Lexington-Fayette
Urban County Government

Request for Proposals

The Lexington-Fayette Urban County Government hereby requests proposals for **RFP #18-2025 Greenbriar 2 Pump Station Replacement** 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 **June 27, 2025.** 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Proposals, once submitted, may not be withdrawn for a period of ninety (90) calendar days.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.

SELECTION CRITERIA:

The LFUCG's Selection Committee shall consider the following factors when it evaluates the proposals received:

See the proposal requirements section for scoring criteria.	

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 regarding this RFP shall be addressed through: 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 Procurement
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.

_____ _____

Signature *Name of Business*

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**
Administrators																	
Professionals																	
Superintendents																	
Supervisors																	
Foremen																	
Technicians																	
Protective Service																	
Para-Professionals																	
Office/Clerical																	
Skilled Craft																	
Service/Maintenance																	
Total:																	

Prepared by: _____ **Date:** _____/_____/_____

(Name and Title)

Revised 2015-Dec-15

DIRECTOR, DIVISION OF PROCUREMENT
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

The Lexington-Fayette Urban County Government has a Certified Minority and Women Business Enterprise seventeen percent (17%) minimum goal including minimum subgoals of five percent (5%) for Minority Business Enterprises (MBE) and a subgoal of twelve percent (12%) for Women Business Enterprises (WBE); a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and/or Certified Service- Disabled Veteran Owned Businesses; and a goal of utilizing Disadvantaged Business Enterprises (DBE), where applicable, for government contracts.

For assistance in locating certified DBEs, MBEs, WBEs, VOSBs and/or VOSBs, contact Sherita Miller at 859/258-3320 or by writing the address listed below:

Sherita Miller, MPA, CPSD
Minority Business Enterprise Liaison
Division of Procurement
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, Kentucky 40507
smiller@lexingtonky.gov
859-258-3323

Firm Submitting Proposal: _____

Complete Address: _____
Street City Zip

Contact Name: _____ Title: _____

Telephone Number: _____ Fax Number: _____

Email address: _____

LEXINGTON

MINORITY BUSINESS ENTERPRISE PROGRAM

Sherita Miller, MPA, CPSD
Minority Business Enterprise Liaison
Division of Procurement
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, KY 40507
smiller@lexingtonky.gov
859-258-3323

OUR MISSION: The mission of the Minority Business Enterprise Program (MBEP) 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 urban county council adopted and implemented Resolution 272-2024 – a Certified Minority and Women Business Enterprise seventeen percent (17%) minimum goal including minimum subgoals of five percent (5%) for Minority Business Enterprises (MBE) and a subgoal of twelve percent (12%) for Women Business Enterprises (WBE); a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and/or Certified Service- Disabled Veteran Owned Businesses; and a goal of utilizing Disadvantaged Business Enterprises (DBE), where applicable, for government contracts.

The resolution states the following definitions shall be used for the purposes of reaching these goals:

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 define 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. Black American, Asian American, Hispanic American, Native American)*

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 Procurement as having the appropriate credentials to make a determination as to the status of the business.
The following certifications are recognized and accepted by the MBEP:

Kentucky Transportation Cabinet (KYTC), Disadvantaged Business Enterprise (DBE)
Kentucky Minority and Women Business Enterprise (MWBE)
Women's Business Enterprise National Council (WBENC)
National Women Business Owners Corporation (NWBOC)
National Minority Supplier Development Council (NMSDC)
Tri-State Minority Supplier Development Council (TSMSDC)
U.S. Small Business Administration Veteran Small Business Certification (VetCert)
Kentucky Service- Disabled Veteran Owned Small Business (SDVOSB)

To comply with Resolution 272-2024, prime contractors, minority and women business enterprises, veteran owned small businesses, and service-disabled veteran owned small businesses must complete monthly contract compliance audits in the Diverse Business Management Compliance system, https://lexingtonky.diversitycompliance.com/

A list of organizations that certify and/or maintain lists of certified businesses (i.e. DBE, MBE, WBE, VOSB and/or SDVOSB) is available upon request by emailing, Sherita Miller, smiller@lexingtonky.gov.

LEXINGTON

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 the Division of Procurement for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWBE Company, Name, Address, Phone, Email	DBE/MBE WBE/VOSB/SDVOSB	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 MDWBE and veteran 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**

LEXINGTON

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 the Division of Procurement 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. **Note: Form required if a subcontractor is being substituted on a contract.**

SUBSTITUTED DBE/MBE/WBE/VOSB Company Name, Address, Phone, Email	DBE/MBE/WBE/VOSB/SDVOSB 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**

LEXINGTON

DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS AND OUTREACH PLANS

As affirmed in Resolution Number 272-2024, the Urban County Council has adopted an annual aspirational goal of utilizing at least seventeen percent (17%) of public funds spend from certain discretionary agreements with certified Minority Business Enterprises (MBEs) and certified Woman Business Enterprises (WBEs); utilizing at least three percent (3%) of public funds from certain discretionary agreements with Certified Veteran-Owned Small Business and Certified Service-Disabled Veteran-Owned Small Businesses (VOSBs); and utilizing Disadvantaged Business Enterprises (DBEs) where applicable. Bidders should make every effort to achieve these goals.

Therefore, as an element of the responsiveness of the bid, all Bidders are required to submit documentation of their good faith and outreach efforts to ensure all businesses, including small and disadvantaged businesses such as minority-, woman-, and veteran-owned businesses, have an equal opportunity to compete for and participate in the performance of any subcontracts resulting from this procurement. Examples of good faith and outreach efforts that satisfy this requirement to encourage the participation of, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs include:

1. 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, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to participate.

2. Attended LFUCG Procurement Economic Inclusion Outreach event(s) within the past year to meet new small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to partner with on LFUCG contracts and procurements.

3. Attended pre-bid/pre-proposal meetings that were scheduled by LFUCG to inform small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs of subcontracting opportunities.

4. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs.

5. Requested a list of certified small, DBE, MBE, WBE, VOSB and/or SDVOSB subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

6. Contacted organizations that work with small, DBE, MBE, WBE, and VOSB companies for assistance in finding certified DBEs, MBEs, WBEs, VOSB and/or SDVOSBs to work

on this project. Those contacted and their responses must be a part of the bidder's outreach efforts documentation.

7. Sent written notices, by certified mail, email, or facsimile, to qualified, certified small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs 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.

8. Followed up initial solicitations by contacting small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs via tailored communications to determine their level of interest.

9. Provided the interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs with adequate and timely information about the plans, specifications, and requirements of the contract.

10. Selected portions of the work to be performed by small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs in order to increase the likelihood of subcontracting participation. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate small, DBE, MBE, WBE, VOSB and/or SDVOSB participation, even when the prime contractor may otherwise perform these work items with its own workforce.

11. Negotiated in good faith with interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection must be so noted in writing with a description as to why an agreement could not be reached.

12. Included documentation of quotations received from interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs that 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.

    a. 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 small business', DBE's MBE's, WBE's, VOSB's and/or SDVOSB's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy the participation goals.

13. Made an effort to offer assistance to or refer interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal.

14. Made efforts to expand the search for small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs beyond the usual geographic boundaries.

15. Other – any other evidence that the bidder submits that may demonstrate that the bidder has made reasonable efforts to include small, DBE, MBE, WBE, VOSB and/or SDVOSB participation.

Bidder must document, with specificity, each of the efforts it made to include small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs as subcontractors in the procurement, including the date on which each effort was made, the medium through which each effort was made, and the outcome of each effort.

> **<u>Note</u>: Failure to submit 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 and Outreach Efforts must be submitted with the Bid, regardless of the proposed level of small, DBE, MBE, WBE, VOSB and/or SDVOSB participation in the procurement. If the Good Faith and Outreach Effort documentation is not submitted with the bid response, the bid may be rejected.**

OUTREACH EFFORTS EVALUATION

Outreach efforts demonstrated by the bidder or respondent will be evaluated on a pass/fail basis.

ATTACHMENT A – SMALL AND DISADVANTAGED, MINORITY-, WOMEN-, AND VETERAN-OWNED BUSINESS OUTREACH PLAN

Proposer Name:		**Date:**	
Project Name:		**Project Number:**	
Contact Name:		**Telephone:**	
Email:			

The mission of the Minority Business Enterprise Program is to facilitate the full participation of disadvantaged businesses, minority-, women-, veteran-, and service-disabled veteran-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, small and disadvantaged businesses, including minority-, woman-, veteran-, and service-disabled veteran-owned businesses, must have an equal opportunity to be utilized in the performance of contracts with public funds spent from certain discretionary agreements. By submitting its offer, Bidder/Proposer certifies that it has taken, and if there are further opportunities will take, reasonable steps to ensure that small and disadvantaged businesses, including minority-, woman-, veteran-, and service-disabled veteran-owned businesses, are provided an equal opportunity to compete for and participate in the performance of any subcontracts resulting from this procurement.

The information submitted in response to this clause will not be considered in any scored evaluation. Failure to submit this form may cause the bid or proposal to be rejected.

Is the Bidder/ Proposer a certified firm? Yes ☐ No ☐

If yes, indicate all certification type(s):

DBE ☐ MBE ☐ WBE ☐ SBE ☐ VOSB/SDVOSB ☐

and supply a copy of the certificate and/or certification letter if not currently listed on the city's Minority Business Enterprise Program's (MBEP) certified list.

1. Include a list of firms that Bidder/ Proposer has had a contractual relationship with within the last two years that are minority-owned, woman-owned, veteran-owned or small businesses, regardless of their certification status.

Click or tap here to enter text.

2. Does Bidder/Proposer foresee any subcontracting opportunities for this procurement?

Yes ☐ No ☐

If no, please explain why in the field below. Do not complete the rest of this form and submit this first page with your bid and/or proposal. Click or tap here to enter text.

If yes, please complete the following pages and submit all pages with your bid and/or proposal.

Describe the steps Bidder/Proposer took to solicit small and disadvantaged businesses, including MBEs, WBEs, VOSBs, and SDVOSBs, for subcontracting opportunities for this procurement.

3. Check the good faith and outreach efforts the Bidder/Proposer used to encourage the participation of small and disadvantaged businesses including, MBEs, WBEs, VOSBs and SDVOSBs:

- ☐ Bidder placed advertisements in search of prospective small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs for the solicitation.
- ☐ Bidder attended LFUCG Procurement Economic Inclusion Outreach event(s) within the past year.
- ☐ Bidder attended pre-bid and/or pre-proposal meetings for this solicitation.
- ☐ Bidder sponsored an Economic Inclusion Outreach event.
- ☐ Bidder requested a list of certified small, DBE, MBE, WBE, VOSB and/or SDVOSB subcontractors or suppliers from LFUCG.
- ☐ Bidder contacted organizations that work with small, DBE, MBE, WBE, VOSB and/or SDVOSB companies.
- ☐ Bidder sent written notices to certified small, DBE, MBE, WBE, VOSB and SDVOSB businesses.
- ☐ Bidder followed up to initial solicitations with interested small, DBE, MBE, WBE, VOSB and/or SDVOSB.
- ☐ Bidder provided small, DBE, MBE, WBE, VOSB and/or SDVOSB businesses interested in performing the solicited work with prompt access to the plans, specifications, scope of work, and requirements of the solicitation.
- ☐ Bidder made efforts to segment portions of the work to be performed by small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, including dividing sub-bid/partnership opportunities into economically feasible units/parcels, to facilitate participation.

☐ Bidder negotiated in good faith with interested small, DBE, MBE, WBE, VOSB and/or SDVOSB businesses.

☐ Bidder provided adequate rationale for rejecting any small business', DBEs, MBEs, WBEs, VOSBs or SDVOSBs for lack of qualifications.

☐ Bidder offered assistance in obtaining bonding, insurance, financial, equipment, or other resources to small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, in an effort to assist them in meeting project requirements.

☐ Bidder made efforts to expand the search for small businesses, DBEs MBEs, WBEs, VOSBs and/or SDVOSBs beyond the usual geographic boundaries.

☐ Bidder made other reasonable efforts to include small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs participation.

4. Bidder/Proposer must include documentation, including the date each effort was made, the medium through which each effort was made, and the outcome of each effort with this form, regardless of the level of small, DBE, MBE, WBE, VOSB and/or SDVOSB participation. Examples of required documentation include copies of email communications, copies of newspaper advertisements, or copies of quotations received from interested small businesses, DBEs, MBEs, WBEs, VOSBs or SDVOSBs.

Click or tap here to enter text.

For detailed information regarding outreach efforts that satisfy the MBE Program's requirements, please see "Documentation Required for Good Faith Efforts and Outreach Plans" page.

<u>Note</u>: The Bidder/Proposer must be willing to report the identity of each subcontractor and the value of each subcontract to MBEP if awarded a contract from this procurement.

Failure to submit the documentation requested may be cause for rejection of the 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 and Outreach Efforts must be submitted with the bid, regardless of the proposed level of SBEs, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs participation in the procurement. If the Good Faith and Outreach Effort Form and associated documentation is not submitted with the bid response, the bid may be rejected.

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, safely 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 Date

RISK MANAGEMENT PROVISIONS
INSURANCE AND INDEMNIFICATION

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:

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

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.

MAYOR LINDA GORTON

LEXINGTON

TODD SLATIN
DIRECTOR
CENTRAL PURCHASING

Request For Qualifications and Proposals Design and Preparation of Contract Documents and Services During Construction
Greenbriar #2 Pump Station
RMP Project Number: NE-04
LFUCG RFP Number 18-2025

Request For Fee Proposal

The Lexington-Fayette Urban County Government (LFUCG), through its Division of Water Quality (DWQ), is requesting a Statement of Qualifications and Fee Proposal for professional engineering services related to Design, Services During Bidding, Resident Observation services, and Contract Administration through construction, for the Greenbriar #2 Pump Station (G2PS) facilities, hereinafter referred to as the G2PS Project. This Request for Proposal (RFP) clarifies the description of work and schedule for the Design Consultant. The DWQ will select the Design Consultant based on qualifications and ratings as defined in the "Design Consultant Rating Criteria" Section on Pages 3 and 4. Note, the Notice to Proceed on this project starting design will not be issued until after 7/1/2025.

Background and Project Description

In accordance with Section VII, paragraph G of the Consent Decree, DWQ has prepared and submitted to the Environmental Protection Agency (EPA) and the Kentucky Division of Enforcement (DOE) its Remedial Measures Plan (RMP), Groups 1, 2, and 3. The Group 1 RMP calls for construction of the G2PS Project with construction completion by the following date:

- G2PS Construction Completion – End of 2028

The proposed design of G2PS will incorporate the required components for a Class C Pump Station per LFUCG's Pump Station Manual and will be located per the attached TM/PER at site PS3. This proposed site is located in the rear of 2739 Martinique Ln, Lexington, KY 40509,

along Winchester Road and will share the site with existing Windstream utilities and access road off Winchester Road. This project design will required extensive coordination with the pending KYTC widening project.

The GB2PS will be designed to pump wastewater flows up to the design 2-year, 24-hour storm event per the future conditions model. The proposed PS shall have a firm capacity of 0.75 mgd (521 gpm) and the force main shall be sized to accommodate growth and expansion of the PS at a future date. Project scope includes a new pump station design as well as site work, all gravity sewer, manholes, and force main along Winchester Road to connect the new pump station to the existing LFUCG-DWQ collection system, and decommission of the existing pump station. See the TM/PER for additional information on the recommended alternative PC3.

The Design Consultant shall utilize LFUCG's "Sanitary Sewer and Pump Station Manual 2009" issued January 2009 along with "Sanitary Sewer and Pump Station Manual Amendment No. 1" Issued October 2018 and "Sanitary Sewer and Pump Station Manual Amendment No. 2" Issued December 2020 in the preparation of all deliverables. Any deviations in the requirements noted in this Request for Proposal and other LFUCG Technical Memorandum or Documents shall be reported to LFUCG immediately for clarification. LFUCG reserves the right to wave any requirements listed within the Manual. The manuals can be found at the link below, under Planning and project design. https://www.lexingtonky.gov/government/departments-programs/environmental-quality-public-works/engineering/new-development-redevelopment-construction-demolition-projects or scanning the QR code:

Easement acquisition will be required for this project. Engineer to assume five (5) easements included in the project and will only invoice for the final number of easements created. See Task 4 for scope information. LFUCG will provide sample easement documents to the awarded design engineer to follow.

Questions regarding the scope of the project shall be submitted through the LFUCG IonWave questions portal.

Design Consultant Rating Criteria

DWQ plans to select the most responsive and qualified firm based on the following rating criteria and weighting scale:

- Proposed Fee **(10 Points)**, 3 pages maximum
    a. Representative of the services required for each Task.
    b. Demonstrates Design Consultant's familiarity with the Scope of Services.
    c. Fee Proposal sheet shall be completed and submitted with proposal.
- Degree of local employment (Bluegrass ADD counties) **(10 Points)**
    a. More points for awarded for % of team withing BGADD District.
- Past performance on projects similar in scope or complexity **(30 Points)**, 5 pages maximum
    a. For the past five (5) year period, the ability to design projects within specific project budgets and schedules.
    b. Provide a list of minimum three (3) similar projects over the past ten (10) years including Project Name, Description, Total Construction Cost, Client Contact Information, and the Date the Project was Substantially Completed.
    c. Knowledge and experience with DWQ's Standards and Manuals and Record of compliance with LFUCG and other regulatory agencies will be awarded more points.
- Project Manager experience and capability **(25 Points)**, 2 pages maximum
    a. Ability to manage design activities on projects similar in scope and magnitude.
    b. Knowledge and understanding of applicable Codes, Standards, and other design requirements.
    c. Past performance with LFUCG/DWQ.
    d. Ability to effectively communicate, respond, and relay critical project information to the Project Team.

e. The Project Manager's name and information shall be included on the Fee Proposal sheet.

- Project Team experience and capability **(25 Points)**, 5 pages maximum (not including resumes)
    a. Provide org chart with names, disciplines, firm association, and office locations.
    b. Knowledge and experience of the Process Mechanical technical lead(s).
    c. Knowledge and experience of instrumentation and controls (I&C) technical lead(s).
    d. List quality assurance and quality control methods and procedures.
    e. Number of years the firm(s) have been in business.
    f. Location of project team offices relative to the Project Site.
    g. Equal employment opportunity regulations, policies, and procedures.
    h. One-page resumes of key project team.

