connectivity within the park and to the surrounding neighborhood and elementary school.
3. A series of modular retaining walls and decorative fencing within the park.
4. Coordination with the LFUCG Division of Parks and Recreation for relocation of a playground.

Being located within an established, densely developed neighborhood, the improvements provide functional, attractive components without increasing downstream flooding and creating an amenity feature in a park to be enjoyed by the residents.

This project includes several unique features:

1. It resulted from extensive public involvement and stormwater modeling during the study phase and the detailed design phase. Significant input was received from nearby residents, elected officials, LFUCG Parks and Recreation staff, and the Friends of Wolf Run, an environmental advocacy group.
2. The park's primary recreation areas (2 ballfields, tennis courts, playground, picnic shelter, and swimming pool) were left undisturbed. A basketball court was relocated within the park to accommodate the construction.
3. The most desirable trees were preserved to maintain shaded areas and preserve the character of the park to the maximum extent practicable. Tree preservation was coordinated with LFUCG's Division of Park and Recreation and Division of Environmental Services.
4. The project was designed and constructed to preserve and enhance a previous stream restoration project in the park.



*One of 4 basins in Southland Park while the native plantings were becoming established.*

# Statement of Qualifications

Stormwater professionals with a proven record of performance.

# B

## LFUCG MS4 PROGRAM IMPLEMENTATION WATER QUALITY / WATERSHED-FOCUSED MONITORING Lexington, KY

Third Rock has served an integral part of the Lexington-Fayette Urban County Government's (LFUCG) Stormwater Program Management team since its inception in 2001. As such, we are responsible for the development and implementation of LFUCG permit-required water quality monitoring programs, ensuring LFUCG fulfills the requirements of its Phase I MS4 Permit (KPDES No. KYS00002 AI No. 74551) while meeting the commitments of its EPA consent decree.

Permit required water quality monitoring tasks include:

- Quarterly dry and wet weather water quality monitoring at seven watershed sites
- Annual macroinvertebrate and habitat assessment at seven watershed sites including identification of macroinvertebrate samples by Society for Freshwater Science-certified taxonomists
- Bi-annual fish monitoring at seven watershed sites
- Annual reporting of monitoring data with comparison to benchmarks and past data. Reporting includes Watershed Technical Water Quality Evaluations for comprehensive watershed specific analyses including load duration curves, and a "Summary Status Rating" to characterize overall stream
- Maintenance of water quality monitoring database
- Development and implementation of a Water Quality Monitoring Program Evaluation during each 5-year permit cycle
- Statistical analysis of trends in water quality for each 5-year period permit cycle

In addition, in 2015 LFUCG committed to begin to transition its water quality monitoring program to a watershed-focused approach. The study area for LFUCG's **Watershed-Focused Monitoring Program (WFMP)** encompasses the seven major watersheds that drain LFUCG's Urban Service Area including Cane Run, South Elkhorn Creek, West Hickman, East Hickman Creek, Town Branch, North Elkhorn Creek, and Wolf Run. The overall objective of the WFMP is to collect and generate data to identify and remediate sources of recreational and aquatic habitat impairments to streams within the Urban Service Boundary by conducting the following monitoring elements within each watershed:

1. **Stream Corridor Characterization**
2. **Biological Monitoring**
3. **Water Quality Monitoring**
4. **Discharge Prevention / Source Investigation**
5. **Priority Area Upland Visual Assessment**

### Client/Owner:

Lexington-Fayette Urban County Government

### Project Duration:

2001 – Present

### Project Staff:

Molly Foree, JD  
*Project Manager*

Casey Mattingly, PE  
*Water Resource Engineer*

William "Mac" Hall, PE  
*Project Engineer*

Jared Looney, PE  
*Project Engineer*

Rain Storm  
*Ecologist*

Bert Remley  
*Senior Aquatic Ecologist*

Chelsey Olson  
*Project Ecologist / GIS Analyst*

### Reference:

Lexington-Fayette Urban County Government  
Division of Water Quality  
125 Lisle Industrial Avenue, Suite 180  
Lexington, KY 40511



## SECTION 319(H) WATERSHED-BASED PLAN

# Statement of Qualifications

Stormwater professionals with a proven record of performance.



## WOLF RUN WATERSHED Lexington, KY

At Third Rock we embrace a watershed-scale approach to restoring our waters to swimmable, fishable resources. Third Rock engineers, aquatic ecologists, wetland scientists, and data analysts combine to provide a level of excellence unique and unparalleled in this region. Our experienced staff has years of collective expertise in the areas of watershed planning, watershed-scale water quality monitoring, and design and implementation of best management practices. That expertise was invaluable in the development of the Wolf Run and Cane Run Watershed-Based Plans (WBP) for the Lexington-Fayette Urban County Government (LFUCG) and Kentucky Division of Water (KDOW), respectively.

The **Wolf Run Watershed** is Lexington's most highly urbanized watershed with about 40% of the surface covered with impervious material. The 13.5 miles of perennial streams and tributaries in the watershed drain an area of 10.18 square miles. The watershed has significant karst development including Preston's Cave, McConnell Springs, and Kenton Blue Hole among other features which complicates the hydrology by redirecting groundwater from the adjacent basins. Wolf Run Creek is listed as impaired on the 303(d) list for nonsupport of primary and secondary contact recreation and partial support of warmwater aquatic habitat with cause including fecal coliform, nutrient / eutrophication biological indicators, and specific conductance from a number of suspected sources.

**Third Rock was contracted in 2010 by LFUCG to develop the Wolf Run WBP with the goal of identifying the sources of pollution and the remediation efforts necessary to return the stream to its designated uses.**

The Wolf Run Watershed Council was also formed in December 2010 to receive input from the community on citizen desired goals and objectives for the watershed, to provide local knowledge on specific issues within the watershed, and to provide review and feedback on the WBP progress. All available data was compiled and reviewed by Third Rock to evaluate the additional data necessary to complete the WBP and implement its collection. To that end, Third Rock worked with the Friends of Wolf Run to conduct supplemental biological and water quality monitoring, and geomorphic and habitat assessment, over a 12-month period.

Biological monitoring results indicated that the aquatic macroinvertebrate community ranged from "poor" to "very poor." Water quality monitoring results indicated nitrogen, phosphorus, dissolved oxygen, ammonia, specific conductance, suspended solids, and *E. coli* each exceed benchmarks for one or more events. A watershed-wide specific conductance survey (373 measurements in 8 days) indicated the highest concentrations were in the headwaters of Wolf Run, Vaughn's Branch, and the Big Elm Tributary. Geomorphic assessment indicated the streams are generally overwidened and entrenched with significant channel alteration, bank armoring and bedrock substrate on many reaches. And habitat assessed at 33 reaches resulted in only 2 of the 33 reaches achieving a "fair" narrative criteria and all others rating "poor."