Scope of Services

With respect to the proposed improvements, the following professional services are required and shall be included in Design Consultant's scope and lump sum price. See the TM/PER for additional information on the recommended alternative PC3.

Task 1: Site Evaluation – Tree Survey (If Required)

1. The Design Consultant shall retain a licensed arborist to survey and identify any tree within the project area for which protection will be required per Article 26 of the LFUCG Zoning Ordinance. Considerations will be given to any identified American Elm, Bur Oak, Blue Ash, Buckeye, Chinkapin Oak, Kentucky Coffeetree, Shellbark Hickory, Shumard Oak, or Yellowwood tree. The results shall be documented in Technical Memorandum (TM) No. 1: Tree Survey. Included in TM No. 1 shall be recommendations for protection of identified protected trees.

Task 2: Preliminary Design and Field Evaluation

1. Provide Kentucky Licensed Surveyor to perform a field topographic survey of the G2PS project to include the following elements at a minimum:
    a. Conduct field surveys with appropriate referencing to locate topographical features not shown on existing mapping. Confirm critical locations and elevations necessary for design including but not limited to existing sanitary sewer inverts and other utilities.
    b. Research all deeds, plats, and other property records to identify all sanitary sewer and drainage easements in favor of LFUCG and all other recorded easements.
    c. Conduct exploration, excavation, and surveying of all underground structures and utilities within the project corridor to determine sizes, depths, materials, and locations.
    a. Notwithstanding requirements noted herein, provide adequate field surveying service to prepare design documents in accordance with LFUCG's "Sanitary Sewer and Pump Station Manual" including Amendments No.1 and No. 2.
    b. Location of any above-ground utilities as needed for this scope of work.
    c. Coordination with KYTC on Winchester Road widening project.
        1. Incorporating KYTC design in the PS preliminary design.
        2. Identify conflicts and discuss solutions with LFUCG throughout design.
        3. Incorporate solutions into 30% drawings.
    d. Location and elevation of any underground utilities Design Consultant to provide ground-penetrating radar, vacuum excavation, or similar locating services for any critical existing underground piping, utilities, or other structures which require verification for design and construction as listed in the scope of work. (See "Allowance: Location of Underground Utilities" on the "Propose Fee" worksheet). Costs for work items covered under the Location of Underground Utilities Allowance will be reimbursed to the Design Consultant based on submission of actual invoices.

e. Topographic grade shots as required for generation of final grading plan with min. +/- 6” contours.
f. Prepare a topographic survey of the project corridor. Project benchmarks shall be set in concrete or shall be established on a permanent concrete structure (e.g., bridge or culvert) at intervals of 1,000+/- feet and at least one located near the PS site. Benchmarks shall be tied to Kentucky State Plane North Zone. Benchmarks shall be located outside of the construction easement, but within an existing easement or right-of-way.
g. ROW and any structures or features including the final FM connection manhole between the proposed PS and final MH.
h. Engineer of Record shall initiate conversations with all utilities (including LFUCG Division of Engineering) at the 30% design.

2. The Design Consultant shall carry an allowance for this work as shown on the “Fee Proposal” form. Costs for work items covered under the Geotechnical Allowance will be reimbursed to the Design Consultant based on submission of actual invoices.
    a. Complete the Phase I - Geotechnical Desktop Review of all available geologic and geotechnical information pertaining to the project in accordance with Phase I. The deliverable for this item is a memorandum.
3. The Design Consultant shall prepare two (2) 60% Preliminary Design Packages (unless otherwise notified by LFUCG-DWQ) to include the following:
    a. Draft 60% contract drawings including preliminary drawings of all project components listed herein.
    b. Design of a Class C Pump Station, gravity sewer, and force main as identified in the included Technical Memorandum.
    c. Prepare Contract Documents, including the Contract Drawings and Specifications, to be submitted at 60% milestone; including all process civil, site, structural, mechanical, electrical, instrumentation, and architectural drawings as required for construction of the Project including but not limited to:
        i. Cover Sheet(s), Drawing Indices, General Notes, Project Specific Notes, and Details as required for construction.

ii. Demolition Plan(s) and Notes
iii. Mechanical Process Drawings and Detail(s)
iv. Electrical Power and Control Drawings
v. Structural Drawings and Details
vi. Conduit and Cable Schedule(s)
vii. Process and Instrumentation Drawings
viii. Instrumentation Specifications and Instrument List(s)
ix. Technical Specifications (CSI Format) for all work tasks, equipment, and materials to be provided in the construction contract.
x. Easement exhibits suitable for negotiating ROW acquisitions, including KYTC ROW/encroachment/property.
xi. A preliminary traffic control plan shall be provided 30 days prior to 90% submittal.
xii. Coordination with KYTC on Winchester Road widening project.
    1. Incorporating KYTC preliminary design.
    2. Identify conflicts/discuss solutions with LFUCG.
    3. Incorporate solutions in 60% drawings.

d. Draft revised controls/ operations plan (See LFUCG's "Guidance for Wet Weather Storage Tanks, Pump Stations, and Flow Diversion Structures" issued May 2016).

4. Prepare 60% Opinion of Construction Costs (OPCC) (Detailed - +/- 10% accuracy estimate, based on unit costs from Design Consultant's database of recently bid projects, and/or a third-party construction cost database service such as RS Means™).

Notes:

1. The Design Consultant is advised that DWQ's Capacity Assurance consultant will, based upon the recommended preliminary alignment, model the proposed design to validate sewer capacity per the Consent Decree Capacity Assurance requirements for the design storm (2-year, 24-hour storm event in 2035).
2. DWQ has adopted the convention that all "bores" are "tunnels".

3. Phase I Geotechnical review and the Phase II Field Exploration and Laboratory Testing are only required for major roads or railroad tunnels. DWQ will provide recommendations for tunneling methods to the Design Consultant. This will include the Technical Specifications, sample Bid Tabs, and Section 01025 (Measurement and Payment) for which the Design Consultant will be responsible for incorporating into the Contract Documents.

Final design will not be authorized until the 60% design submittal is complete and accepted by DWQ. The Design Consultant is advised that DWQ will provide Standard Form Contract Documents (CSI Format) for this project.

Task 3: Final Design

Final Design shall include but not be limited to the following:

1. Prepare Contract as described above including (as appropriate) Contract Documents, including the Contract Drawings and Specifications, to be submitted at 90% and 100% (Bid Documents) milestones; including all process civil, site, structural, mechanical, electrical, instrumentation, and architectural drawings as required for construction of the Project including but not limited to:
    a. Cover Sheet(s), Drawing Indices, General Notes, Project Specific Notes, and Details as required for construction.
    b. Demolition Plan(s) or Notes
    c. Site Piping and Utility Plans (Max. Scale 1” = 20’)
    d. Plan-Profile Drawing(s)
    e. Tunneling profile information and Summary Table
    f. Erosion and Sediment Control Plan(s)
    g. Traffic Control Plan(s) as required.
        1. A preliminary traffic control plan shall be provided 30 days prior to 90% submittal.
    h. Detailed Grading Plan
    i. Site Paving Plan and Details
    j. Site Piping Details

k. Mechanical Process Drawings and Detail(s)
l. Electrical Power and Control Drawings
m. Grounding Plan(s)
n. All Structural Drawings and Details
o. Conduit and Cable Schedule(s)
p. Process and Instrumentation Drawings
q. Instrumentation Specifications and Instrument List(s)
r. PLC Cabinet Installation or Modification Details
s. Technical Specifications (CSI Format) for all work tasks, equipment, and materials to be provided in the construction contract.

2. Perform or have performed rock soundings along the sanitary sewer alignment at all proposed manhole locations and at 50-foot intervals between proposed manholes and 100-foot intervals along force main route. Elevations for refusal shall be placed on the Contract Drawings.
3. Complete the Phase II – Field Exploration and Laboratory Testing and prepare the Phase II Report. This task includes, but is not limited to, drilling of soil and rock core borings, logging borings to obtain geotechnical information, and performing aboratory testing of soil and rock samples. The Phase II – Field Exploration and Laboratory Testing (Geotechnical Report) shall be submitted as Technical Memorandum TM No. 2.
4. The Design Consultant will ensure through CCTV or other means the location, size and material of all active service laterals. Service laterals shall be shown on the Drawings.
5. Contract Drawings shall include the design for reconnection of all side stream sewers and service laterals.
6. Contract Drawings shall be prepared per the General Plan Format and Guidance Document provided by DWQ.
7. Contract Drawings shall include the design and preparation of Project Specific Notes and any details (stream crossings, etc.) required for construction.

8. Prepare, submit, and revise the required Erosion and Sediment Control (ESC) Plan and Stormwater Pollution Prevention Plan (SWPPP). SWPPP shall be submitted to LFUCG for approval prior to Task 5.
9. Prepare Maintenance of Traffic (MOT) Plans, as required for the project, and submit to KYTC District 7 for Encroachment Permit approval and/or LFUCG Division of Traffic for approval prior to Task 5.
10. Prepare and submit application(s), and secure all required permits and approvals (i.e., KDOW, KYTC Encroachment, LFUCG, Kentucky Housing and Building, Windstream, and others as required).
11. Review and make recommendations for changes to DWQ Standard Contracts as provided. Prepare Bid Proposal and Wage Rate sections (if required) of Contract Documents.
12. Prepare Final / 100% design Opinion of Construction Costs (OPCC) (Detailed - +/- 10% accuracy estimate, based on unit costs from Design Consultant's database of recently bid projects, tank manufacturer's budgetary cost estimates, and/or a third-party construction cost database service such as RS Means™).
13. Finalize coordination with all utility companies (including LFUCG Division of Engineering) and regulatory agencies as required for this project. This shall include acquiring existing utility mapping, notifying utilities of conflicts, scheduling relocations ahead of initiation of construction, and other activities required for the successful construction of the project.
14. Meetings: The Design Consultant will prepare for review by the DWQ Project Manager meeting agendas and meeting summaries. As a minimum, Design Consultant shall plan for and attend the following meetings:
    a. Kick-off meeting and site walk-through (1 meeting)
    b. Monthly Progress Meetings (one per month minimum, assume 8 meetings)
    c. Two meetings, one each to review 60% and 90% deliverables. (2 meetings)
    d. One additional meeting to review the Contract Documents (Drawings and Technical Specifications) (assume 1 meetings)
    e. One general stakeholder/meeting. (1 meeting).

15. Task 3 Deliverables
    a. 60 and 90% Contract Documents for DWQ review and Capacity Assurance model verification.
    b. Geotechnical Investigation – TM No. 2: Phase II Geotechnical Report
    c. Geotechnical Investigation – TM No. 3: Phase III Geotechnical Report (if
    d. required)
    e. Final Design Contract Documents
    f. Preliminary and Final Opinions of Construction Costs

Notes:

1. Drawings shall be prepared in either Revit or AutoCAD format and according to LFUCG Standards or otherwise discussed and approved by LFUCG-DWQ.
2. The Design Consultant shall complete as much of the work as possible with in-house resources. Any subconsultants should be listed on the "Proposed Fee" form and Org Chart for any tasks which they will be completing.
3. DWQ will provide Standard Form Contract Documents (CSI Format) and the General Notes Sheets and Standard Detail Sheet(s) for this Project.
4. Design Consultant shall provide three (3) full-size sets and two (2) half-size sets of Drawings, three (3) sets of Specifications, one (1) digital file of AutoCAD Drawings and/or Revit model, and one (1) PDF of the Specifications of the final documents prepared for bidding and Construction (Conformed Documents). This does not include sets required for KDOW or other regulatory agencies or working drawings used in progress meetings.

<u>Task 4: Easement Acquisition</u>

Draft easements shall be submitted to LFUCG between 30%-60% design. The Design Consultant's scope of work includes but is not limited to the following with respect to Task 4:

1. Prepare a metes and bounds description of each required easement to be procured or released, and a plat of the parcel indicating the easement locations. The Design

Consultant shall prepare and submit to DWQ an easement acquisition summary spreadsheet detailing the following:

a. Property Owner
b. Property Address
c. Deed Book and page number for the property deed
d. Plat references, if any
e. Area in square feet of temporary and permanent easements to be acquired and area in square feet of easements to be released. The spreadsheet shall include descriptions of easements for which only prescriptive easement(s) exist.

2. The Design Consultant shall prepare the LFUCG Memorandum of Understanding (MOU) for each required easement.
3. The Design Consultant is not responsible for negotiating or acquiring easements. The Design Consultant may be expected to make timely edits to Task 4 deliverables in response to directions from DWQ's easement acquisition team and RMP Program Manager.
4. Task 4 Deliverables: easement descriptions and plats; easement summary spreadsheet and easement MOUs.
5. Sample easement documents will be provided to the awarded engineer for use during easement creation.

Task 5: Services During Bidding

The Design Consultant's Scope of Work includes but is not limited to the following with respect to Task 5.

1. It is LFUCG-DWQ's intent to bid this project in one Contract.
2. Design Consultant shall submit reproducible Drawings, Specifications, and Contract Documents to the official bid document distributor, LYNN IMAGING, 328 Old Vine Street, Lexington, KY 40507, (859) 255-1021 (https://www.lynnimaging.com/)
3. In coordination with the DWQ Project Manager, conduct the Prebid conference meeting and prepare a meeting summary of the conference.
4. Respond to bidder, vendor, and subcontractor questions.
5. Prepare and distribute necessary Addenda.

6. Verify capacity (financial, workforce, experience per bid documents) of apparent low bidder to perform the specified work and provide a Certified Bid Tabulation (stamped and signed by EOR) and Recommendation of Award letter to LFUCG.
7. Create and complete the Conformed Documents for the awarded Contractor. Conformed Documents to include but not limited to incorporation of all addenda items addressed and issued during the bidding period.
8. All Addenda shall be included in the Conformed Documents.
9. Hard copy sets of all Confirmed Contract Documents shall be provided to the Owner and Contractor.
10. Task 5 Deliverables
    a. Pre-Bid meeting agenda
    b. Pre-Bid meeting notes
    c. Bid addenda
    d. Letter of recommendation
    e. Conformed Documents (Hard copies and digital)

Task 6: Services During Construction

The Design Consultant's Scope of Work includes but is not limited to the following with respect to Task 6.

1. In coordination with the DWQ Project Manager, conduct the pre-construction conference and prepare the summary of the conference.
2. Design Consultant shall assume Construction Administration (CA) for twelve (12) months of construction.
3. Services During Construction shall include but not be limited to:
    a. Review and processing of Shop Drawings.
    b. Review and respond to Requests for Information (RFI).
    c. Issue Field Orders on Work Change Directrives as needed
    d. Evaluation and recommendations for Change Requests.
    e. Monthly Site Visits.
    f. Monthly Progress Meetings for which the Consultant shall be responsible for Meeting Agendas, handouts, and Meeting Summaries.

g. Processing of Pay Requests and associated items for DWQ.
h. Final Inspection and preparation of punch list.
i. Project Certification
j. Project Closeout Documentation.

4. Prepare Record Drawings using post construction survey data provided by a surveyor licensed in the State of Kentucky. Incorporate this survey information into the drawings and provide them to LFUCG in both hard copy (reproducible format) and electronic format, compatible with LFUCG equipment and software. Record drawings shall include pipe size and material for each pipe segment, manhole coordinates and rim and invert elevations, and sewer grades. Record drawings shall incorporate the red line drawing mark-ups of the RPR and Contractor.
    a. Engineer shall provide a copy of the licensed surveyor's resume upon request.
5. Project Closeout: In conjunction with the DWQ Project Manager, close the project per the RMP Closeout Protocol provided by the DWQ Project Manager.
6. Provide an updated PS Facility Control/Operational Plan.
7. Provide an Operation & Maintenance Manual for all new equipment.
8. Complete all project closeout documents included in the RMP Project Closeout Checklist. (see checklist included as an attachment).
9. Task 6 Deliverables:
    a. Record Survey and Record Drawings in electronic and hard copy formats.
    b. Electronic Copies of all correspondence, meeting summaries and agendas, permits, Shop Drawings, Pay Requests / Change Orders
    c. Project Certification
    d. Project Closeout Documents / RMP Project Closeout Checklist.

<u>Task 7: Resident Project Representative (RPR)</u>

Design Consultant is directed to provide full-time RPR services.

1. Provide full time Resident Observation on-site during working hours (40 hours per week) to monitor the work and verify compliance with the Contract Documents for a construction period of Twelve (12) Months. Resident Project Representative (RPR)

shall be approved by DWQ. The Fee proposal includes 2,080 hours for RPR on this project. The Fee proposal shall be completed with the RPR hourly rate and the total price for 2,080 hours. Note, the RPR shall be on site at all times Contractor is working and installing equipment.

2. RPR will complete and submit Digital Daily reports and Soil Erosion and Sediment Control Inspection Reports (to DWQ and others) documenting the work completed, weather conditions, construction manpower and equipment on-site, any visitors to the site, any defective or non-conforming work, and any test results, etc. via Procore, the Owner selected on-line platform. The RPR will also take daily digital photos of construction activities for inclusion in the daily report document.
3. RPR will attend DWQ RPR and ESC Trainings within the past year prior to start of construction.
4. The RPR will have access via a document management platform or always have hard copies of all Contract Documents readily available during working hours (to include construction Drawings, Specifications, addenda, shop drawing, RFI's, Permits, etc.).
5. The Design Consultant shall provide RPR with a tablet or iPad (with data plan recommended) for use throughout the duration of Construction.
6. The RPR shall have the responsibility and authority to immediately notify the Design Consultant's Project Manager and LFUCG's Program Manager in the event any defective or non-conforming work is discovered on-site.
7. Other duties as directed by the Project Manager and Owner.

Schedule

The proposed schedule for G2PS Project is as follows:

RFP Issued	June 12, 2025
Question Cut off Date	June 30, 2025
Final Addendum Issued	July 3, 2025
Engineering Proposals Due	July 11, 2025 by 2:00pm (via IonWave)
Task Order Issued	August 28, 2025
Kick off Meeting	September 2, 2025
Preliminary / 30% Design Submittal	November 14, 2025
60% Design Submittal	January 23, 2026
Contract Documents to KDOW(60%)	January 2026
90% Design Submittal	March 2026
100% Design Submittal	April 2026
Advertise for Bids	May 2026
Award Contract	July 2026 (Award prior to City Council Summer Recess)
Construction Complete	July/August 2027

Fee Proposal
G2PS Project

Task Description	Proposed Fee	Entity*
Task 1: Site Evaluation - Tree Survey (If required)	$	
Task 2: Preliminary Design and Field Evaluation	$	
Task 3: Final Design	$	
Task 4: Easement Acquisition (assume 5 easements) ($_____/easement)	$	
Task 5: Services During Bidding	$	
Task 6: Services During Construction (Assume 12 months)	$	
Task 7: Resident Project Representative (assume 12 months at $_____ / month)	$	
Allowance: Location of Underground Utilities	**$15,000**	
Allowance: Geotechnical Investigations	**$25,000**	
TOTAL LUMP SUM FEE	$	

"" – Indicate name of subconsultant or PRIME if task is to be performed in-house. Provide entities proposed to complete allowance items in addition to all other tasks.*

Project Manager (Name) _____

Project Manager Office Address _____

Signed: _____

Title: _____

Firm: _____

Date: _____

All fees are Lump Sum for the G2PS Project. The Fee Proposals must be completed, signed, and dated by a representative of the Consultant authorized to execute the Task Order. The Fee Proposal shall be submitted via IonWave. ***Notice to Proceed will be issued after 7/1/2025.***

Enclosures:

1. GB2PS TM/PER
2. WWS/PS guidance document
3. Geotech Scope
4. Project Closeout Checklist
5. LFUCG Sanitary PS Manual *https://www.lexingtonky.gov/government/departments-programs/environmental-quality-public-works/engineering/new-development-redevelopment-construction-demolition-projects or scanning the QR code:*

Hazen *Technical Memorandum*

May 28, 2024

To: Lexington-Fayette Urban County Government (LFUCG)

From: Hazen & Sawyer

Re: Greenbrier #2 Pump Station - Preliminary Engineering Report

Greenbrier #2 Pump Station

Preliminary Engineering Report (PER)

The Greenbrier #2 Pump Station (G2PS) is currently slated for improvement as a part of the Lexington-Fayette Urban County Government (LFUCG) Remedial Measures Program (RMP). The primary focus of all RMP projects is to mitigate existing sanitary sewer overflows (SSOs) by sizing pump stations and the sanitary sewer collection system to convey a 2-year, 24-hour storm event. The purpose of this PER is to identify and consider improvements needed to the G2PS to convey the 2-year, 24-hour design storm and improve the G2PS to comply with the requirements of the LFUCG "Sanitary Sewer and Pump Station Manual."

Table of Contents

Appendices

1. Project Background

1.1 Introduction

The Greenbrier #2 Pump Station (G2PS) located at the intersection of Bahama Road and Winchester Road has been in operation since 1981 and currently serves 81 homes. G2PS is a Class C Pump Station (PS) as defined by the LFUCG "Sanitary Sewer and Pump Station Manual" (PS Manual) The G2PS currently contains two dry pit pumps (1 duty, 1 standby) with a design capacity of 180 gpm utilizing one pump. G2PS is located within the North Elkhorn Watershed and is identified as Project NE-4 of the Group Three Remedial Measures Plan (RMP) as submitted to the United States EPA and KYDEP to mitigate sanitary sewer overflow (SSOs). Figure 1-1 below shows the current location of G2PS, within the existing residential neighborhood entrance median in Bahama Road.

Figure 1-1: Greenbrier #2 Pump Station Location

1.2 Need for Pump Station Improvements

Current dry weather design flows average 0.34 mgd (236 gpm) and the design wet weather flow, based on the 2-year, 24-hour design storm, is 0.77 mgd (535 gpm). As noted previously, the existing G2PS is designed to convey 180 gpm (0.26 mgd); however, based on recently completed drawdown testing, the existing pumps are only able to produce an average flow of approximately 104 gpm (0.15 mgd). Therefore, both the wet weather and dry weather design flow conditions exceed the existing G2PS capacity by 431 gpm (0.62 mgd) and 132 gpm (0.19 mgd), respectively. The Infiltration and Inflow (I/I)

reduction required is approximately 82% for the wet weather flow to not exceed the current capacity of the G2PS. It should also be noted that modeled dry weather flow conditions would result in daily SSOs. This modeled flow is in contradiction with the actual field SSO report for this location as there are no reported dry weather SSOs. Drawdown testing conducted by DWQ shows a steady decline in pump performance over the last decade to well below the original design capacity. Therefore, it is certain that G2PS does not have adequate capacity to convey design wet weather flows. Due to this lack of capacity, the existing G2PS has experienced SSOs an average of 9 times per year since 2018. As a result of the ongoing SSOs, insufficient capacity, and the likelihood that I/I reduction would not be enough to eliminate this project, the G2PS is planned for improvement as a part of the RMP.

2. Existing G2PS Information

G2PS is a Class C PS consisting of 2 – 15 horsepower (hp) dry pit pumps, housed within a dry pit adjacent to a precast concrete wet well. The wet well has an inner diameter of 6 feet and a working volume of approximately 1,023 gallons. Record Drawings of the existing wet well and PS are attached in Appendix B.

As stated previously, there are 81 homes served by the G2PS. For the homes served, the dry weather flow (236 gpm) equates to 2.9 gpm per home and the wet weather flow (535 gpm) equates to 6.6 gpm of flow per home. The average design flow rate per single family home as shown in Table 4.1 of the LFUCG Pump Station Manual is 0.28 gpm. Approximately 8,100 linear feet (LF) of 8-inch gravity line feeds the G2PS. For dry weather conditions that would equate to 0.3 gpm per LF of sewer and for wet weather conditions that would equate to 0.7 gpm per LF of sewer. For G2PS to operate without SSOs, 0.62 mgd (431 gpm) of wet weather flow would need to be accommodated.

DWQ completed drawdown testing on the G2PS from 2017 to 2020. The results of these tests are summarized in Table 2-1. These tests reveal that, on average, pumps 1 and 2 convey 102 and 106 gpm, respectively. This results in an existing average pumping capacity of 104 gpm (0.15 mgd) for each of the pumps. This number will be used moving forward to reflect the existing G2PS deficiencies. The design static head for the G2PS is 68 feet with a total dynamic head (TDH) of 79 feet at the design point of 180 gpm for one pump in operation. According to the LFUCG PS Manual, a Class C PS must accomplish its design flow capabilities utilizing only one of its two pumps. In the same drawdown testing completed by LFUCG, the average of 2 pumps running simultaneously resulted in a pumping capacity of only 123 gpm. Based on these results, the G2PS has a capacity of 104 gpm, which is 58% of the original design capacity. More importantly, the G2PS capacity is not sufficient for anticipated average dry weather flows of 236 gpm or design wet weather flows of 535 gpm.

Table 2-1: Drawdown Test Results

Pumps in Operation	2020 Test		2019 Test		2018 Test		2017 Test		Average	
	mgd	gpm	mgd	gpm	mgd	gpm	mgd	gpm	mgd	gpm
Pump 1	0.14	98	0.14	98	0.14	100	0.16	112	0.15	102
Pump 2	0.14	96	0.14	100	0.15	105	0.18	122	0.15	106
Pumps 1-2	0.16	106	0.17	115	0.17	120	0.22	150	0.18	123

The existing G2PS pumps are Fairbanks-Morse dry pit solids handling pumps. The pumps are factory rated for 180 gpm at a total dynamic head (TDH) of 79 ft. Both pumps operate on a 15 hp constant speed motor with a Full Voltage Non-Reversing (FVNR) Starter, at 240 volts, and 1,750 RPM. Reference Appendix B for the existing pump curve.

The G2PS control panel consists of a main circuit breaker with two Full Voltage Non-Reversing combination starters to drive each pump. The electrical service supplies 200 amps of current with an electrical potential of 240 volts. G2PS is equipped with surge protection, a double throw disconnect, and an emergency portable generator connection. Emergency quick connection for force main bypass is not available at G2PS.

Each of the G2PS pumps discharge into 4-inch piping that leads to a common 6-inch 3,098 LF force main. The force main discharges into the gravity collection sewer at manhole NE5_102. The gravity sewer conveys flow to the Expansion Area 2 Pump Station (EA2PS) and ultimately to the Town Branch WWTP. Utilizing one pump at a design capacity of 180 gpm, the velocity of the force main is 2.04 feet per second (ft/s). However, the average pump capacity per the drawdown testing at 104 gpm results in a force main velocity of only 1.22 ft/s. Due to the existing low velocity within the force main, there are likely solids deposition within the existing piping. Thus, if the rehab alternate is selected, it is recommended that DWQ consider significant cleaning of the piping prior to the startup of the G2PS. The existing low velocity could also be impacting the operation of the check valve, further impeding the pump performance.

Following LFUCG guidelines in the PS Manual and *The Ten States Standard*, force main velocities should be 2 to 5 ft/s. This requires flows between 0.25 mgd (176 gpm) and 0.63 mgd (439 gpm) with the current force main. Current design dry weather flows of 0.34 mgd (236 gpm) result in a velocity of 2.7 ft/s and wet weather flows of 0.77 mgd (535 gpm) result in a peak force main velocity of 6 ft/s. While 6 ft/s is above the LFUCG design guidelines for a peak condition, it is not so high to necessitate replacing the existing force main for the few occasions the G2PS would operate in this condition. Additionally, if the force main was upsized to 8-inches, the dry weather flow would result in a velocity of 1.5 ft/s, which could allow solids to deposit in the piping. As such, no replacement of the force main is recommended.

G2PS is not surrounded by fencing, which may be waived by DWQ. There is no current odor control system, which is not required for a Class C PS unless it is determined to be necessary by the DWQ. The existing G2PS and control panel provide no location for maintenance workspace or parking. When cleaning or maintenance on the wet well is required, one lane of the neighborhood entrance drive must be blocked.

2.1 G2PS Historical SSOs

The G2PS has recorded SSOs dating back to at least 1997. From 2018-2023 the G2PS has accrued a total volume of over 9 million gallons (mg) of SSOs throughout 57 events. 98.4% of that volume occurred during sustained rain events that exceeded the existing G2PS capacity. Table 2-2 presents the cause, date, and estimated volume of the documented SSOs from 2018-2023.

Table 2-2: G2PS Overflow History 2018 to Present

Failure Type	Date	Volume (Gallons)
Sustained Rain Event	2/7/2018	14,763
Sustained Rain Event	2/17/2018	115,939
Sustained Rain Event	2/22/2018	145,480
Sustained Rain Event	2/25/2018	146,610
Power Failure	7/20/2018	557
Sustained Rain Event	7/31/2018	34,869
Sustained Rain Event	8/1/2018	16,924
Sustained Rain Event	8/1/2018	16,616
Sustained Rain Event	9/9/2018	113,991
Sustained Rain Event	9/25/2018	152,137
Sustained Rain Event	9/26/2018	137,348
Mechanical Failure	10/5/2018	13,059
Mechanical Failure	10/5/2018	1,173
Sustained Rain Event	11/6/2018	68,074
Sustained Rain Event	12/1/2018	45,965
Sustained Rain Event	12/31/2018	13,025
Sustained Rain Event	1/5/2019	65,488
Sustained Rain Event	1/20/2019	65,199
Sustained Rain Event	2/12/2019	104,932
Sustained Rain Event	2/20/2019	188,661
Sustained Rain Event	2/24/2019	173,286
Sustained Rain Event	3/9/2019	3,797

Failure Type	Date	Volume (Gallons)
Sustained Rain Event	6/17/2019	3,567
Sustained Rain Event	6/18/2019	22,107
Sustained Rain Event	6/18/2019	1,169
Sustained Rain Event	10/31/2019	32,922
Sustained Rain Event	11/27/2019	9,981
Sustained Rain Event	12/1/2019	387,302
Sustained Rain Event	12/17/2019	384,560
Sustained Rain Event	12/30/2019	206,312
Sustained Rain Event	2/10/2020	147,944
Sustained Rain Event	2/13/2020	228,890
Sustained Rain Event	5/20/2020	3,884,616
Sustained Rain Event	9/13/2020	7,245
Sustained Rain Event	10/29/2020	1,011
Sustained Rain Event	1/26/2021	11,443
Power Failure	2/11/2021	18,012
Sustained Rain Event	7/1/2021	143,133
Sustained Rain Event	8/27/2021	62,545
Sustained Rain Event	8/31/2021	224,594
Sustained Rain Event	9/22/2021	24,586
Sustained Rain Event	12/6/2021	110,377
Sustained Rain Event	1/1/2022	91,371
Sustained Rain Event	1/9/2022	154,329
Sustained Rain Event	2/3/2022	177,825
Sustained Rain Event	2/17/2022	125,368
Sustained Rain Event	2/24/2022	131,380
Sustained Rain Event	3/6/2022	184,139
Sustained Rain Event	8/6/2022	95,004
Sustained Rain Event	8/10/2022	65,536

Failure Type	Date	Volume (Gallons)
Sustained Rain Event	12/14/2022	56,126
Sustained Rain Event	1/3/2023	446,985
Mechanical Failure	2/14/2023	12,052
Sustained Rain Event	2/16/2023	246,972
Sustained Rain Event	3/3/2023	12,151
Power Failure	3/3/23	1,982
Sustained Rain Event	7/2/2023	31,556
	TOTAL	**9,384,985**

3 Pump Station Alternative Development

Based on the current wet weather flows, the new G2PS will be considered a Class C PS per the LFUCG PS Manual. There are at least five (5) locations available for the new G2PS. One is the current G2PS location within the median strip on Bahama Road at the Winchester Road (US 60) intersection. Another is on the property of 3440 Winchester Road adjacent to the south Right-of-Way (ROW) of US 60. A third is near the rear of the property at 2739 Martinique Lane adjacent to the south ROW of US 60, a fourth across US 60 along the north Right-of-Way (ROW) within the adjacent farm at 3321 Winchester Road, and a fifth along the south ROW of US 60 on the property at 3660 Winchester Road. The current Urban Service Area (USA) boundary runs along the north ROW of US 60 and along the eastern property line of 2739 Martinique Lane, putting the last two locations outside the USA.

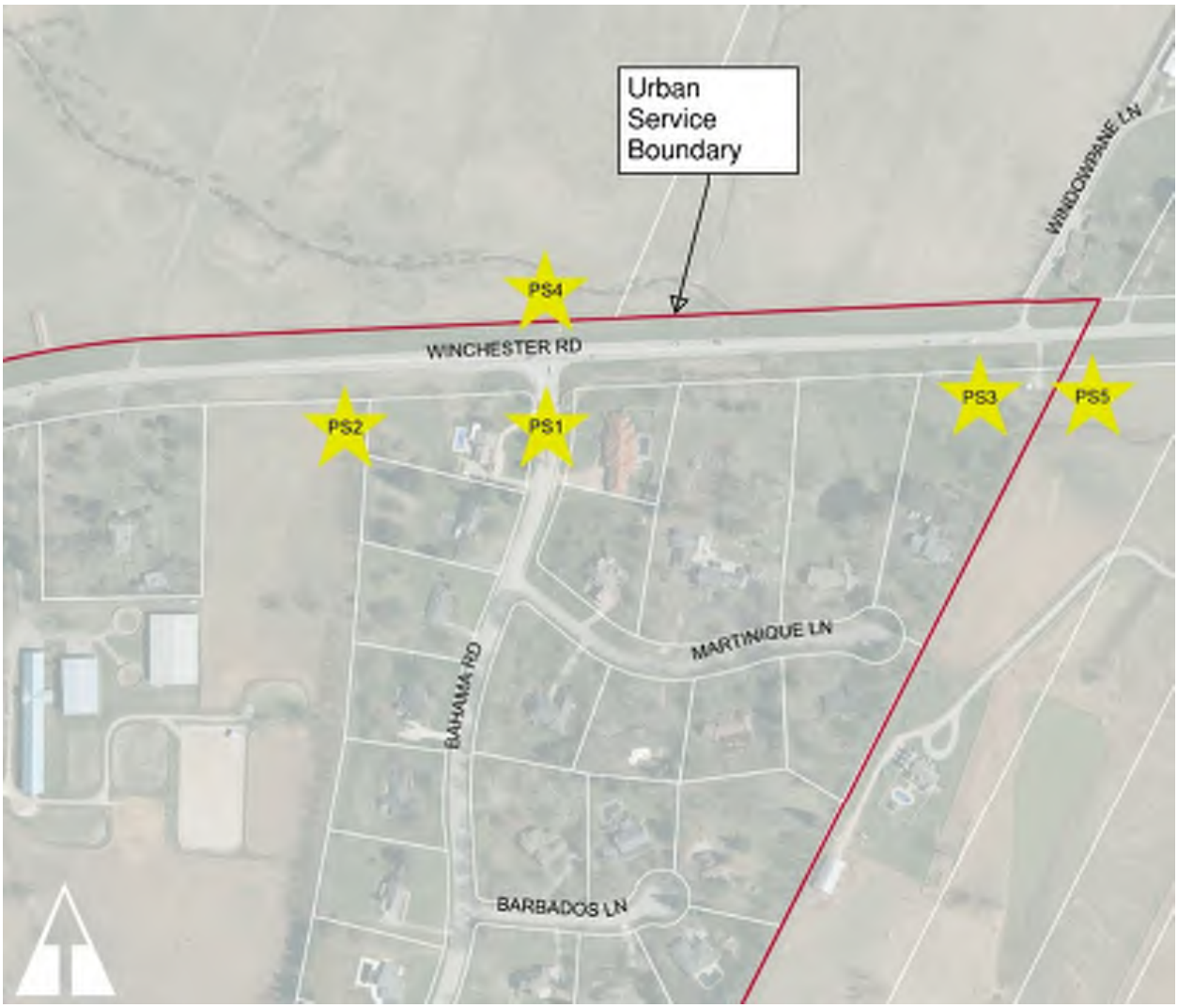
This PER includes four alternatives for the improvements to the G2PS (See figure 3 for overall map):

- PS1 – Rehab the existing G2PS.
- PS2 – Locate the new G2PS at 3440 Winchester Road and construct a new force main directly to EA2PS.
- PS3 – Locate the new G2PS at 2739 Martinique Lane in an existing utility area and construct a new force main directly to EA2PS.
- PS4 – Locate the new G2PS at 3321 Winchester Road, outside the USA, and construct a new force main directly to EA2PS.
- PS5 – Locate the new G2PS at 3660 Winchester Road, outside the USA, and construct a new force main directly to EA2PS.