Based on these results, the Wolf Run Watershed Council devised general goals and objectives for the watershed and recommended the types of Best Management Practices and locations for implementation. Further, an Outreach Campaign Subcommittee was organized to develop an education and outreach plan for the watershed and a Water Quality BMP Technical Subcommittee was organized to

### Client/Owner:

Lexington-Fayette Urban County Government

### Project Duration:

2011 – 2019

### Project Staff:

Molly Foree, JD  
Project Manager

Casey Mattingly, PE  
Water Resource Engineer

Molly Foree, JD  
Permitting

William "Mac" Hall, PE  
Project Engineer

Jared Looney, PE  
Project Engineer

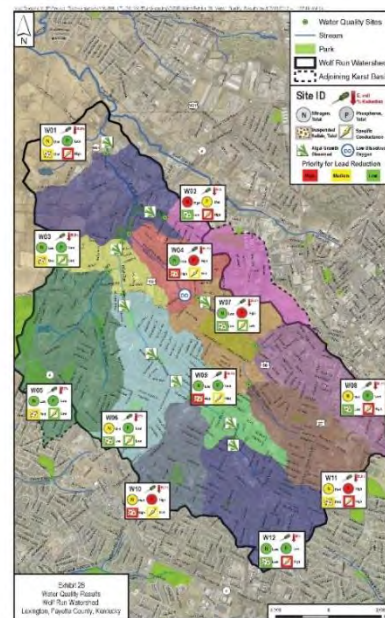
Rain Storm  
Ecologist

Bert Remley  
Senior Aquatic Ecologist

Chelsey Olson  
Project Ecologist / GIS Analyst

### Reference:

Lexington-Fayette Urban County Government  
Division of Water Quality  
125 Lisle Industrial Avenue, Suite 180  
Lexington, KY 40511



# Statement of Qualifications

Stormwater professionals with a proven record of performance.

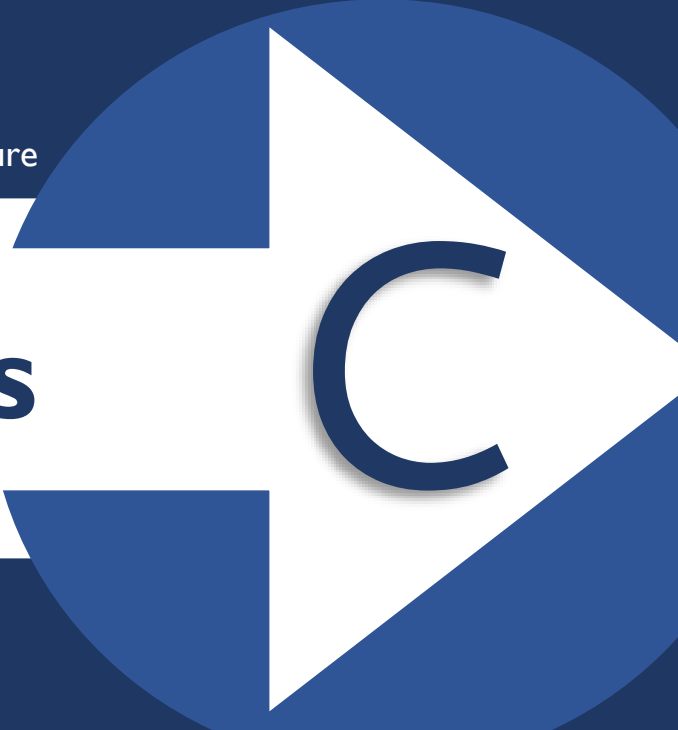
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review the Council recommendations and develop an implementation strategy with prioritized projects. **In January 2013, a comprehensive implementation plan was developed based on these efforts and presented for public comment. The plan identifies 138 BMP project opportunities in the watershed, 62 high priority, 32 medium priority, and 44 low priority projects.** Additional stream and habitat improvement opportunities include 3.5 miles of stream restoration, 5.6 miles of riparian buffer restoration, and approximately 850 feet of bank stabilization. Wetland creation or expansion is proposed for approximately 20 acres and enhancements are proposed at two springs.

# Attachment

Third Rock Consultants, LLC  
Response to LFUCG Invitation to Bid #52-2023 \ Engineering Services for Design of New Water Quality Feature

## Cost of Services







## Engineering Design Services Fee Table Wolf Run Watershed Water Quality Improvements

Task	Regency Road Detention Basin Retrofit Fee (Lump Sum)	Derby Drive Filtration BMP Fee (Lump Sum)
Task A – Project Kick-Off & Data Collection	\$2,900	\$2,300
Task B – Field Survey	\$13,500	\$13,500
Task C – Conceptual Design	\$10,800	\$9,800
Task D – Design & Construction Documents	\$30,000	\$23,300
Task E – Permitting Services	\$6,000	\$5,500
Task F – Bidding Services	\$4,500	\$4,500
Task G – Construction Administration	\$6,400	\$6,300
Task H – Meetings	\$16,000	\$16,000
Task I – Public Education	\$2,000	\$2,000
Task J – Water Quality Monitoring	\$5,000	\$5,000
<b>Total Project Cost for Tasks A-J</b>	<b>\$97,100</b>	<b>\$88,200</b>
Cost per Meeting for Additional Stakeholder Meetings not included in the RFP	\$1,500	\$1,500

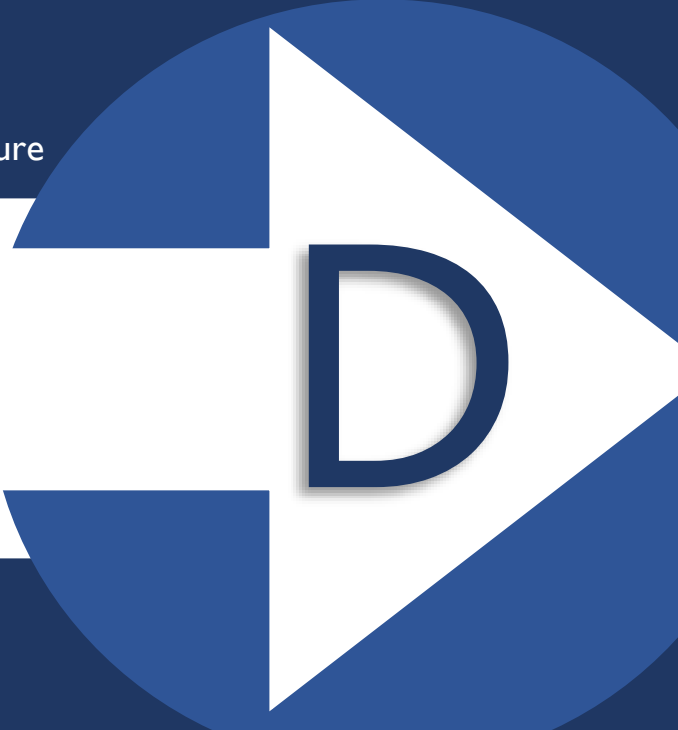
Value-added combined tasks:

- Project Meetings
- Stakeholder Meetings
- Pre-Bid Meetings
- Public Education
- BMP Implementation Plan Updates

# Attachment

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Response to LFUCG Invitation to Bid #52-2023  
Engineering Services for Design of New Water Quality Feature

## Local Offices



# Local Offices

Stormwater professionals with a proven record of performance.



	Location (City, State)	Date Office Established	Total # of Employees	Employees to work on Project
<b>Prime Consultant</b>				
Third Rock Consultants, LLC				
Headquarters	Lexington, KY	2000	18	9
Local Office	Lexington, KY	2000	18	9
<b>Sub Consultants:</b>				
Strand Associates, Inc.				
Headquarters	Madison, WI	1946	495	0
Local Office	Lexington, KY	1968	17	4
Banks Engineering, Inc.				
Headquarters	Nicholasville, KY	2009	14	6
Local Office	Nicholasville, KY	2009	14	6
S&ME Inc. ( <i>Geotechnical Engineering</i> )				
Headquarters	Raleigh, NC	1973	1,086	0
Local Office	Lexington, KY	2010	51	7

# Attachment

Third Rock Consultants, LLC  
Response to LFUCG Invitation to Bid # 52-2023  
Engineering Services for Design of New Water Quality Feature

## Required Forms



## AFFIDAVIT

Comes the Affiant, Molly Foree Cummins, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is Molly Foree Cummins and he/she is the individual submitting the proposal or is the authorized representative of Third Rock Consultants, LLC, the entity submitting the proposal (hereinafter referred to as "Proposer").

2. Proposer will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.

3. Proposer will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.

4. Proposer has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.

5. Proposer has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Proposer will not violate any provision of the campaign finance laws of the Commonwealth.

6. Proposer has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."

**Continued on next page**

7. Proposer acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught.

Molly Fore Cummins

STATE OF Kentucky

COUNTY OF Fayette

The foregoing instrument was subscribed, sworn to and acknowledged before me

by Molly Fore Cummins on this the 18th day  
of January, 2024.

My Commission expires: July 13, 2024

Becky J Weatherford  
NOTARY PUBLIC, STATE AT LARGE



## AMERICAN RESCUE PLAN ACT

### AMENDMENT 1 — CERTIFICATION OF COMPLIANCE FOR EXPENDITURES USING FEDERAL FUNDS, INCLUDING THE AMERICAN RESCUE PLAN ACT

The Lexington-Fayette Urban County Government (“LFUCG”) may use Federal funding to pay for the goods and/or services that are the subject matter of this bid. That Federal funding may include funds received by LFUCG under the American Rescue Plan Act of 2021. Expenditures using Federal funds require evidence of the contractor’s compliance with Federal law. Therefore, by the signature below of an authorized company representative, you certify that the information below is understood, agreed, and correct. Any misrepresentations may result in the termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims.

**The bidder (hereafter “bidder,” or “contractor”) agrees and understands that in addition to all conditions stated within the attached bid documents, the following conditions will also apply to any Agreement entered between bidder and LFUCG, if LFUCG uses Federal funds, including but not limited to funding received by LFUCG under the American Rescue Plan Act (“ARPA”), toward payment of goods and/or services referenced in this bid. The bidder also agrees and understands that if there is a conflict between the terms included elsewhere in this Request for Proposal and the terms of this Amendment 1, then the terms of Amendment 1 shall control. The bidder further certifies that it can and will comply with these conditions, if this bid is accepted and an Agreement is executed:**

1. Any Agreement executed as a result of acceptance of this bid may be governed in accordance with 2 CFR Part 200 and all other applicable Federal law and regulations and guidance issued by the U.S. Department of the Treasury.

2. Pursuant to 24 CFR § 85.43, any Agreement executed as a result of acceptance of this bid can be terminated if the contractor fails to comply with any term of the award. This Agreement may be terminated for convenience in accordance with 24 CFR § 85.44 upon written notice by LFUCG. Either party may terminate this Agreement with thirty (30) days written notice to the other party, in which case the Agreement shall terminate on the thirtieth day. In the event of termination, the contractor shall be entitled to that portion of total compensation due under this Agreement as the services rendered bears to the services required. However, if LFUCG suspects a breach of the terms of the Agreement and/or that the contractor is violating the terms of any applicable law governing the use of Federal funds, LFUCG may suspend the contractor’s ability to receive payment by giving thirty (30) days’ advance written notice. Further, either party may terminate this Agreement for cause shown with thirty (30) days written notice, which shall explain the party’s cause for the termination. If the parties do not reach a settlement before the end of the 30 days, then the Agreement shall terminate on the thirtieth day. In the event of a breach, LFUCG reserves the right to pursue any and all applicable legal, equitable, and/or administrative remedies against the contractor.

3. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

- (1) Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including

apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part, and the contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

Provided, however, that in the event a contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

4. If fulfillment of the contract requires the contractor to employ mechanic's or laborers, the contractor further agrees that it can and will comply with the following:

- (1) *Overtime requirements: No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such a workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such a workweek.*



- (2) *Violation: liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.*
- (3) *Withholding for unpaid wages and liquidated damages. LFUCG shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.*
- (4) *Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower-tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.*

*5. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.*

*6. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency Regional Office.*

*7. The contractor shall include these requirements in numerical paragraphs 5 and 6 in each subcontract exceeding \$100,000 financed in whole or in part with Federal funding.*

*8. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 et seq.*

*9. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency Regional Office.*

*10. The contractor shall include these requirements in numerical paragraphs 8 and 9 in each subcontract exceeding \$100,000 financed in whole or in part with Federal funds.*

*11. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 et seq.*

*12. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency regional office.*

*13. The contractor shall include these requirements in numerical paragraphs 11 and 12 in each subcontract exceeding \$100,000 financed in whole or in part with American Rescue Plan Act funds.*

14. The contractor shall include this language in any subcontract it executes to fulfill the terms of this bid: “the sub-grantee, contractor, subcontractor, successor, transferee, and assignee shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury’s Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract (or agreement). Title VI also includes protection to persons with ‘Limited English Proficiency’ in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury’s Title VI regulations, 31 CFR Part 22, and herein incorporated by reference and made a part of this contract or agreement.”