Alternative PS1 will utilize the existing force main. A separate RMP project, Greenbriar Trunk, is downstream of the manhole where the existing force main from G2PS ties in and involves upsizing the existing sanitary sewer to accommodate flows from the G2PS as well as eliminate two SSOs. If Alternative PS1 is selected the Greenbriar Trunk Project will need to be constructed with a projected cost of $800,000. Alternatives PS2, PS3, PS4, and PS5 will abandon the existing force main in lieu of a new force main that will run along US 60 and tie directly to the EA2PS. Construction of this new force main

will eliminate the need for the Greenbriar Trunk Project as the flow will be diverted, eliminating the SSOs. The major consideration here for alternative selection will be providing a pump station that meets the requirements of the PS Manual at a location, preferably inside the USA, that will provide for efficient operation and maintenance.

Figure 3: Overall Alternatives Map



An additional consideration for this project is the future widening of US 60. A meeting was held at the Kentucky Transportation Cabinet (KYTC) District 7 office on May 3, 2024 to discuss if the addition of a 6-inch force main in the ROW will be feasible in conjunction with the widening. In preliminary discussions, KYTC was amenable to potentially locating the force main within the US 60 ROW. However, there may be a couple of areas where the force main would need to be outside of the ROW due to the road configuration. This would require easements in those cases. Construction of the widening is planned for 2027-2028 and KYTC advised that it would be wise to plan the construction of G2PS around the same time. KYTC also asked to be kept informed of the plans for G2PS as detailed design progresses.

The G2PS project is currently required to be completed by the end of 2026 per the current EPA Consent Decree Schedule. If construction of G2PS, with an approximate construction schedule of 18 months, must wait until 2027 due to US 60 widening, consideration should be given to update the EPA schedule of this project to be completed in 2029 or 2030 in this case.

A PER was originally developed for the G2PS in February 2022. Cost estimates for those alternates were developed by the Hazen Cost Estimating Group. Two of the alternates in this PER are from the original report: Alternate PS1 and Alternate PS4. For Alternate PS1, an inflation percentage (8%) was added to the previous cost estimate of $569,000 based on the increase in the Engineering News Record Cost Index number from February 2022 to March 2024. Alternate PS4, as well as Alternates PS2 and PS3 utilized the Hazen Costing Tool (HCT) for the estimated construction cost. The HCT has been utilized for estimating the construction cost of RMP projects previously and has become a trusted tool for preliminary estimates. Since Alternate PS1 is a rehab of the existing G2PS the HCT would not be the best estimation tool as it is developed primarily for new pump stations only.

3.1 RMP Improvement Requirements

According to the LFUCG PS Manual, a Class C PS requires the components found in Table 3-1 below. The existing G2PS is deficient in many areas. Additionally, solids deposition may be a problem within the existing 6-inch force main and significant cleaning may be required as part of the project scope (if the selected alternative utilizes the existing force main) to ensure design flows are met.

Table 3-1: Existing G2PS Compliance with LFUCG Design Standards

Component	Required for Class C (75-999 gpm)	Existing G2PS
Odor Control	Possible	No
Emergency Portable Generator Connection	Yes	Yes
Emergency Portable Pump Connection	Yes	No
Surge Protection Device	Yes	Yes
Grounding Resistance	Yes	Not to Standards
3 Phase Electrical Power	Yes	Yes
Telemetry	Yes	Yes
Multiple Wet Wells	Yes	No
Fence	Yes	No
Paved Access and Turnarounds	Yes	No

3.2 Pump Station – Alternative PS1 (Rehabilitate Existing G2PS)

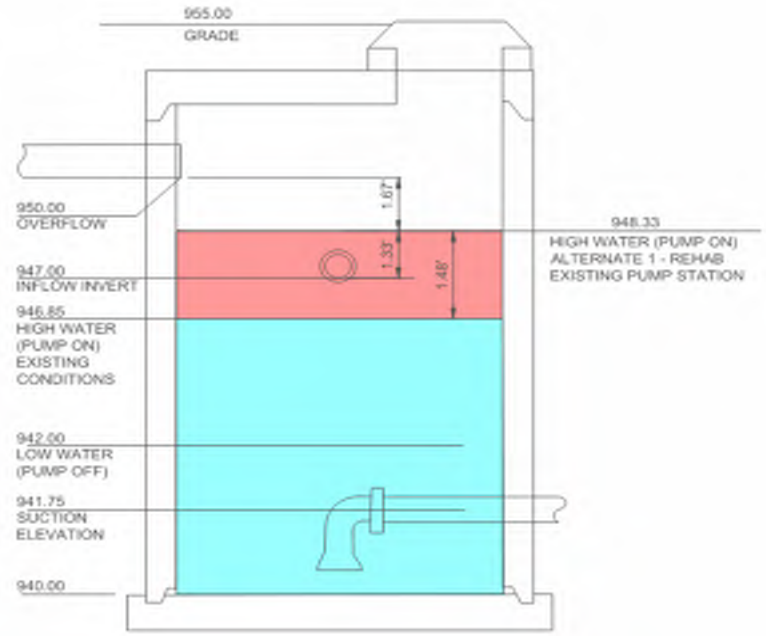
Alternative PS1 utilizes the existing wet well and dry pit PS and includes replacing the pumps and other ancillary improvements. When installing a new dry pit submersible pump appropriate for this design criteria, a minimum cycle time of ten minutes results in a storage volume of 1,338 gallons at a design flow rate of 535 gpm. Given the existing 6-foot diameter wet well, a working volume height of 6.33 feet is required. Maintaining the current low water (pump off) elevation of 942.00 ft, the high-water (pump on) elevation will be 948.33 ft (1.48 feet above the current level of 946.85 ft.). This results in a high-water elevation at 1.33 feet above the inflow invert and 1.67 feet below the overflow elevation of 950.00 ft. See Figure 3-2 for graphical representation of where the new high-water elevation will be located within the existing G2PS after rehabilitation.

The current G2PS does not have an emergency quick connection for force main bypass. This component will need to be added as a part of the PS improvements. Additionally, utilizing the current wet well would not fulfill the requirement of multiple wet wells in operation. Due to site constraints, it is not feasible to add a second wet well, provide security fencing, or provide turnarounds in the area. No odor control is currently installed at this location and no odor control improvements are planned. Should the odor control master plan consultant determine that odor control is required, it could be added to the scope of work.

In order to incorporate this alternative, bypass pumping would be required throughout the duration of the project until the upgraded PS is operational. Please see the Alternative PS1 Layout in Appendix A, attached.

Alternative PS1 has an estimated construction cost of $615,000 for a 12-month construction project.

Figure 3-2: Existing vs Rehabilitation G2PS High Water Levels



3.3 Pump Station – Alternative PS2 (New PS Inside USA)

Alternative PS2 provides for the relocation of the G2PS to the west side of Bahama Road along US 60 at 3440 Winchester Road. In this location, a new 0.77 mgd G2PS using submersible pumps will be constructed. Additionally, approximately 8,200 LF of new 6-inch force main will be constructed along US 60 and tie into EA2PS. Approximately 600 LF of new 8-inch gravity sewer piping will connect the existing collector sewer to the new G2PS wet wells. This location is uphill from the existing G2PS which will require that the new G2PS be deeper than the existing G2PS. The gravity sewer will require bore and jack installation due to its depth and proximity to US 60. Additionally, an entrance will be required off US 60.

At this location, a larger site is available (an area of approximately 30 feet by 30 feet) to incorporate multiple wet wells and accommodate the required operating volumes for the new pumps. This volume provides more operational flexibility and adequate freeboard between the design high water elevation, lag-on pump level, high alarm elevation, and overflow levels. Please see the Alternative PS2 Layout in Appendix A, attached.

The existing G2PS force main will be abandoned and the Greenbriar Trunk Project will be eliminated from RMP.

Alternative PS2 has an estimated cost of $3,680,000 for an 18-month construction project.

3.4 Pump Station – Alternative PS3 (New PS Inside USA)

Alternative PS3 requires relocation of the G2PS to the east of Bahama Road along US 60 in the rear property of 2739 Martinique Lane within an existing utility area containing equipment owned by Windstream. There is an existing entrance off US 60 and the site currently has two Windstream structures with underground fiber that lead to a utility pole where the fiber goes aerial. According to Windstream their fiber lines that run parallel with US 60 are overhead. It appears that the only underground utility in the vicinity of the proposed G2PS is an 8-inch medium pressure gas line owned by Columbia Gas. That 8-inch line appears to have been constructed within the KYTC ROW. This site is also located within the 100-year floodplain so the G2PS will need to be constructed above the base flood elevation.

A meeting was held with a Windstream representative on May 9, 2024 to discuss the possibility of LFUCG relocating the G2PS to this site. The Windstream representative did not object to the possibility of a new pump station being located adjacent to their structures. Windstream would like to be provided with updates during detailed design if this site is chosen for G2PS.

There appears to be adequate site available outside of the KYTC ROW (approximately 25’ x 25’) for a new 0.77 mgd G2PS using submersible pumps. Additionally, approximately 9,600 LF of new 6-inch force main will be constructed along US 60 and tie into EA2PS, and approximately 1,000 LF of new 8-inch gravity sewer piping will connect the existing collector sewer to the new PS wet wells. Please see the Alternative PS3 Layout in Appendix A, attached.

The existing G2PS force main will be abandoned and the Greenbriar Trunk Project will be eliminated from RMP.

Alternative PS3 has an estimated cost of $3,570,000 for an 18-month construction project.

3.5 Pump Station – Alternative PS4 (New PS Outside USA)

Alternative PS4 requires relocation of the G2PS to the North on the opposite side of US 60 within farmland adjacent to the roadway. This location is just outside of the USA boundary. Additionally, approximately 250 feet of 8-inch gravity sewer will connect the existing collector sewer to the new G2PS wet wells, and approximately 9,000 LF of new 6-inch force main will be constructed along US 60 and tie into EA2PS. The gravity sewer will require a tunnel beneath US 60.

At this location, the new G2PS borders both the 100-year floodplain and US 60 ROW, but there should be sufficient area to place the G2PS outside of both boundaries. Additionally, this site will require an entrance off US 60. The property owner has not been receptive to the idea of the G2PS being located on their property. Please see the Alternative PS4 Layout in Appendix A, attached.

The existing G2PS force main will be abandoned and the Greenbriar Trunk Project will be eliminated from RMP.

Alternative PS4 has an estimated cost of $3,340,000 for an 18-month construction project.

3.6 Pump Station – Alternative PS5 (New PS Outside USA)

Alternative PS 5 requires relocation of the G2PS to 3660 Winchester Road, the property adjacent to and east of 2739 Martinique Lane, the property described in Alternative PS3. This location is just outside of the USA boundary. Additionally, approximately 1,100 feet of 8-inch gravity sewer will connect the existing collector sewer to the new G2PS wet wells, and approximately 9,800 LF of new 6-inch force main will be constructed along US 60 and tie into EA2PS.

At this location, the new G2PS borders the US 60 ROW, but there would be sufficient area to place the G2PS outside of this boundary. Additionally, this site will require a new entrance off US 60. In preliminary discussions, the property owner did not object to the G2PS being located on their property. Please see the Alternative PS4 Layout in Appendix A, attached.

The existing G2PS force main will be abandoned and the Greenbriar Trunk Project will be eliminated from RMP.

Alternative PS4 has an estimated cost of $3,650,000 for an 18-month construction project.

4. Conclusions and Recommendations

4.1 Greenbrier No. 2 Pump Station Conclusions

As previously discussed, the existing G2PS has many existing deficiencies and challenges with its current location and layout. Alternative PS1 is the minimal approach to improving the G2PS through upsizing the pumps to meet capacity requirements and providing increased electrical reliability while utilizing the

existing force main. The Greenbriar Trunk project would need to be constructed if Alternative PS1 is chosen. Alternative Nos. PS2, PS3, PS4, and PS5 are completely new PSs and would construct a new force main directly to EA2PS which would eliminate the Greenbriar Trunk Project. Estimated total construction costs for the alternatives are summarized in Table 4-1.

Table 4-1: Pump Station Alternatives Construction Cost Estimates

	Estimated Construction Cost	Greenbriar Trunk Needed	Key Differentiators
Alternative **PS1** Rehabilitate Existing G2PS	$ 615,000	Yes	- PS remains non-compliant with LFUCG PS Design Manual and within roadway median. - Has operational compromises including wet well volume, accessibility, and emergency bypass connections. - Cheapest Alternative.
Alternative **PS2** New G2PS Inside USA	$3,680,000	No	- LFUCG PS Design Manual Compliant Design. - The site bucks grade and will require a deep PS with bore and jack for the sanitary sewer.
Alternative **PS3** New G2PS Inside USA	$3,570,000	No	- LFUCG PS Design Manual Compliant Design. - Already has an entrance off US-60. - Located in 100-year floodplain. -Windstream currently does not object to cohabitating on the site.
Alternative **PS4** New G2PS Outside USA	$3,340,000	No	-LFUCG PS Design Manual Compliant Design. -Located outside USA. -Property owner objects to PS on property.
Alternative **PS5** New G2PS Outside USA	$3,650,000	No	-LFUCG PS Design Manual Compliant Design. -Located outside USA. -Property owner currently does not object to to having PS on property.

4.2 Recommendations

The recommended alternative is Alternative PS3. This Alternative locates the new G2PS away from the Bahama Drive entrance and within the USA. This location has an existing entrance off of US 60 and is an existing utility area. Additionally, Windstream and KTYC currently have no objections with the proposed plan.

Hazen *Technical Memorandum*

Appendix A: Preliminary Drawings

LEGEND

- PROPOSED MANHOLE
- PROPOSED STRUCTURE
- PROPOSED FORCE MAIN
- PROPOSED GRAVITY
- EXST. MANHOLE
- EXST. STRUCTURE
- EXST. GRAVITY
- EXST. FORCE MAIN
- EXST. COMMUNICATIONS
- EXST. GAS
- EXST. ELECTRIC
- EXST. UTILITY POLE
- EXST. LIGHT POLE
- PROPERTY LINES
- 100-YEAR FLOODPLAIN

PROJECT ENGINEER:	K. ZEHNDER
DESIGNED BY:	M. ASALON
DRAWN BY:	E. FIELDS
CHECKED BY:	J. SCHUBARTH

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE 0 1/2" 1"

PRELIMINARY DRAWING
DO NOT USE FOR CONSTRUCTION

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LEXINGTON, KY 40503

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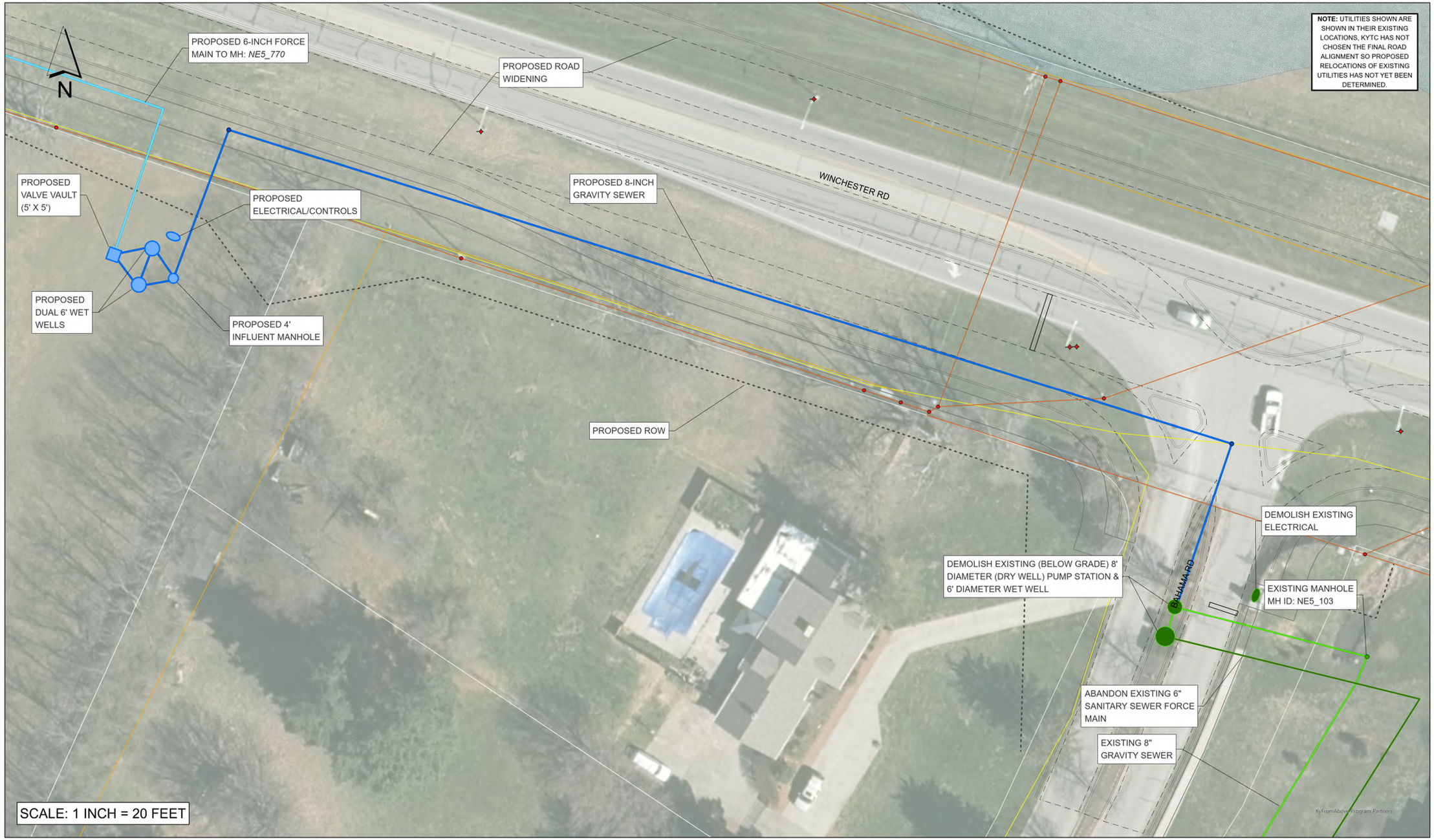
DWQ