15. *Contractors who apply or bid for an award of \$100,000 or more shall file the required certification that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier, up to the recipient. The required certification is included here:*

- a. The undersigned certifies, to the best of his or her knowledge and belief, that:
  - (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
  - (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.
  - (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.
- b. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

16. The contractor acknowledges and certifies that it has not been debarred or suspended and further acknowledges and agrees that it must comply with regulations regarding debarred or suspended entities in accordance with 24 CFR § 570.489(l). Funds may not be provided to excluded or disqualified persons.

17. The contractor agrees and certifies that to the greatest extent practicable, it will prefer the purchase, acquisition, and use of all applicable goods, products or materials produced in the United States, in

conformity with 2 CFR 200.322 and/or section 70914 of Public Law No. 117-58, §§ 70901-52, also known as the Infrastructure Investment and Jobs Act, whichever is applicable.

18. The contractor agrees and certifies that all activities performed pursuant to any Agreement entered as a result of the contractor's bid, and all goods and services procured under that Agreement, shall comply with 2 C.F.R. § 200.216 (Prohibition on certain telecommunications and video surveillance services and equipment) and 2 C.F.R. 200 § 200..323 (Procurement of recovered materials), to the extent either section is applicable.

19. If this bid involves construction work for a project totaling \$10 million or more, then the contractor further agrees that all laborers and mechanics, etc., employed in the construction of the public facility project assisted with funds provided under this Agreement, whether employed by contractor, or contractor's contractors, or subcontractors, shall be paid wages complying with the Davis-Bacon Act (40 U.S.C. 3141-3144). Contractor agrees that all of contractor's contractors and subcontractors will pay laborers and mechanics the prevailing wage as determined by the Secretary of Labor and that said laborers and mechanics will be paid not less than once a week. The contractor agrees to comply with the Copeland Anti- Kick Back Act (18 U.S.C. § 874) and its implementing regulations of the U.S. Department of Labor at 29 CFR part 3 and part 5. The contractor further agrees to comply with the applicable provisions of the Contract Work Hours and Safety Standards Act (40 U.S.C. Section 327-333), and the applicable provisions of the Fair Labor Standards Act of 1938, as amended (29 U.S.C. et seq.). Contractor further agrees that it will report all suspected or reported violations of any of the laws identified in this paragraph to LFUCG.

Mally Fore Cummins

Signature

1-18-24

Date

## EQUAL OPPORTUNITY AGREEMENT

### Standard Title VI Assurance

The Lexington Fayette-Urban County Government, (hereinafter referred to as the "Recipient") hereby agrees that as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation, it will comply with Title VI of the Civil Rights Act of 1964, 78Stat.252, 42 U.S.C. 2000d-4 (hereinafter referred to as the "Act"), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, (49 CFR, Part 21) Nondiscrimination in Federally Assisted Program of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the "Regulations") and other pertinent directives, no person in the United States shall, on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance from the U.S. Department of Transportation, including the Federal Highway Administration, and hereby gives assurance that will promptly take any necessary measures to effectuate this agreement. This assurance is required by subsection 21.7(a) (1) of the Regulations.

### The Law

- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- Section 503 of the Rehabilitation Act of 1973 states:

*The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.*

- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.
- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

*The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.*

\*\*\*\*\*

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

*I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped and aged persons.*

*Mally Fore Cummins*  
\_\_\_\_\_  
Signature

Third Rock Consultants, LLC  
\_\_\_\_\_  
Name of Business

## **GENERAL PROVISIONS**

1. Each Respondent shall comply with all Federal, State & Local regulations concerning this type of service or good.

The Respondent agrees to comply with all statutes, rules, and regulations governing safe and healthful working conditions, including the Occupational Health and Safety Act of 1970, *29 U.S.C. 650 et. seq.*, as amended, and KRS Chapter 338. The Respondent also agrees to notify the LFUCG in writing immediately upon detection of any unsafe and/or unhealthful working conditions at the job site. The Respondent agrees to indemnify, defend and hold the LFUCG harmless from all penalties, fines or other expenses arising out of the alleged violation of said laws.

2. Failure to submit ALL forms and information required in this RFP may be grounds for disqualification.
3. Addenda: All addenda and IonWave Q&A, if any, shall be considered in making the proposal, and such addenda shall be made a part of this RFP. Before submitting a proposal, it is incumbent upon each proposer to be informed as to whether any addenda have been issued, and the failure to cover in the bid any such addenda may result in disqualification of that proposal.
4. Proposal Reservations: LFUCG reserves the right to reject any or all proposals, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.
5. Liability: LFUCG is not responsible for any cost incurred by a Respondent in the preparation of proposals.
6. Changes/Alterations: Respondent may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the proposal, and received by LFUCG prior to the scheduled closing time for receipt of proposals, will be accepted. The proposal, when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of proposal".
7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from a Respondent.
8. Bribery Clause: By his/her signature on the bid, Respondent certifies that no employee of his/hers, any affiliate or Subcontractor, has bribed or attempted to bribe an officer or employee of the LFUCG.

9. Additional Information: While not necessary, the Respondent may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the Respondent's response. Additional documentation shall not serve as a substitute for other documentation which is required by this RFP to be submitted with the proposal,
10. Ambiguity, Conflict or other Errors in RFP: If a Respondent discovers any ambiguity, conflict, discrepancy, omission or other error in the RFP, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.
11. Agreement to Bid Terms: In submitting this proposal, the Respondent agrees that it has carefully examined the specifications and all provisions relating to the work to be done attached hereto and made part of this proposal. By acceptance of a Contract under this RFP, proposer states that it understands the meaning, intent and requirements of the RFP and agrees to the same. The successful Respondent shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to Respondent shall be authorized for services or expenses reasonably covered under these provisions that the proposer omits from its Proposal.
12. Cancellation: If the services to be performed hereunder by the Respondent are not performed in an acceptable manner to the LFUCG, the LFUCG may cancel this contract for cause by providing written notice to the proposer, giving at least thirty (30) days notice of the proposed cancellation and the reasons for same. During that time period, the proposer may seek to bring the performance of services hereunder to a level that is acceptable to the LFUCG, and the LFUCG may rescind the cancellation if such action is in its best interest.

A. Termination for Cause

- (1) LFUCG may terminate a contract because of the contractor's failure to perform its contractual duties
- (2) If a contractor is determined to be in default, LFUCG shall notify the contractor of the determination in writing, and may include a specified date by which the contractor shall cure the identified deficiencies. LFUCG may proceed with termination if the contractor fails to cure the deficiencies within the specified time.
- (3) A default in performance by a contractor for which a contract may be terminated shall include, but shall not necessarily be limited to:
  - (a) Failure to perform the contract according to its terms, conditions and specifications;
  - (b) Failure to make delivery within the time specified or according

- to a delivery schedule fixed by the contract;
- (c) Late payment or nonpayment of bills for labor, materials, supplies, or equipment furnished in connection with a contract for construction services as evidenced by mechanics' liens filed pursuant to the provisions of KRS Chapter 376, or letters of indebtedness received from creditors by the purchasing agency;
  - (d) Failure to diligently advance the work under a contract for construction services;
  - (e) The filing of a bankruptcy petition by or against the contractor; or
  - (f) Actions that endanger the health, safety or welfare of the LFUCG or its citizens.

#### B. At Will Termination

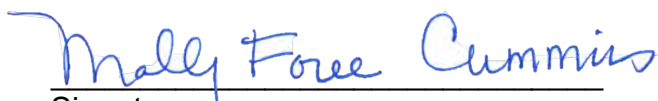
Notwithstanding the above provisions, the LFUCG may terminate this contract at will in accordance with the law upon providing thirty (30) days written notice of that intent, Payment for services or goods received prior to termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the LFUCG. Payment for those goods and services shall not be unreasonably withheld.

13. **Assignment of Contract:** The contractor shall not assign or subcontract any portion of the Contract without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.
14. **No Waiver:** No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this Contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.
15. **Authority to do Business:** The Respondent must be a duly organized and authorized to do business under the laws of Kentucky. Respondent must be in good standing and have full legal capacity to provide the services specified under this Contract. The Respondent must have all necessary right and lawful authority to enter into this Contract for the full term hereof and that proper corporate or other action has been duly taken authorizing the Respondent to enter into this Contract. The Respondent will provide LFUCG with a copy of a corporate resolution authorizing this action and a letter from an attorney confirming that the proposer is authorized to do business in the State of Kentucky if requested. All proposals must



be signed by a duly authorized officer, agent or employee of the Respondent.

16. **Governing Law:** This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this Contract, the Parties agree that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division. All parties expressly consent to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to this Contract or any rights or obligations arising thereunder. Service of process may be accomplished by following the procedures prescribed by law.
17. **Ability to Meet Obligations:** Respondent affirmatively states that there are no actions, suits or proceedings of any kind pending against Respondent or, to the knowledge of the Respondent, threatened against the Respondent before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of Respondent to perform its obligations under this Contract, or which question the legality, validity or enforceability hereof or thereof.
18. Contractor understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Contractor is an independent contractor at all times during the performance of the services specified.
19. If any term or provision of this Contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.
20. Contractor [or Vendor or Vendor's Employees] will not appropriate or make use of the Lexington-Fayette Urban County Government (LFUCG) name or any of its trade or service marks or property (including but not limited to any logo or seal), in any promotion, endorsement, advertisement, testimonial or similar use without the prior written consent of the government. If such consent is granted LFUCG reserves the unilateral right, in its sole discretion, to immediately terminate and revoke such use for any reason whatsoever. Contractor agrees that it shall cease and desist from any unauthorized use immediately upon being notified by LFUCG.

  
Signature

1-18-24  
Date

## LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # 52-2023

By the signature below of an authorized company representative, we certify that we have utilized the following Good Faith Efforts to obtain the maximum participation by MWDBE and Veteran-Owned business enterprises on the project and can supply the appropriate documentation.

Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.

Included documentation of advertising in the above publications with the bidders good faith efforts package

Attended LFUCG Central Purchasing Economic Inclusion Outreach event

Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned Businesses of subcontracting opportunities

Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses

Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.

Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

Followed up initial solicitations by contacting MWDBEs and Veteran-Owned businesses to determine their level of interest.

Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.

Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items

into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce

\_\_\_\_ Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.

\_\_\_\_ Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

\_\_\_\_ Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

\_\_\_\_ Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

\_\_\_\_ Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

X Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE and Veteran participation.

**NOTE: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to approval by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.**

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Third Rock Consultants, LLC  
\_\_\_\_\_  
**Company**  
1-18-24  
\_\_\_\_\_  
**Date**

*Mally Fore Cummins*  
\_\_\_\_\_  
**Company Representative**  
President  
\_\_\_\_\_  
**Title**

*Note:* Third Rock Consultants, LLC is a certified MWBE firm who will perform 58% of the work proposed.



**LFUCG MWDBE PARTICIPATION FORM**

**Bid/RFP/Quote Reference #** 52-2023

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to Central Purchasing for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

<b>MWDBE Company, Name, Address, Phone, Email</b>	<b>MBE WBE or DBE</b>	<b>Work to be Performed</b>	<b>Total Dollar Value of the Work</b>	<b>% Value of Total Contract</b>
1. Third Rock Consultants, LLC 2526 Regency Rd., Suite 180 Lexington, KY 40503	WBE	Contract Administration, Data Analysis, Design, Production of Construction Plans, Post-Construction Monitoring	\$106,750	58%
2.				
3.				
4.				

The undersigned company representative submits the above list of MWDBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Third Rock Consultants, LLC  
**Company**

1-18-24  
**Date**

Mally Fore Cummins  
**Company Representative**

President  
**Title**



**MWDBE QUOTE SUMMARY FORM**  
 Bid/RFP/Quote Reference # 52-2023

The undersigned acknowledges that the minority and/or veteran subcontractors listed on this form did submit a quote to participate on this project. Failure to submit this form may cause rejection of the bid.