GREENBRIER 2
PUMP STATION

GREENBRIER 2 PUMP STATION
ALTERNATIVE PS1 - EXISTING PS

DATE:	MAY 2024
HAZEN NO.:	50005-017-513
CONTRACT NO.:	-
DRAWING NUMBER:	SHEET 1 OF 1
	ALT. PS1



LEGEND

- PROPOSED MANHOLE
- PROPOSED STRUCTURE
- PROPOSED FORCE MAIN
- PROPOSED GRAVITY
- EXIST. MANHOLE
- EXIST. STRUCTURE
- EXIST. GRAVITY
- EXIST. FORCE MAIN
- EXIST. COMMUNICATIONS
- EXIST. GAS
- EXIST. ELECTRIC
- EXIST. UTILITY POLE
- EXIST. LIGHT POLE
- PROPERTY LINES
- 100-YEAR FLOODPLAIN

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DRAWN BY:	E. FIELDS
CHECKED BY:	J. SCHUBARTH

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GREENBRIER 2
PUMP STATION

GREENBRIER 2 PUMP STATION ALTERNATIVE PS2

DATE:	MAY 2024
HAZEN NO.:	50005-017-513
CONTRACT NO.:	-
DRAWING NUMBER:	SHEET 1 OF 2
	ALT. PS2

LEGEND

- PR. FORCE MAIN
- PR. GRAVITY SEWER
- EXST. GRAVITY SEWER
- EXST. FORCE MAIN
- EXST. MANHOLE

PROJECT ENGINEER:	K. ZEHNDER
DESIGNED BY:	M. ASALON
DRAWN BY:	E. FIELDS
CHECKED BY:	J. SCHUBARTH

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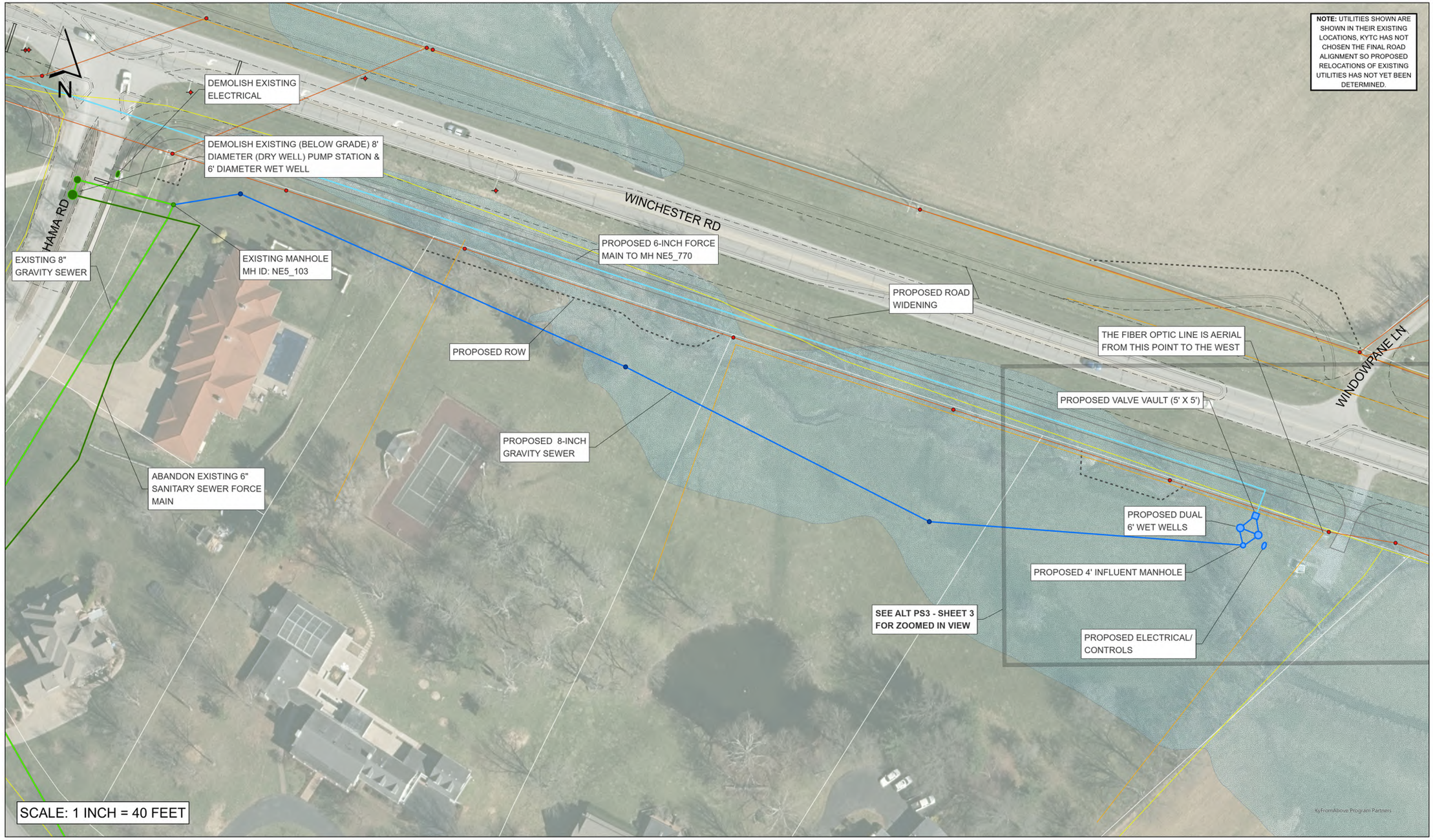
GREENBRIER 2
PUMP STATION

GREENBRIER 2 PUMP STATION
ALTERNATIVE PS2 - TRUNK SEWER TO EA2 PS

DATE:	MAY 2024
HAZEN NO.:	50005-017-513
CONTRACT NO.:	-
DRAWING NUMBER:	SHEET 2 OF 2
	ALT. PS2



LEGEND

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GREENBRIER 2
PUMP STATION

GREENBRIER 2 PUMP STATION
ALTERNATIVE PS3

DATE:	MAY 2024
HAZEN NO.:	50005-017-513
CONTRACT NO.:	-
DRAWING NUMBER:	SHEET 1 OF 3
	ALT. PS3

LEGEND

- PR. FORCE MAIN
- PR. GRAVITY SEWER
- EXST. GRAVITY SEWER
- EXST. FORCE MAIN
- EXST. MANHOLE

PROJECT ENGINEER:	K. ZEHNDER
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DRAWN BY:	E. FIELDS
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE — 0 1/2" 1"

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GREENBRIER 2
PUMP STATION

GREENBRIER 2 PUMP STATION
ALTERNATIVE PS3 - TRUNK SEWER
TO EA2 PS

DATE:	MAY 2024
HAZEN NO.:	50005-017-513
CONTRACT NO.:	-
DRAWING NUMBER:	SHEET 2 OF 3
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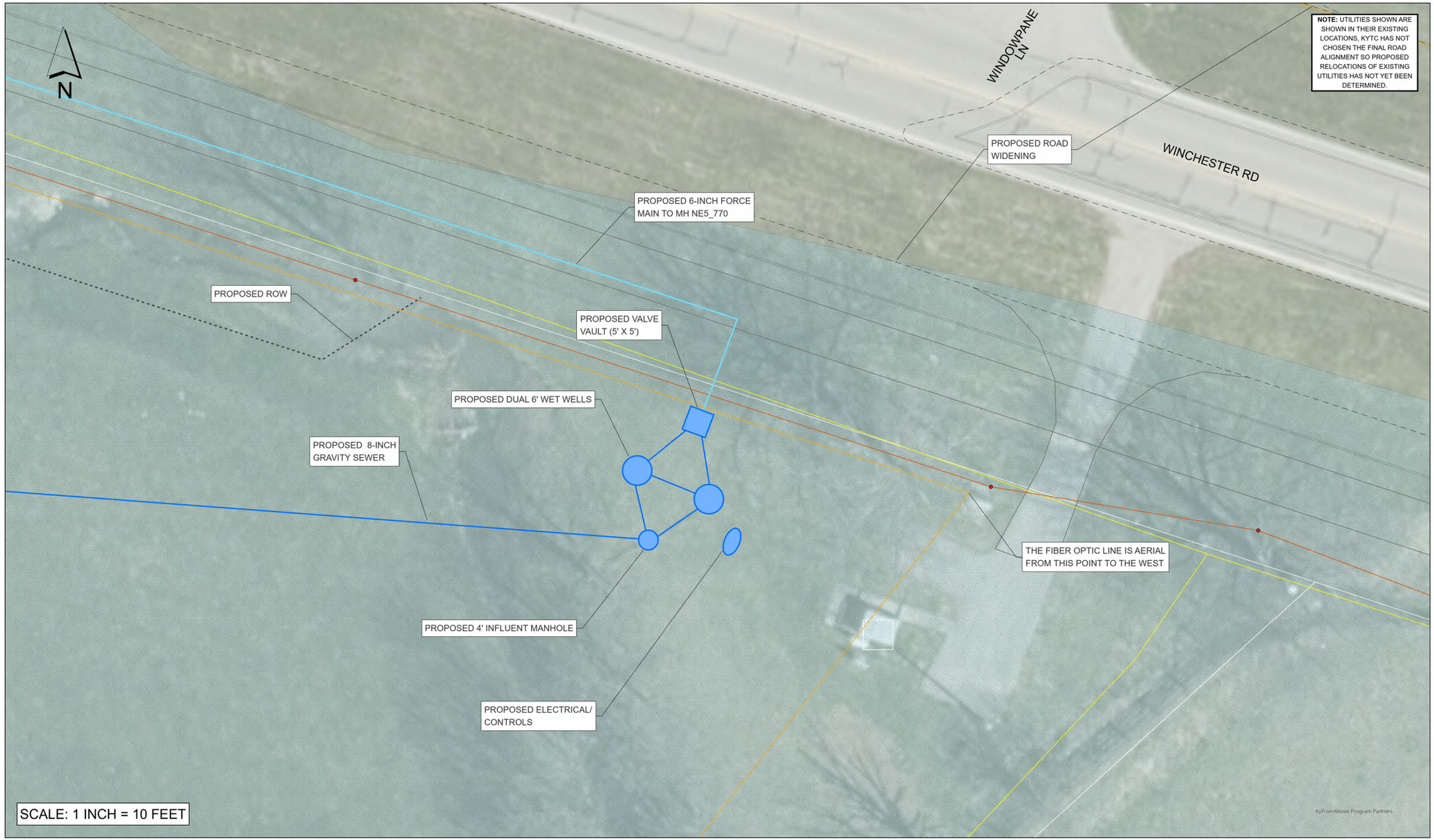

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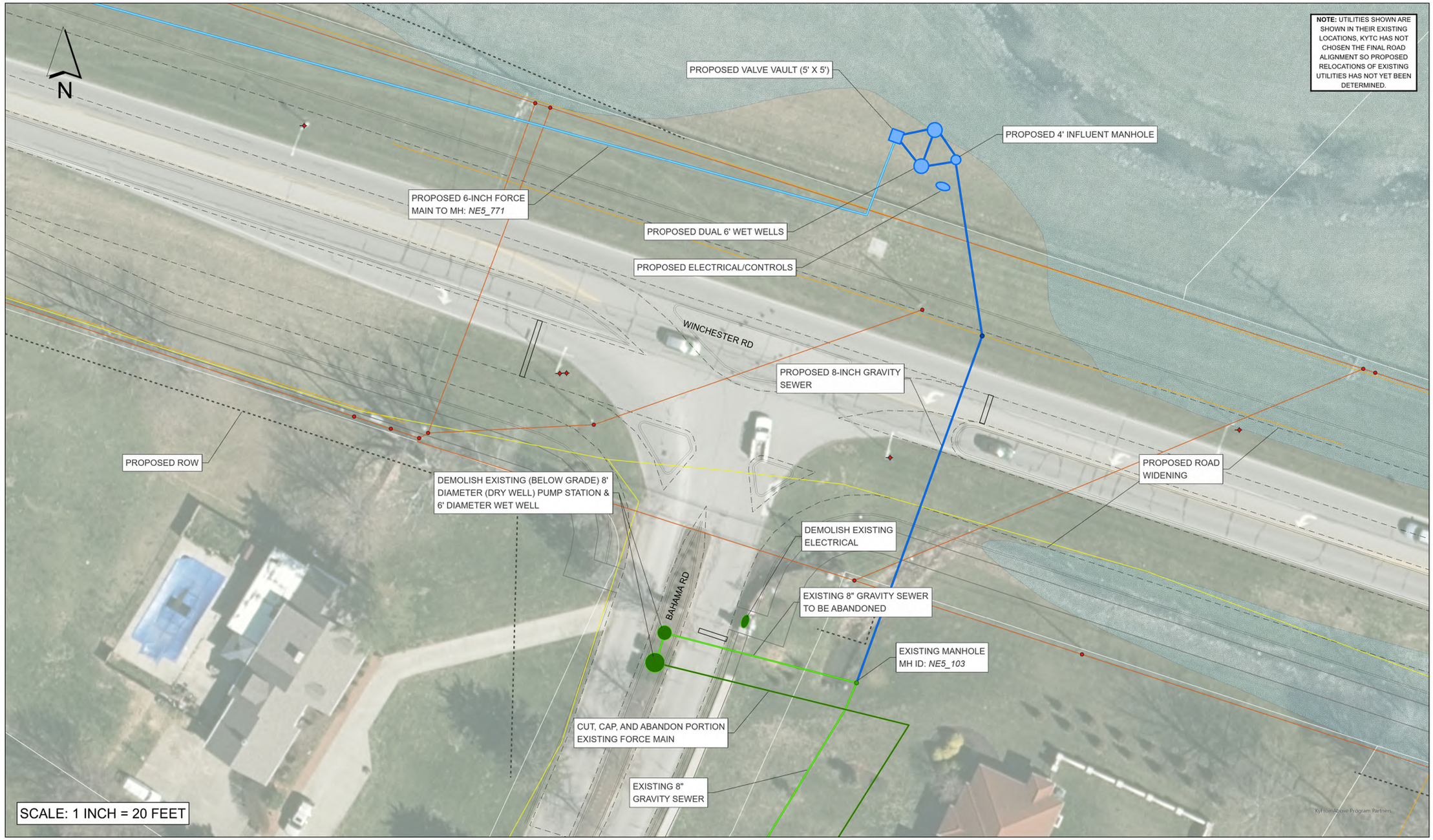
GREENBRIER 2
PUMP STATION

GREENBRIER 2 PUMP STATION
ALTERNATIVE PS3

DATE:	MAY 2024
HAZEN NO.:	50005-017-513
CONTRACT NO.:	-
DRAWING NUMBER:	SHEET 3 OF 3
	ALT. PS3



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GREENBRIER 2 PUMP STATION
ALTERNATIVE PS4

DATE:	MAY 2024
HAZEN NO.:	50005-017-513
CONTRACT NO.:	-
DRAWING NUMBER:	SHEET 1 OF 2
	ALT. PS4

LEGEND

- PR. FORCE MAIN
- PR. GRAVITY SEWER
- EXST. GRAVITY SEWER
- EXST. FORCE MAIN
- EXST. MANHOLE

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CHECKED BY:	J. SCHUBARTH

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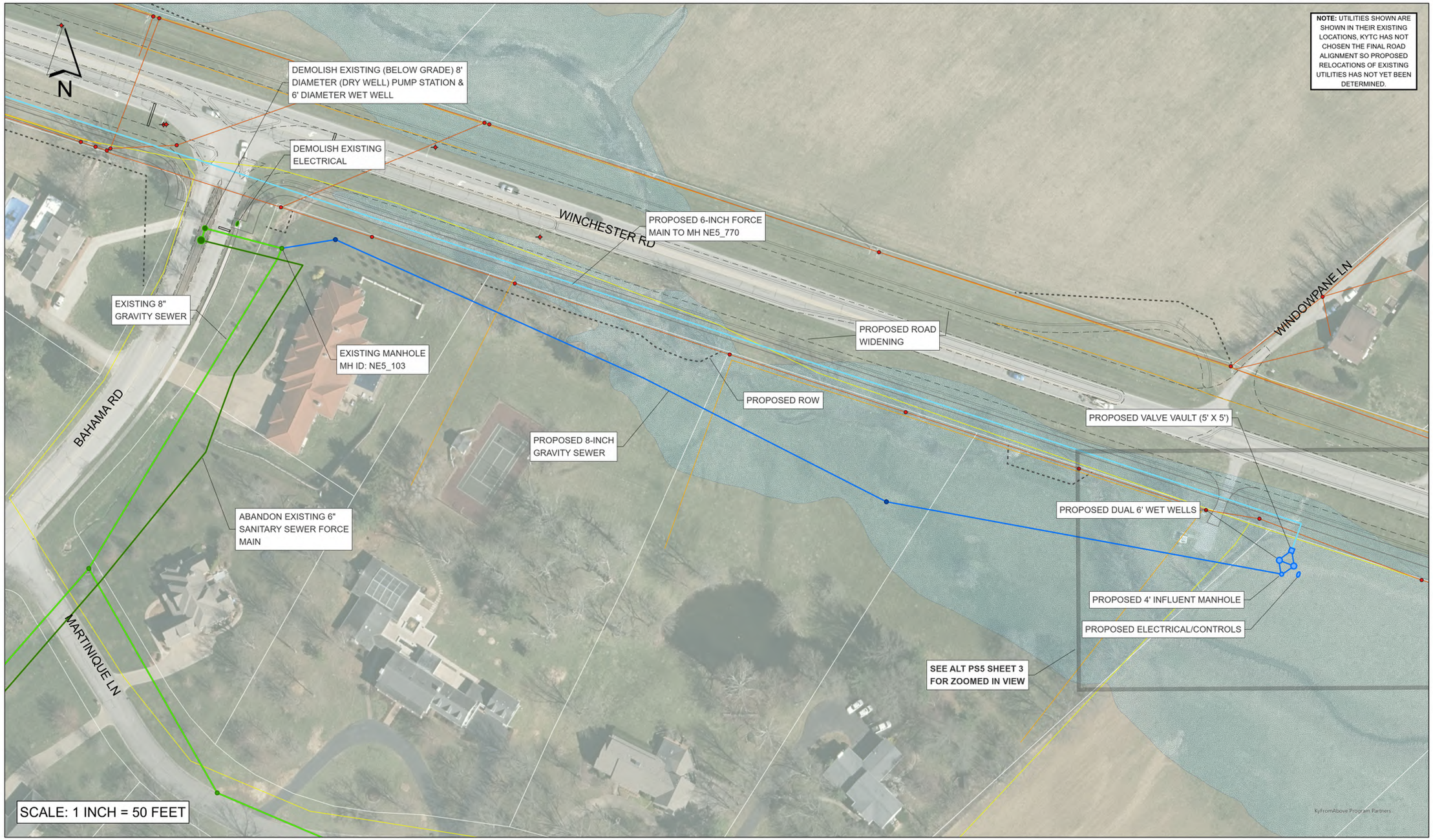
PUMP STATION

GREENBRIER 2 PUMP STATION
ALTERNATIVE PS4 - TRUNK SEWER TO EA2 PS

DATE:	MAY 2024
HAZEN NO.:	50005-017-513
CONTRACT NO.:	-
DRAWING NUMBER:	SHEET 2 OF 2
	ALT. PS4



NOTE: UTILITIES SHOWN ARE SHOWN IN THEIR EXISTING LOCATIONS, KYTC HAS NOT CHOSEN THE FINAL ROAD ALIGNMENT SO PROPOSED RELOCATIONS OF EXISTING UTILITIES HAS NOT YET BEEN DETERMINED.