<b>Company Name</b> Third Rock Consultants, LLC	<b>Contact Person</b> Molly Foree Cummins
<b>Address/Phone/Email</b> 2526 Regency Rd, Suite 180 Lexington, KY 40503 859.977.2000, mforee@thirdrockconsultants.com	<b>Bid Package / Bid Date</b> #52-2023, 1-18-24

MWDBE Company Address	Contact Person	Contact Information (work phone, Email, cell)	Date Contacted	Services to be performed	Method of Communication (email, phone meeting, ad, event etc)	Total dollars \$\$ Do Not Leave Blank (Attach Documentation)	MBE * AA HA AS NA Female	Veteran
<i>Third Rock Consultants, LLC is a certified MWBE who will prime the contract and perform 58% of the work proposed.</i>								

(MBE designation / AA=African American / HA= Hispanic American/AS = Asian American/Pacific Islander/ NA= Native American)

The undersigned acknowledges that all information is accurate. Any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Third Rock Consultants, LLC  
Company

Molly Foree Cummins  
Company Representative

1-18-24  
Date

President  
Title

**WORKFORCE ANALYSIS FORM**

Name of Organization: Third Rock Consultants, LLC

Categories	Total	White (Not Hispanic or Latino)		Hispanic or Latino		Black or African-American (Not Hispanic or Latino)		Native Hawaiian and Other Pacific Islander (Not Hispanic or Latino)		Asian (Not Hispanic or Latino)		American Indian or Alaskan Native (not Hispanic or Latino)		Two or more races (Not Hispanic or Latino)		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Administrators																	
Professionals		9	6													9	6
Superintendents																	
Supervisors																	
Foremen																	
Technicians			1														1
Protective																	
Para-																	
Office/Clerical			2														2
Skilled Craft																	
Service/Maintena																	
<b>Total:</b>		9	9													9	9

Prepared by: Molly Foree Cummins Date: 1 / 18 / 24

*(Name and Title)*

*Revised 2015-Dec-15*



The Lexington-Fayette Urban County Government (LFUCG) has received a §319(h) Nonpoint Source Grant (PON2 129 2400000129) through the Kentucky Division of Water (KDOW) (KDOW Project Number 23-07) to implement two (2) water quality improvement projects in the Wolf Run Watershed (**Figure 1**, page 2). Both projects were identified in the Wolf Run Watershed-Based Plan (WRWBP) and are described as follows.

- **BMP #48 (Figure 2, page 3)** will involve retrofitting a commercial detention basin located at a commercial detention basin located at 2201 Regency Road by removing approximately 500 LF of concrete channel, 280 LF of which is classified as ephemeral stream. The goal is to create a more natural waterway that will encourage infiltration, dispersal of stormwater flows across more of the basin bottom, and filtration through the roots systems of native plants and trees.
- **BMP #49 (Figure 3, page 3)** will involve diverting stormwater from an existing drainage channel parallel to the railroad tracks, through a filtration basin on LFUCG-owned property on Derby Drive, into an existing storm sewer off Regency Road. The goal is to divert stormwater from the railroad tracks area via an existing utility easement to City-owned property where it will be filtered for pollutants and sediment and enhance the look and function of the property by installing flowering native plants and trees.

## SCOPE OF WORK

### Project Kick-Off Meeting

The team of Third Rock Consultants, LLC, Strand Associates, and Banks Engineering (“Design Team”) will participate in a project start-up meeting with LFUCG within 10 days of Notice to Proceed. The purpose of this meeting will be to introduce all members of the project team, review project communications, finalize scope, review schedule, review permitting strategy, and discuss in detail the design milestones and deliverables.

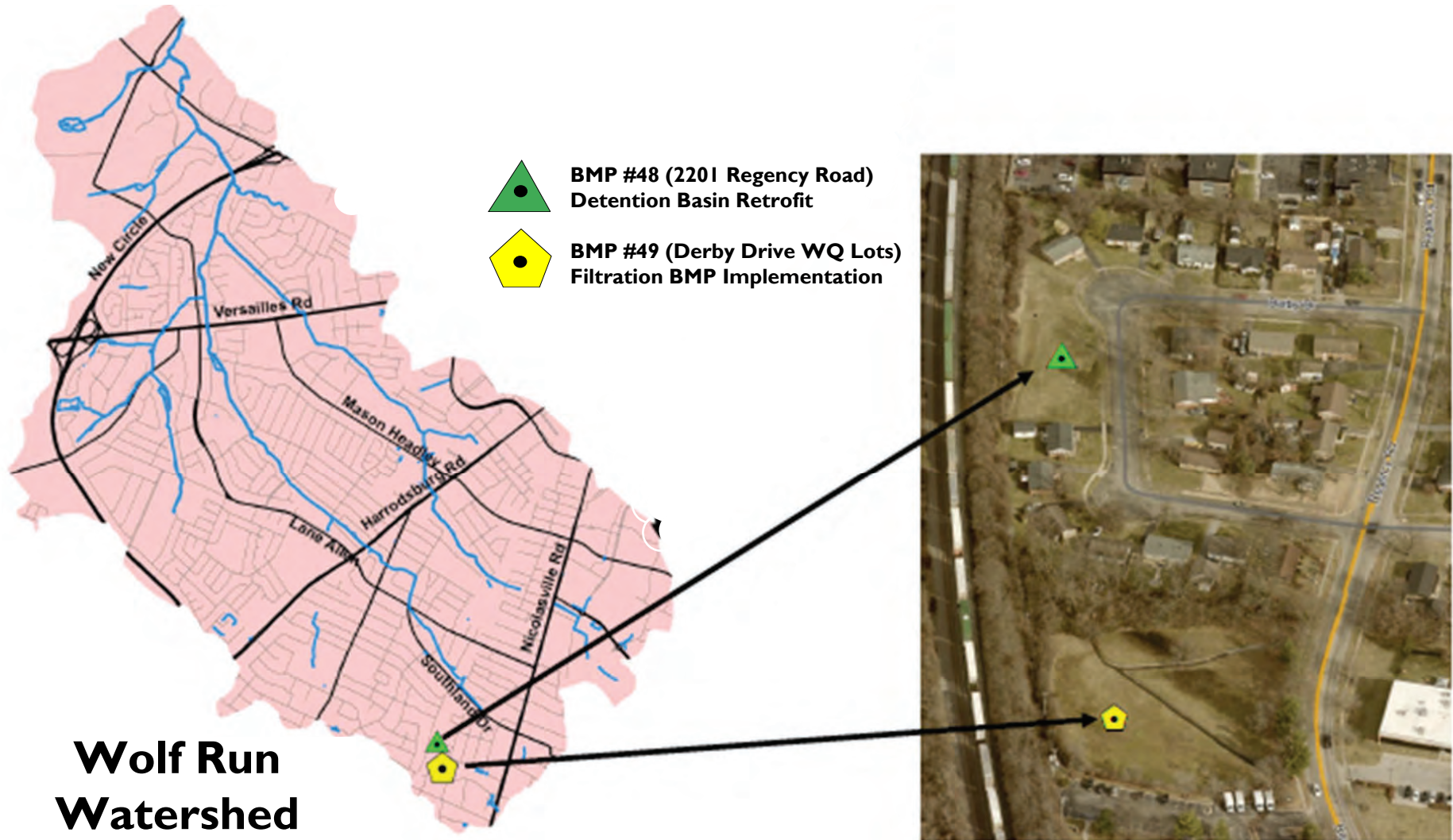
### Field Surveys / Data Collection (BMP #48 and #49)