LEGEND

- PROPOSED MANHOLE
- PROPOSED STRUCTURE
- PROPOSED FORCE MAIN
- PROPOSED GRAVITY
- EXST. MANHOLE
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GREENBRIER 2
PUMP STATION

GREENBRIER 2 PUMP STATION
ALTERNATIVE PS5

DATE:	MAY 2024
HAZEN NO.:	50005-017-513
CONTRACT NO.:	-
DRAWING NUMBER:	SHEET 1 OF 3
	ALT. PS5

LEGEND

- PR. FORCE MAIN
- PR. GRAVITY SEWER
- EXST. GRAVITY SEWER
- EXST. FORCE MAIN
- EXST. MANHOLE

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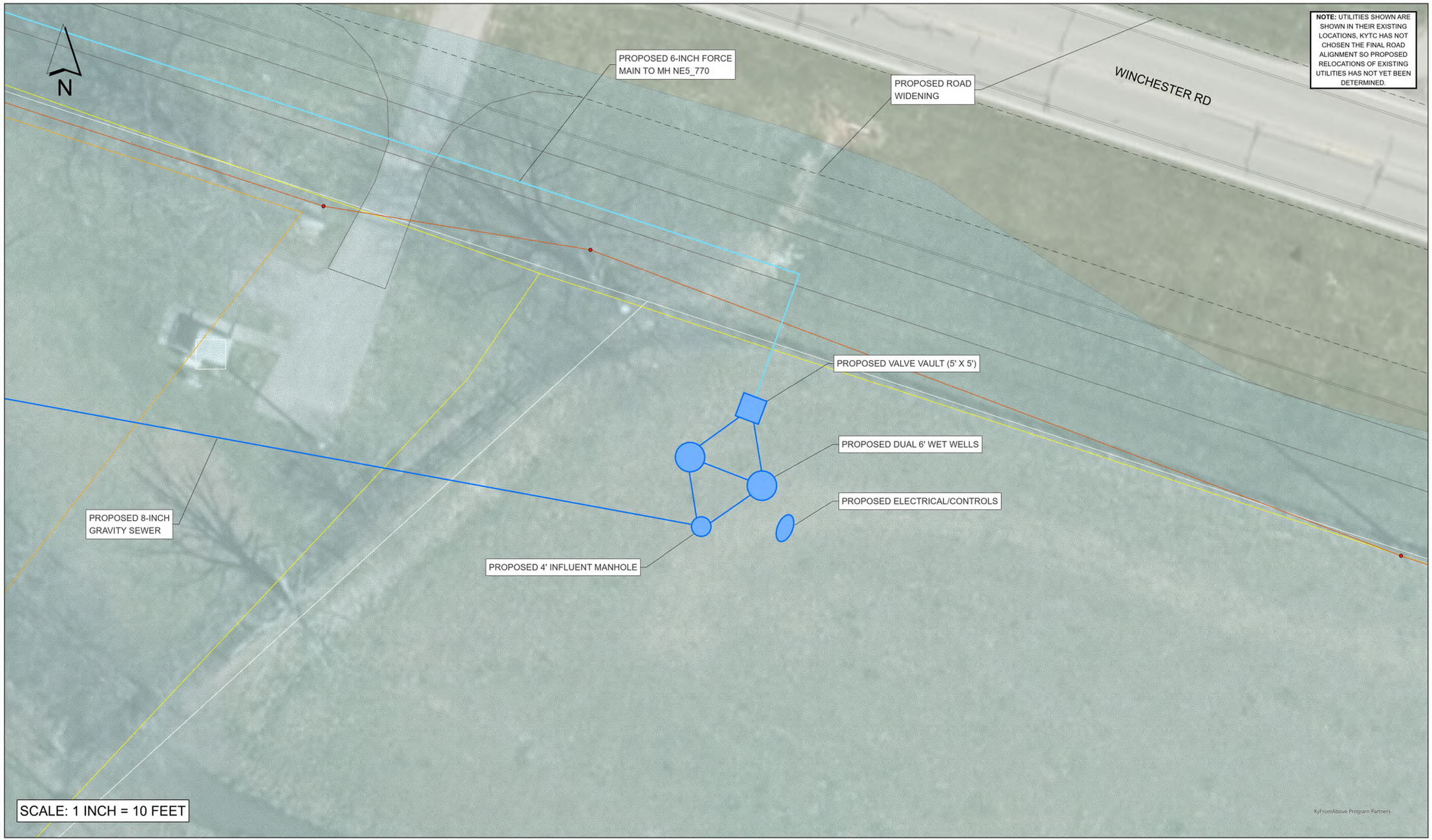
PUMP STATION

GREENBRIER 2 PUMP STATION
ALTERNATIVE PS5 - TRUNK SEWER TO EA2 PS

DATE:	MAY 2024
HAZEN NO.:	50005-017-513
CONTRACT NO.:	-
DRAWING NUMBER:	SHEET 2 OF 3
	ALT. PS5



LEGEND

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GREENBRIER 2
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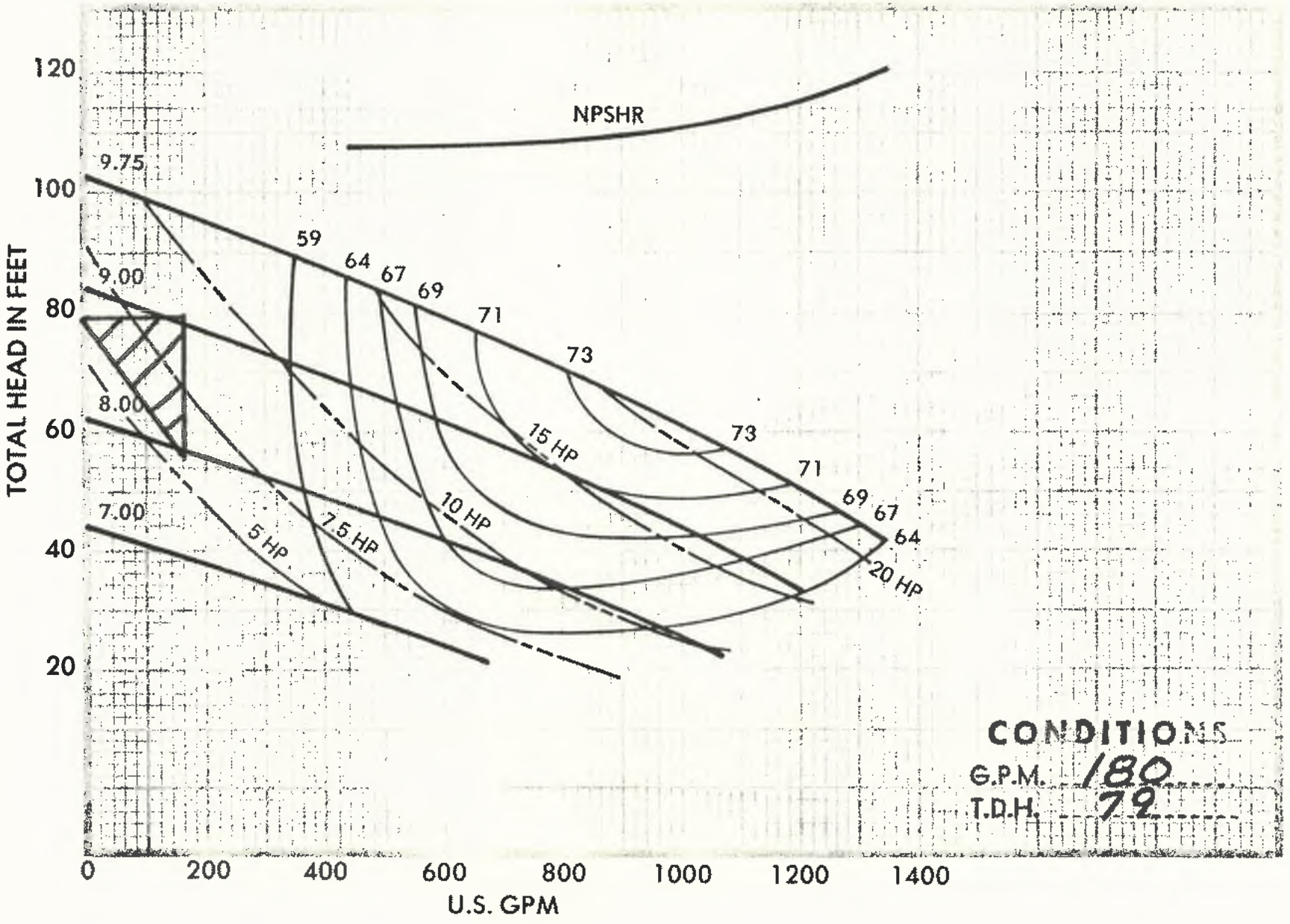
GREENBRIER 2 PUMP STATION
ALTERNATIVE PS5

DATE:	MAY 2024
HAZEN NO.:	50005-017-513
CONTRACT NO.:	-
DRAWING NUMBER:	SHEET 3 OF 3
	ALT. PS5

Appendix B: Existing Pump Station Information



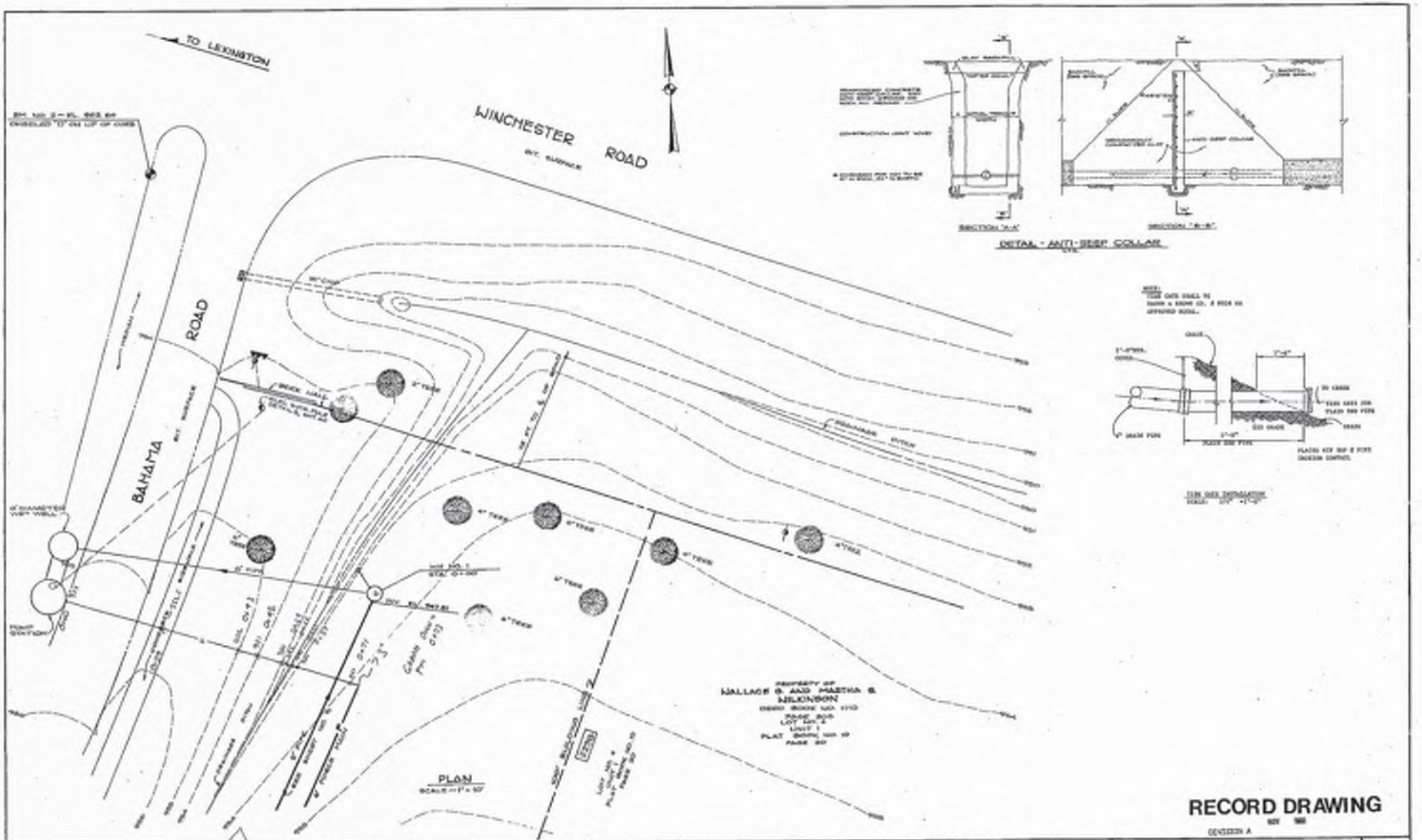
4"
5412
5422
5432
5442

1750
RPM

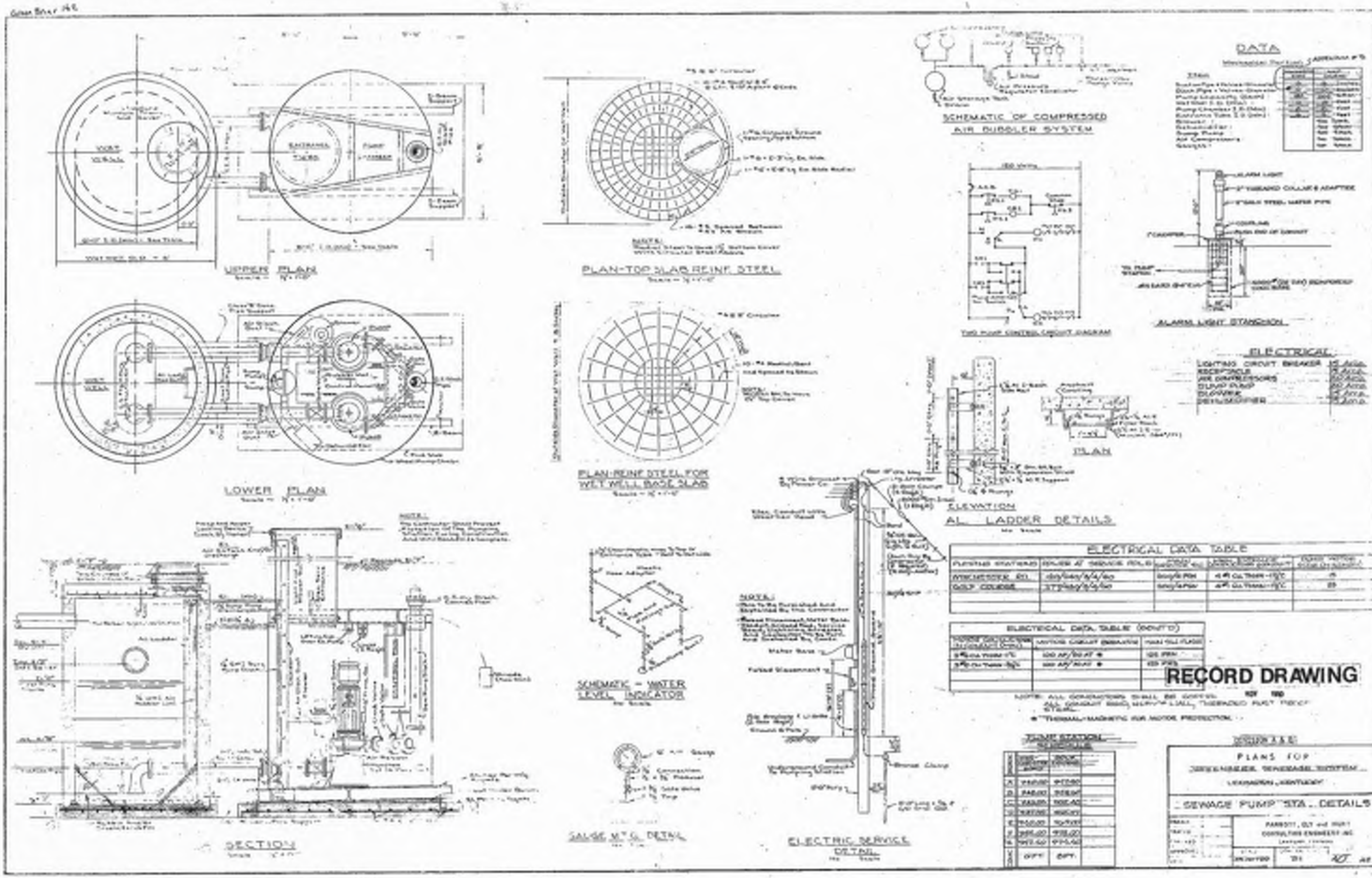
MAX. SPHERE
3"