The Design Team will:

- 1) Conduct desktop analysis to inform subsequent field survey and data collection. Work will include, but not be limited to, review of available mapping and GIS resources, state/federal agency records (including a routine background records search at the Office of State Archaeology (OSA)), hydrologic and hydraulic models, and the following LFUCG documents:
  - §319(h) Grant Application and Contract
  - Wolf Run Watershed Management Plan (2013)
  - Wolf Run Watershed-Focused Monitoring Water Quality Results (2024)
  - Southland Area Storm Drainage Project (2018)
  - Lexington Watershed-Focused Monitoring QAPP (2017)



**Figure I. Project Locations**







**Figure 2. BMP #48 (2201 Regency Road)**



**Figure 3. BMP #49 (276-288 Derby Drive)**





- 2) Collect grab samples during two (2) wet weather events (one (1) from the closest downstream manhole to the projects, and (1) one from the in-stream outfall on Southland Drive) to establish pre-construction water quality conditions. Samples will be delivered under chain-of-custody to a certified laboratory for analysis, with results provided to LFUCG within seven (7) days of receipt by the Design Team.
- 3) Obtain location and elevation of physical features, including topography, drainage features, structures, utilities (above and below ground), fencing, and trees, as needed, to provide accurate plan, profile, and cross section information necessary for hydrologic / hydraulic design and construction. *NAD\_1983\_StatePlane\_Kentucky\_North\_NFIPS\_1601\_Feet* coordinate system will be used. Vertical Datum shall be: NAVD 88.
- 4) Locate additional drainage features or utilities outside of the identified project areas that may be necessary for stormwater calculations or design.
- 5) Perform soil sampling, as needed, for design (e.g., particle size distributions for bedload, incoming sediment load, etc.).
- 6) Locate and delineate water resources for the purpose of making a jurisdictional determination as defined by US Army Corps of Engineers (USACE) §404 implementing regulations.
- 7) Identify and quantify federally listed threatened and endangered (T&E) species habitat in accordance with US Fish and Wildlife Service (USFWS) protocol.

### **Conceptual Design and Implementation Plan (BMP #48 and #49)**

The Design Team will:

- 1) Participate in 1<sup>st</sup> Stakeholders' Meeting to solicit information and input from LFUCG Divisions of Environmental Services and Water Quality and the following stakeholder groups:
  - KDOW §319(h) Non-Point Source staff;
  - The Wolf Run Watershed Council;
  - The Friends of Wolf Run; *and*
  - Owners / Managers of the Properties and Neighboring Properties.

Compile and publish draft meeting minutes for review and approval by LFUCG prior to distribution to stakeholders via email.

- 2) Evaluate strategies for water quality improvement at each site by examining existing inlets, outlets, site constraints, infiltration potential, and any other pertinent information taking into consideration the WRWBP goals / objectives and initial stakeholder input.
- 3) Develop conceptual designs and produce preliminary drawings / renderings and supporting documentation for submittal to LFUCG one (1) week prior to 1<sup>st</sup> Design Progress Meeting.
- 4) Participate in 1<sup>st</sup> LFUCG Design Progress Meeting. Compile and publish draft meeting minutes for review and approval by LFUCG.
- 5) Address LFUCG comments and revise preliminary drawings / renderings accordingly.



- 6) Upon LFUCG approval, participate in 2<sup>nd</sup> Stakeholders' Meeting to present preliminary drawings / renderings and solicit stakeholder feedback. Compile and publish draft meeting minutes for review and approval by LFUCG prior to distribution to stakeholders via email.
- 7) Develop a plan for implementation of both conceptual designs (grant-required BMP Implementation Plan) for review by LFUCG prior to submission to KDOW for approval.
- 8) Upon KDOW approval, finalize conceptual designs, produce final drawings / renderings, and develop construction cost estimates for submittal to LFUCG one (1) week prior to 2<sup>nd</sup> Design Progress Meeting.
- 9) Participate in 2<sup>nd</sup> LFUCG Design Progress Meeting. Compile and publish draft meeting minutes for review and approval by LFUCG.
- 10) Upon LFUCG approval, participate in 3<sup>rd</sup> Stakeholders' Meeting to present final drawings / renderings and solicit stakeholder feedback. Compile and publish draft meeting minutes for review and approval by LFUCG prior to distribution to stakeholders via email.

### **Final Design and Construction Documents (BMP #48)**

The Design Team will:

- 1) Develop preliminary design drawings in accordance with LFUCG's Stormwater Manual and Engineering Standard Drawings, as applicable, and coordinate with utilities affected by the project.
- 2) Prepare and submit one (1) PDF copy and five (5) hard copies of the following preliminary (50%) construction documents one (1) week before the 3<sup>rd</sup> LFUCG Design Progress Meeting:
  - 24"x36"-sized plan sheets (1"=20' scale) showing existing features and proposed features including utility relocations if necessary
  - Profile sheets (1"=20'H: 1"=2'V)
  - Cross-section sheets (1"=5')
  - Preliminary Details sheets
  - Preliminary Erosion and Sediment Control and Stormwater Pollution Prevention Plan sheets
  - Preliminary Technical Specifications
  - Preliminary Opinion of Probable Cost
  - Preliminary Hydrologic & Hydraulic Analyses Results
- 3) Prepare the appropriate application(s) and/or forms and all supporting documentation to secure authorization for impacts to jurisdictional water resources as follows:
  - Department of Army Clean Water Act (CWA) §404 Permit for unavoidable impacts to waters of the U.S. This scope of work presumes unavoidable impacts will be authorized under a Nationwide Permit (NWP) requiring submittal of Pre-Construction Notification (PCN) on USACE Eng. Form 6082. *CWA §404 requires compliance with §7 of the Endangered Species Act (ESA) and §106 of the National Historic Preservation Act (NHPA).*



- ✓ USFWS ESA §7 clearance for unavoidable impacts to federally-listed T&E species habitat. **Note:** *This Scope of Work does not include Phase 2 Presence / Absence Surveys should compensatory mitigation for impacts to T&E habitat be unavoidable.*
- ✓ Kentucky Heritage Council (KHC) State Historic Preservation Office (SHPO) NHPA §106 clearance for unavoidable impacts to National Register of Historic Places (NRHP) listed or eligible archaeological resources. **Note:** *This scope of work does not include Phase I archaeological survey should the USACE determine additional investigation is warranted.*