CONDITIONS
G.P.M. 180
T.D.H. 72

FAIRBANKS MORSE PUMPS



DATE / BY / REVISIONS	CHECKED / APPROVED	PARROTT, ELY AND HURT, CONSULTING ENGINEERS, INC. LEXINGTON, KENTUCKY	GREENBRIER SANITARY SEWERS LEXINGTON, KENTUCKY	SCALE: 1" = 50' DATE: OCT. 1977	WINCHESTER ROAD SEWAGE PUMPING STATION	SHEET NO. 38 OF 42



DATA
SCHEMATIC OF COMPRESSED AIR BUBBLER SYSTEM
TWO PUMP CONTROL CIRCUIT DIAGRAM
ALARM LIGHT STANDARD
ELECTRICAL
UPPER PLAN
LOWER PLAN
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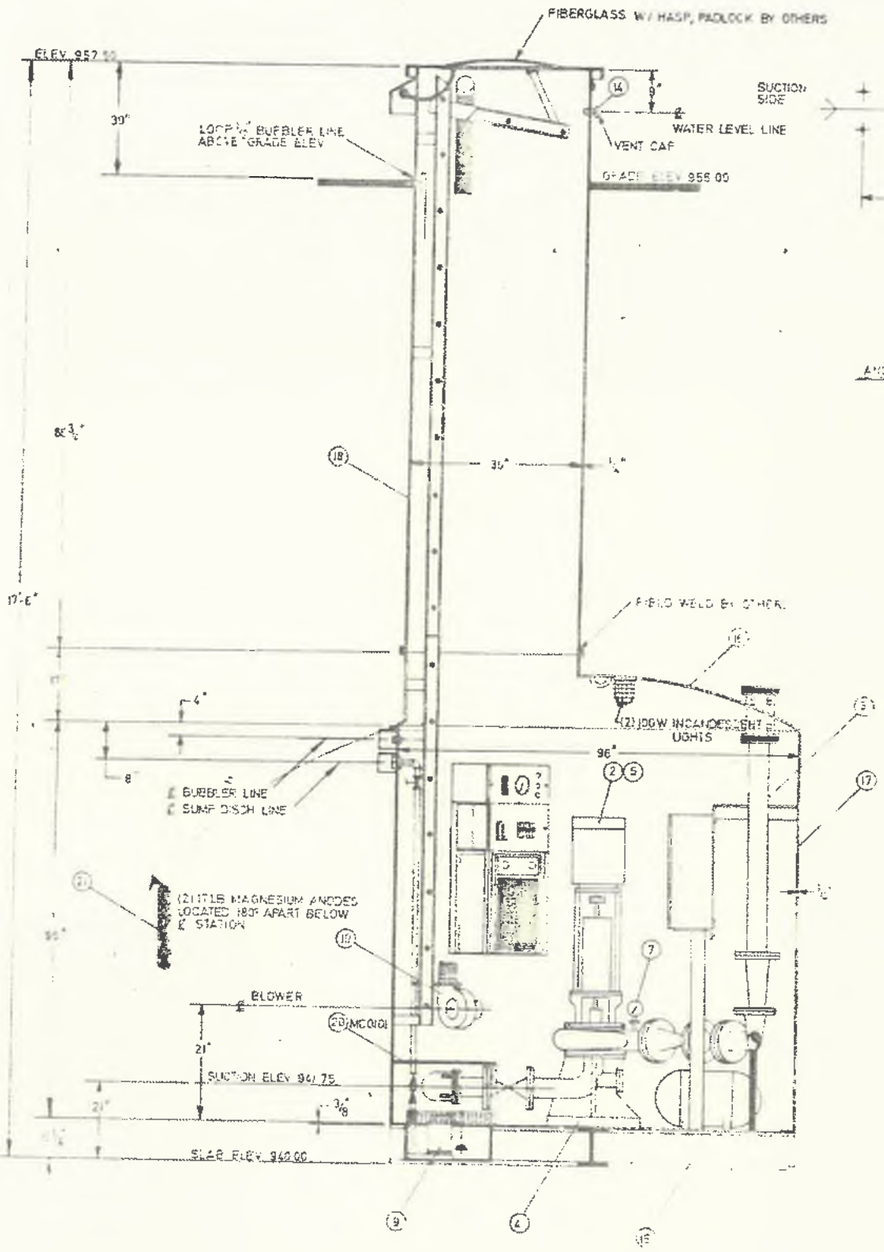

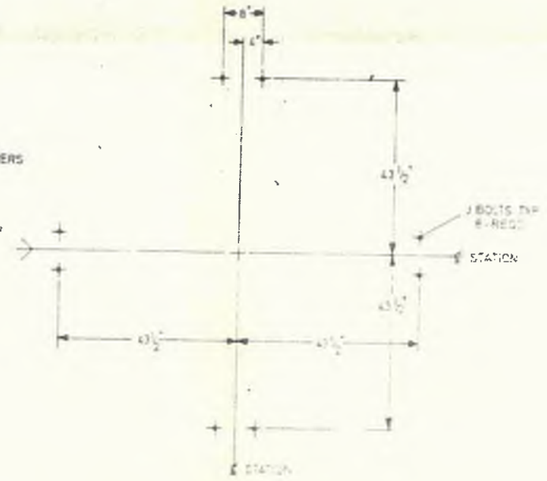

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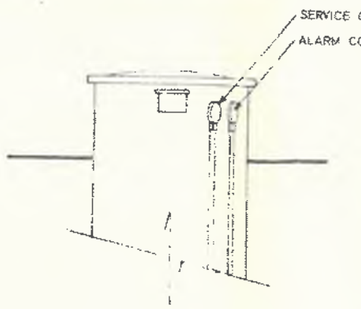

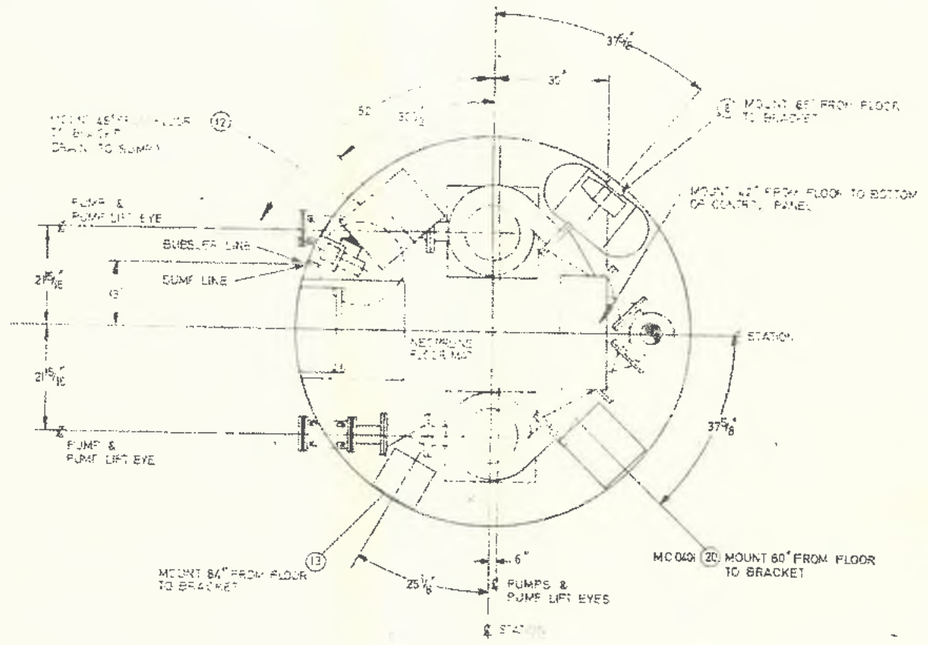

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JOB NO. 3020 | Part No. | ITEM

LFUCG
GUIDANCE FOR DESIGN – WET WEATHER STORAGE TANKS, PUMP STATIONS, AND FLOW DIVERSION STRUCTURES

May 2016

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1.0 General Information

These design guidelines shall be used by design consultants to prepare plans and specifications for the Wet Weather Storage (WWS) facilities associated with the Lexington-Fayette Urban County Government (LFUCG) Sanitary Sewer System and WWTP Remedial Measures Plans (RMPs). The RMPs were submitted to EPA as part of the LFUCG Consent Decree requirements. These design guidelines were developed to be applicable to all LFUCG WWS facilities; however, it is anticipated that some design features will be revised to accommodate individual project site conditions. Design guideline revisions may be included in a project-specific Wet Weather Storage Facility Concept Design Technical Memorandum (CDTM). The purpose of these design guidelines, along with standardized technical specifications developed by LFUCG, is to establish the following:

- Provide limiting values for design-related items that can be used by LFUCG and the Program Management Team (PMT) to evaluate and review project reports, design plans, and specifications.
- Provide a uniform design practice for design consultants associated with the design of WWS facility projects.
- Achieve operational consistency.
- Provide for replacement parts compatibility among all WWS facilities (i.e. pumps, instrumentation, electrical components, etc.).

The design guidelines described herein are intended to supplement existing LFUCG design standards and technical specifications, other applicable local, state, and federal codes, and design requirements, and the CDTM that will be part of each project's Request for Proposal (RFP). Recommendations from the design consultants regarding any proposed deviations or unforeseen issues associated with these design guidelines shall be presented to LFUCG for review and approval.

The storage volume for each facility has been determined using hydraulic modeling with a Year 2035 2-year, 24-hour design storm event and Capacity Assurance Program (CAP) surcharging criteria as described in the RMPs. Design consultants shall consider the potential impact on the facilities and related equipment of peak flows from storm events that exceed the design storm.

2.0 Wet Weather Storage (WWS) Tank Design Guidance

A. <u>Storage Tank Operation</u>

1. WWS facility operation is typically initiated by flow or level at a critical hydraulic location in the vicinity of the WWS facility. A diversion structure shall be used to divert excess flows to a WWS pump station or in some cases directly into the WWS tank by gravity. The diversion system (including pump station where applicable) must have the capacity to deliver the peak hourly flow to the

WWS tank. This flow rate will be provided to the design consultants in the project-specific CDTM.

2. Flow return to the sewer will typically be by gravity; however, pumping may be required for a WWS tank that fills by gravity. The flow return system shall be designed to empty the entire storage volume in 12 to 24 hours (or as directed in the project-specific CDTM) to a location downstream of the diversion structure at a rate that does not result in surcharging sufficient to cause CAP violations or to cause upstream flow to be diverted to storage. A level monitor shall be provided at the diversion structure to initiate diversion operations and control the return rate. Depending on sewer flow conditions, it may take longer than 24 hours to empty the WWS tank(s).

B. WWS Tank Layout Design Guidance

1. Tank Numbers, Volumes, and Locations

   The RMPs identify the required storage volumes and approximate locations for each of the proposed WWS tanks within the LFUCG service area. This information shall also be provided to the design consultants in the project-specific CDTM, which will identify the number and size of tanks, phasing plan, general site location, diversion method, general piping routing, pumping systems, and other pertinent information.

2. WWS Tank Types

   WWS tanks shall be designed as rectangular cast-in-place or circular pre-stressed concrete tanks unless otherwise indicated in the project-specific CDTM. In some cases, LFUCG may direct the design consultant to prepare construction drawings and specifications for both rectangular cast-in-place and circular pre-stressed concrete tanks for the purpose of obtaining alternate bids.

3. Tank Construction Companies (Pre-Stressed Concrete Circular Tanks)

   WWS pre-stressed concrete circular tank selection shall consider the following tank construction companies:

   - Crom Corporation
   - Precon Tanks
   - Preload, Inc.
   - DN Tanks

   Other pre-stressed concrete circular tank construction companies that can provide an equivalent product shall be considered to obtain competitive tank pricing. Circular pre-stressed tanks shall be AWWA D110 Type II or III tanks.

4. Tank Roof

    a. All WWS tanks shall be covered. Tank roofs shall be cast-in-place or precast concrete. Roofs for rectangular tanks shall be sloped sufficiently to drain. Roofs for circular tanks shall be domed.
    b. The design consultant shall refer to the project-specific CDTM for information related to tank roofs.

5. Tank Floor Elevation

    a. When determining tank floor elevations, the design consultant shall consider existing geotechnical conditions, the floor level in the pump station to achieve proper tank drainage, and area flood elevations. At locations where there are multiple tanks, the floor elevations of all tanks shall be the same, unless otherwise indicated in the project-specific CDTM.

    b. The design consultant shall refer to the project-specific CDTM for additional information related to the tank floor elevation.

6. Tank Floor Slope

    The tank floor shall slope a minimum of three percent to a center drain and gravity effluent piping.

7. Tank Roof Vents

    Tanks shall be properly vented for maximum filling and draining. Passive ventilation systems shall be adequately sized to accommodate filling and draining of the WWS tanks at maximum anticipated flow rates. The design consultant shall determine the required number, size, and locations of tank vents.

8. Tank Overflow System

    a. Tanks shall include an overflow system with a minimum of one or more internal overflow pipes per tank or tank compartment. The overflow piping system shall be located at the elevation of the tank's maximum storage volume. The overflow system piping shall be sized for the maximum pumping rate of the diverted flow. Overflows shall be routed back to the existing sewer system downstream of the diversion structure unless otherwise indicated in the project-specific CDTM.

    b. Overflow system piping shall be flanged ductile iron pipe with an exterior coating of coal tar epoxy and ceramic epoxy interior lining.

    c. The design consultant shall refer to the project-specific CDTM for additional information related to the type, locations, and layout of the tank overflow piping system.

9. Tank Inlet, Transfer, and Dewatering Piping, Gates, and Valves

    a. The tank inlet, transfer and dewatering piping, gates, and valves shall be sized for the Wet Weather Storage Pump Station (WWSPS) firm capacity.

    b. Tank inlet piping shall be located at an elevation that maximizes the efficiency of the WWSPS pumps.

    c. If proposed WWS tanks have separate compartments, tank transfer piping, gates, and/or openings shall be designed to operate in parallel. If multiple tanks are proposed, tank transfer piping, gates, and/or openings shall be designed to allow the tanks to operate in either parallel or series, as defined in the project-specific CDTMs.

    d. Interior tank inlet and dewatering piping shall be flanged ductile iron pipe with an exterior coating of coal tar epoxy, and ceramic epoxy interior lining.

    e. The design consultant shall refer to the project-specific CDTM for additional information related to the tank inlet, transfer, and dewatering system.

10. Tank Access

    a. Each tank shall have ground level watertight wall access manways equally spaced around the perimeter of the tank. For a circular tank the number of manways shall be determined based on the diameter of the tank with one manway per 50’ in diameter and a minimum of three manways. For a rectangular tank, one manway shall be included in each tank wall. Wall-mounted manways shall be equipped with a watertight painted steel hinged door.

    b. Each manway shall have an aluminum landing, handrail, and staircase on the interior of the tank to allow access to the tank floor.

    c. Each tank shall have one 6-foot x 6-foot roof hatch. The hatch shall be installed with a rigid safety grate.

    d. An exterior ladder shall be installed for access to the roof and roof hatch. The ladder shall be caged and locked at the ground level with offset platforms meeting OSHA requirements.

    e. A handrail shall be installed around the perimeter of the tank roof.

    f. All personnel access points into the WWS tanks should be clearly marked that the internal portions of the tank are a “confined space.” The design consultant shall refer to the project-specific CDTM for additional information related to tank access.

11. Tank Level Sensors

    a. Tanks shall have at least two level sensors to monitor the tank's water level, measure return flow volumes, and to stop the WWSPS pumps (or close an isolation valve for gravity-in facilities). Each tank shall also have one backup sensor to stop the WWSPS pumps should the primary level sensors fail.

    b. The design consultant shall refer to the project-specific CDTM for additional information related to the number and locations of tank level sensors.

12. Tank Coatings and Exterior Treatments

    a. The interior of WWS tanks (walls, floor, and roof) shall not require a coating.

    b. The exterior walls and roof of cast-in-place concrete and pre-stressed concrete tanks constructed above grade at wastewater treatment plants shall be coated with a twice rubbed finish followed by a paint coating. Paint color shall be selected by LFUCG.

    c. All WWS tanks that are not located at wastewater treatment plants shall have architectural finishes or treatments for the tank exterior, as per the project-specific CDTM.

13. Tank Odor Control

    Odor control is not required for WWS tanks. Space for possible future odor control equipment along with duct connections for air withdrawal shall be provided.

14. Windows

    Tank windows for concrete circular tanks shall be "eyebrow" type with polyester mesh screen. The number of windows shall be equal to the number of access manways. Windows shall be located over the access manways and shall be used for both venting and natural light.

C. <u>WWS Site Design Guidance</u>

1. Setback Requirements

   Setback distances for WWS tanks will be as directed by DWQ during design.

2. Stormwater and Erosion Control

   To the maximum extent possible, the LFUCG's "Stormwater Management Low Impact Development Guidelines for New Development and Redevelopment" shall be used as a guideline for managing stormwater and utilization of "Best Management Practices" (BMPs) for erosion control. Design plans shall include a Stormwater Pollution Prevention Plan (SWPPP).

3. Equipment Access and Maintenance Area

   A 20-foot (minimum) wide paved equipment access corridor shall be provided around WWS tanks for construction, equipment, and maintenance access. This area shall be above the 100-year flood elevation, unless otherwise indicated in the project-specific CDTM.