This scope of work presumes that impacts to surface waters of the Commonwealth will be authorized under KDOW's General CWA §401 Water Quality Certification (WQC) and construction in a floodplain authorized by KDOW's General Floodplain Permit; therefore, no independent notification by LFUCG will be made. **Note:** *Should any of the General WQC or General Floodplain Permit conditions not be met, impacts will require authorization under an individual WQC or Floodplain Construction Permit requiring time and expense beyond this scope of work.*

- 4) Submit the draft PCN package and all supporting documentation to LFUCG for review and signature (as appropriate) one (1) week before the 3<sup>rd</sup> LFUCG Design Progress Meeting.
- 5) Participate in the 3<sup>rd</sup> LFUCG Design Progress Meeting. Review design and construction timelines, schedules, and documents in order to meet the grant requirements. Compile and publish draft meeting minutes for review and approval by LFUCG.
- 6) Submit the signed PCN packages to the USACE Louisville District for coordination with KDOW and consultation with the USFWS Frankfort Field Office and SHPO.
- 7) Develop final design drawings in accordance with LFUCG's Stormwater Manual and Engineering Standard Drawings, as applicable.
- 8) Prepare and submit one (1) PDF copy and five (5) hard copies of the following final (90%) construction documents one (1) week before the 4<sup>th</sup> LFUCG Design Progress Meeting:
  - 24"x36"-sized plan sheets (1"=20' scale) showing existing features and proposed features
  - including utility relocations if necessary
  - Profile sheets (1"=20'H: 1"=2'V)
  - Cross-section sheets (1"=5')
  - Details and Notes sheets
  - Erosion and Sediment Control and Stormwater Pollution Prevention Plan sheets
  - Technical Specifications
  - Engineer's Opinion of Probable Cost
  - Final Hydrologic & Hydraulic Design Report

All sheets and documents shall be signed and sealed by a Professional Engineer and Registered Land Surveyor and stamped "Not For Construction."



- 9) Participate in the 4<sup>th</sup> LFUCG Design Progress Meeting. Review design and construction timelines, schedules, and documents in order to meet the grant requirements. Compile and publish draft meeting minutes for review and approval by LFUCG.
- 10) Finalize and submit one (1) PDF copy (reproducible digital version) and eight (8) hard copies of the following 100% bid documents one (1) week before the 5<sup>th</sup> and final LFUCG Design Progress Meeting:
- 24"x36"-sized plan sheets (1"=20' scale)
  - Profile sheets (1"=20'H: 1"=2'V)
  - Cross-section sheets (1"=5')
  - Details and Notes sheets
  - Erosion and Sediment Control and Stormwater Pollution Prevention Plan sheets
  - Technical Specifications
  - Engineer's Opinion of Probable Cost
  - Permits (in separate binder)

All sheets and documents shall be signed and sealed by a Professional Engineer and Registered Land Surveyor and stamped "For Construction."

- 11) Participate in the 5<sup>th</sup> and final LFUCG Design Progress Meeting. Review design and construction timelines, schedules, and documents in order to meet the grant requirements. Compile and publish draft meeting minutes for review and approval by LFUCG.

### **Bidding Services (BMP #48)**

The Design team will:

- 1) Coordinate with LFUCG Division of Procurement for advertisement and distribution of bid documents and any addendums. Maintain an up-to-date list of plan holders.
- 2) Attend pre-bid meeting and prepare minutes from the pre-bid meeting to issue as an addendum.
- 3) During the bidding phase, address bidder's questions and coordinate responses with the LFUCG Project Manager and Division of Procurement. Respond to questions and prepare addenda as necessary. LFUCG Division of Procurement will issue any addenda.
- 4) Compile copies of all bids, prepare a tabulation of bid prices.
- 5) Prepare hard and electronic copies of bid tabulation and recommendation of award (including award selection criteria).
- 6) Provide electronic versions of Construction Plans to coordinate with utilities as needed.



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### **Construction Administration Assistance (BMP #48)**

The Design team will:

- 1) Review all shop drawings.
- 2) Review and approve Contractor's pay requests.
- 3) Schedule and facilitate construction progress meetings with the Contractor and LFUCG staff on at least a monthly basis. Prepare and distribute meeting minutes to all attendees.
- 4) Attend final inspection and prepare final punch list.
- 5) Prepare one (1) hard copy and one (1) digital copy of signed and sealed Record Drawings.
- 6) Prepare a Project Certification Memorandum.

### **Post-Construction Monitoring (BMP #48)**

The Design team will conduct post-construction water quality sampling during two (2) wet weather events (one (1) grab sample from the closest downstream manhole to the projects, and (1) one grab sample from the in-stream outfall on Southland Drive). Samples will be delivered under chain-of-custody to a certified laboratory for analysis, with results provided to LFUCG within seven (7) days of receipt by the Design Team. Pre-construction (*samples collected during the Field Survey / Data Collection phase*) and post-construction results will be compared to determine the effectiveness of BMP #48.

### **Public Education (BMP #48)**

The Design Team will work with LFUCG's Division of Environmental Services and stakeholder groups to:

- 1) Schedule and conduct a post-construction tour of the site.
- 2) Identify appropriate long-term topics for educational signage.
- 3) Create content for the LexingtonKY.gov web page updates as needed.
- 4) Design one (1) 24" x 36" sign that communicates / illustrates long-term educational topics for submittal to KDOW for approval.
- 5) Finalize sign and forward reproducible digital copy to LFUCG for printing and installation.



**ENGINEERING DESIGN SERVICES FEE**

<b>Task</b>	<b>Regency Road Detention Basin Retrofit Fee (Lump Sum)</b>	<b>Derby Drive Filtration BMP Fee (Lump Sum)</b>
Project Kick-Off & Desktop Analysis	\$2,900	\$2,300
Field Survey / Data Collection	\$13,500	\$13,500
Conceptual Design	\$10,800	\$9,800
Design & Construction Documents	\$30,000	
Permitting Services	\$6,000	
Bidding Services	\$4,500	
Construction Administration	\$6,400	
Meetings (4 Stakeholder, 5 Design Progress)	\$20,000	
Public Education	\$3,500	
Water Quality Sampling (Pre- and Post-)	\$5,000	
<b>Total Cost</b>	<b>\$102,600</b>	<b>\$25,600</b>
Cost per Meeting for Add'l Meetings not included in the Revised Scope	\$1,500	