4. Site Piping Materials

   a. Site gravity sewer piping materials shall be ductile iron, PVC, or fiberglass-reinforced pipe (FRP) pipe unless otherwise indicated in the project-specific CDTM.

   b. Buried pressure piping shall be ductile iron or PVC with restrained type joints.

   c. All buried ductile iron piping shall have ceramic epoxy interior lining and the standard asphaltic exterior coating. All exposed pipe shall be flanged.

5. Pipe Abandonment

   Sewer pipes 18-inches and larger which are located under pavement with public access shall be safeloaded. All other abandoned sewer pipe shall be plugged. Public access paved areas shall include public roads, commercial/industrial driveways and parking lots and multi-family apartments with more than two units.

6. Site Access/Lighting/Fencing

   a. Site entrance, parking area for service vehicles, security lighting, and security fencing shall be provided. Lighting and fencing shall incorporate designs as appropriate for individual sites and as directed by DWQ. Perimeter site security fencing shall be required around the entire WWS site (or as directed by DWQ) unless the site is located within another secured fenced area.

   b. The diversion structure and WWSPS shall be designed to be accessible and fully operational during a 100-year flood event, unless otherwise indicated in the project-specific CDTM.

   c. The project-specific CDTM may include additional information related to access, parking, security fencing, and lighting requirements.

7. Landscaping/Buffer Areas

   a. A landscape plan shall be required to provide screening as appropriate for the site location.

   b. The project-specific CDTM may include additional information related to landscape plan requirements.

8. Environmental Concerns

   The design consultant shall refer to the project-specific CDTM for additional information related to environmental concerns. A Phase 1 Environmental Site Assessment Screening will be included in the CDTM.

9. Floor Elevations

   The floor for electrical/control buildings shall be a minimum of two feet above the FEMA 100-year flood elevation.

10. Water Supply

    a. A site water system shall be provided to facilitate cleaning and maintenance of the WWS tank and appurtenant facilities. The site water system shall be designed to provide a minimum of 100 gpm at 75 psi to accommodate said maintenance. Depending on the project location, the site water system shall use either potable or plant process water. Where potable or plant process water is available at the specified flow and pressure, the site water system shall consist of yard piping and flush-mounted hose connections at each WWS tank access manway.

    b. Where the specified potable or plant process water is not available, the site water system shall consist of a water storage tank with capacity for 30 minutes of washdown, yard piping, booster pump connections (for both the storage tank and yard piping), and flush mounted hose connections at each WWS tank access manway.

    c. For potable water installations, the meter and backflow prevention device shall be installed per Kentucky American Water Company requirements.

D. <u>WWS Tank Structural Design Guidance</u>

1. Tank Structural Design

   Cast-in-place tanks, prestressed concrete tanks, and foundations shall be designed in accordance with all applicable codes and design requirements.

2. Geotechnical Design/Soil Borings

   a. The design consultant shall obtain a Geotechnical Design Report which includes soil/rock borings for the tank(s), pump station, and diversion structure as sufficient to support structural designs. This report shall also include geotechnical design recommendations. The Geotechnical Design Report shall be included as “Information Only” in the contract documents.

   b. For projects involving prestressed concrete tanks, the design consultant shall coordinate the geotechnical study with at least one prestressed concrete tank supplier to determine their geotechnical information needs.

c. The design consultant shall refer to the project-specific CDTM for additional information related to geotechnical design and soil borings. A preliminary geotechnical report may be included in the CDTM.

3. Flotation Protection

   WWS tanks, pump stations, and diversion structures shall be protected from floatation during high groundwater and flood conditions assuming the structures are empty.

4. Bottom Slab and Foundation Design

   The foundation design procedure for all wet weather storage tanks, constructed as prestressed concrete tanks, will be as follows:

   a. The consultant will request a design from all tank manufacturers/contractors during the design phase, prior to the bidding phase.

   b. The consultant will review and evaluate the designs received from the manufacturers/contractors. Giving consideration to the manufacturer's design, the consultant will engineer a foundation that will be used as the minimum basis for bidding. Consideration should be given to the most conservative of the tank manufacturers' designs as the basis for design and bidding.

   c. The consultant's engineered foundation will be provided within the contract documents for the project bearing the consultant's seal and signature. Furthermore, the drawing and specification will provide language indicating the following stipulations for the design and construction of the tank:

      1) The foundation, tank walls, and tank top will be engineered by the tank manufacturer.

      2) The tank manufacturer/contractor shall, as part of the submittal process, provide signed and sealed shop drawings for the tank and foundation.

      3) The tank manufacturer/contractor will be responsible for the tank and foundation system in its entirety. Any deviations in the foundation design shall be noted in the calculations for the consultant's approval. The consultant reserves the right to approve/disapprove any design that does not meet the minimum basis for bidding.

      4) The consultant may include a statement on the drawings to note that approved tank construction companies provided information during the design: "In the preparation of the drawings, the engineer relied upon information provided from the approved tank construction companies to establish the basis of design, bidding and award."

5. Seismic Design

   The design consultant shall consider seismic design elements in accordance with applicable code requirements.

6. Concrete Mix Design

   The design compressive strength and mix design requirements of concrete used in constructing WWS tanks, pump stations, and diversion structures shall be as provided in LFUCG's technical specifications.

E. WWS Sole Source Equipment

DWQ may require select equipment to be procured via a strict procurement protocol. This Sole Source Equipment Procurement Protocol is included in Appendix A.

3.0 WWSPS Design Guidance

A. General

1. Pump station design shall comply with LFUCG design guidelines for Class A pump stations, except as identified herein or in the project-specific CDTM.

2. The design consultant shall use this information to determine pump type, pump configuration and numbers, capacity, speed, weight, dimensions, drives, and system operation.

3. Since the WWSPS will operate intermittently, provisions must be made to drain the WWSPS effluent force main through an automatic valve, discharging to the pump station wet well after flow return operations have been completed.

4. The top of wet well and valve vault shall be a minimum of two feet above the 100-year flood elevation.

B. Diversion Pumps

Diversion pumps, if needed, shall be designed for the firm capacity of the WWSPS. Pumps shall be submersible, variable speed, and discharge to an interior piping system. Pumps shall be controlled by a level sensor in the wet well. A backup high level sensor shall also be provided to alarm and control the pumps should the primary level sensor fail.

C. Dewatering Pumps

Dewatering pumps, if needed, shall be sized to remove the total volume in the tank not removed by gravity, dewater the ultimate tank storage capacity under dry weather flow conditions, and be capable of variable flow control to allow for dewatering as soon as capacity is available while avoiding excessive levels at the diversion structure and/or trunk sewer during return flow. Dewatering pumps shall be submersible,

variable speed, and discharge into the existing sewer system downstream of the diversion structure.

D. Wet Well

The WWSPS wet well shall be a wet pit submersible station with a single wet well complying with Hydraulic Institute Standards. When possible, a trench-type self-cleaning wet well shall be considered.

E. Pipe Materials

Interior pump station piping shall be flanged, ductile iron pipe. Pump discharge piping shall be ductile iron with restrained joints in buried applications and flanged joints in exposed applications. All piping shall have an interior lining of ceramic epoxy and all exposed pipe shall have an exterior coating of coal tar epoxy.

F. Sump Pumps

Duplex grinder sump pumps shall be provided (50 to 100 gpm minimum) to remove all remaining wastewater from the WWS tank and the WWSPS wet well. All sump pumps shall be submersible and discharge to the flow return system piping or other gravity sewer.

Sump pumps shall start upon cessation of the wet weather pumps and low level in the wetwell, and shall stop if the level rises and the wet weather pumps restart.

G. Buildings

Pump and electrical/control buildings shall have split face CMU block walls unless stipulated otherwise in the project-specific CDTM.

Other building features (HVAC, doors and windows, lighting, roofing, etc.) shall be in accordance with LFUCG standard specifications.

The floor elevation of electrical buildings and generator pads shall be a minimum of 2 feet above the 100-year flood elevation.

H. Valves

Valves and gates for WWS tanks and appurtenant structures shall comply with LFUCG's guidelines for Class A pump stations. Throttling valves shall be sluice gates in chambers and plug valves in pipes. Isolation valves shall be plug type. Tops of valve vaults shall be a minimum of 2 feet above the 100-year flood elevation.

I. Ventilation

Ventilation of the WWS wet well and valve vault shall be a non-mechanical system (J vent or similar).

4.0 Flow Diversion Structure Design Guidance

A. General

1. The flow diversion structure diverts excess flows to the WWSPS wet well and shall be located on the trunk sewer. The flow diversion structure shall be a cast-in-place or precast concrete structure.

2. The design shall be based on avoiding exceedance of Capacity Assurance Program (CAP) criteria at peak flow conditions during a 2-yr, 24-hr storm under future conditions (Year 2035). "CAP criteria" is defined as flow levels that exceed 2 feet above the crown of a gravity sewer pipe or that are within 3 feet of the rim elevation of a gravity sewer manhole.

3. Access hatches shall be provided as required to provide maintenance access to the main chamber, mechanical screen, and throttling gate. Fall protection is required at all hatches. Consideration shall be given to the maintenance and potential replacement of the mechanical screen.

4. Ultrasonic level detection shall be provided in the flow diversion structure, and will be used to initiate flow diversion, control tank discharge, and to allow LFUCG staff to monitor flow levels in the trunk sewer.

5. The top of the flow diversion structure shall be a minimum of 2 feet above the 100-year flood elevation, with an adjacent area large enough to park a maintenance vehicle slightly below the structure elevation. New gravity sewer manholes with rim elevations below the 100-year flood elevation shall be watertight, with bolt-down frames and lids.

6. The design consultant shall refer to the project-specific CDTM for additional information related to design requirements for the operation and control of the flow diversion structure.

B. Overflow Weir and Screen

1. The flow diversion structure shall include an adjustable overflow weir and a comb-type, vertical, mechanical screening device to prevent debris from entering the WWSPS wet well and tank. All control panels, and other electrical components shall be located in the Electrical Room.

2. Hydraulic power packs shall be located in enclosures near the equipment. Underground hydraulic tubing associated with the comb-type screen shall be installed in PVC pipe or conduit.

3. The design consultant shall refer to the project-specific CDTM for additional information related to overflow weir and screen.

C. Access Platform

A screen access ladder and platform, or other similar means of access meeting all applicable OSHA requirements shall be provided. The platform or working area shall be above the 100-year flood elevation and provide ready access to all mechanical components.

D. Valves

Isolation and throttling gates in chambers shall be sluice gate type.

E. Ventilation

Refer to Paragraph 3.0.I of this document

5.0 Flow Return Design Guidance

A. Gravity Flow Return

1. Unless otherwise indicated in the project-specific CDTM, gravity flow return shall be controlled by a plug valve with electric actuator. The plug valve and actuator shall be located in a valve vault with an aluminum access hatch and fiberglass grating fall protection. Top of vault shall be a minimum of 2 feet above 100-year flood plain.

2. If the valve vault is 8’-0” or deeper, it shall be provided with a davit crane base suitable for a removable davit crane with emergency retrieval device.

3. The plug valve shall be capable of controlling the design return flow rate. Once wet weather flows recede, return will be capable of automatic activation. The valve will open to a determined setpoint for initial dewatering. It will then open to a determined setpoint to complete dewatering within desired time. A level element in the diversion structure will cause the valve to close incrementally if level approaches the maximum allowable level in the diversion structure and/or trunk sewer. Secondary level controls or flow controls may be required at other locations as indicated in project-specific CDTM.

4. New gravity sewer manholes with rim elevations below the 100-year flood elevation shall be watertight, with bolt-down frames and lids.

B. Pumped Flow Return

Refer to Paragraph 3.0A. Dewatering Pumps (if needed) shall be designed to control return flow in a manner similar to the plug valve controlled gravity flow described in Paragraph 5.0A.

C. Valves

Throttling and isolation valves in pipes shall be plug valves.

6.0 Electrical and Instrumentation/Control Design Guidance

A. General Electrical Design Requirements

1. The electrical distribution should include considerations for reliability, maintainability and safety.

2. Reliability should be based on two independent sources of power defined as one utility source and one permanently-installed standby power generator source, unless otherwise defined in the project-specific CDTM.

3. Electrical distribution configuration:

4. For powering new “green field” installations, the configuration of the new distribution system will be simple radial distribution configuration.

5. For powering expansions to existing facilities wherein an existing simple, radial-feed distribution configuration has been previously employed, the expansion shall maintain the radial-feed configuration.

6. For powering expansions to existing facilities wherein an existing loop-fed, “main-tie-main” secondary selective configuration has been previously employed, the expansion shall maintain the loop-fed configuration.

7. Provide for an electrical distribution that is maintainable with capability for portions of the distribution to be taken out of service for routine maintenance (i.e. cable meggering, bus meggering, circuit breaker inspection/testing, etc.).

8. Power distribution voltage shall be 480/277V unless otherwise defined in the project-specific CDTM. 4160V systems will be considered on a case-by-case basis when warranted by facility loads. 240V three-phase and 240/120V single-phase distribution will be allowed in expansions of existing facilities wherein these distribution voltages have been previously employed and where new loads can reasonably be accommodated. Wye-grounded systems are preferred in all systems for both protection and safety with the exception of existing facilities connected to delta-connected systems.

9. Provide ability to safely operate electrical equipment from a remote location to avoid exposure to arc-flash potential.

B. Electrical Rooms

Electrical rooms containing variable frequency drives (VFDs) shall be air conditioned. Space shall be sufficient to install all cabinets on housekeeping pads with 360 degree accessibility and in accordance with applicable code requirements.

C. Electrical Equipment and Panels

Electrical equipment including switchgear, electrical panels, VFDs, and non-submersible motor operators shall be enclosed in an Electrical Building and installed a minimum of 2 feet above the 100-year flood elevation. Electrical panels, pump drives, and control panels shall be of material and NEMA rating as defined in the standard technical specifications. Exterior electrical panels or enclosures shall be NEMA 4X stainless steel.

D. Tank Convenience Outlets

Exterior rated 120V convenience outlets shall be required. These outlets shall be located near the access manways.

E. Lighting

Exterior lighting shall be required for security purposes but shall be designed with sensitivity to the adjacent residential properties to the extent practicable. Lighting inside the Electrical Building is required, but lighting inside the WWS tank, pump station wet well, and flow diversion structures is not required. The project-specific CDTM may include other lighting requirements.

F. Tank Roof Lightning Protection

Lightning protection for WWS tank roofs is not required.

G. Instrumentation and SCADA/Telemetry System

Instrumentation/SCADA shall enable local and remote monitoring of the system including but not be limited to:

- Radio telemetry unit
- Gate and valve actuators and automatic plug valve on the gravity return line
- Diversion activation
- Screening unit operation
- Valve position indicators for all automatic valves or gates
- Diversion structure water level monitoring
- Pump on/off and run times for the storage facility duty pumps, dewatering pumps, and wet well sump pump
- System failure for all operational pumps and operators
- Power supply status
- WWS tank level monitoring
- Alarms for all pumps and actuators

Remote control of the return valve and the diversion throttling gate shall be provided. Measurement of flow volumes returned to the trunk sewer system shall be by recording changes in tank level through the programmable logic controller (PLC) associated with the SCADA system. Details on the PLC and SCADA system are provided in LFUCG standard specifications.

H. Variable Frequency Drives (VFDs)

Unless otherwise defined in the project-specific CDTM, the design consultant shall utilize variable frequency drives (VFDs) for all process equipment utilized in variable speed applications. VFDs shall be either 6-pulse or 18-pulse as determined by the design consultant. The design consultant shall be aware of the need to reduce harmonic distortion caused by the use of VFDs. The Institute of Electrical and Electronics Engineers (IEEE) 2014 edition of Recommended Practice and Requirements for Harmonic Control in Electric Power Systems (Standard IEEE 519-2014) shall establish the limitations of individual harmonic limits and total harmonic distortion for voltage and current at the Point of Common Coupling (PCC). The PCC shall generally be considered either:

- The first common bus or parallel busses downstream of the point at which the Owner receives electrical energy from the utility, or
- The first common bus or parallel busses downstream from the Owner's transformation from one medium voltage to a lower medium voltage (such as 13.8KV primary stepped down to 4.16KV secondary) or from medium voltage to low voltage (typically 13.8KV, 12.47KV, or 4.16KV primary stepped down to 480/277V or 208/120V secondary).

The design consultant shall collaborate with the technical staff of the VFD manufacturer for the VFD serving as the basis of design to engineer an IEEE 519-compliant solution. Input reactors, DC link chokes, 18-pulse phase-shifting input transformers, "active front-end" VFDs, active filters, and passive filters are all options that may be employed in meeting IEEE 519-2014 requirements. In all cases, the foremost objectives shall be to maximize:

- Reliability through industrially-hardened components and equipment
- Maintainability through ease of isolation and removal/replacement of modular components
- "Replaceability" through "off-the-shelf" equipment and components versus specially-engineered and proprietary solutions.

I. Standby Power

Standby power for the WWSPS, valve and weir operators, screen, and mechanical ventilation system shall be provided as directed in the project-specific CDTM.

For WWS at WWTP sites, the design engineer shall investigate options to use the WWTP redundant power feeds. For WWS at existing pump station sites, the design engineer shall determine whether existing generators can be used (or whether a replacement or additional generator is required). For "remote" WWS facilities in the collection system, provisions to connect a trailer-mounted portable generator shall be provided.

If a permanently-installed generator is not required, provisions for the temporary or future installation of a generator shall be included in the design including a receptacle and manual transfer switch for a trailer-mounted generator.

J. Future Equipment

Electrical rooms shall be designed to accommodate future addition of odor control system motor starters and controls as well as providing space for the installation of an automatic transfer switch (if not included in the initial construction).

7.0 WWS Facility Control/Operational Plan

The design consultant shall refer to the project-specific CDTM for additional information related to the control and operational plan requirements for the WWS facility.

The design consultant shall develop a detailed operations plan for the WWS facilities. This plan shall include an operational schematic and description of how the facility shall function and operate during the filling and emptying of the WWS tank. An operations and maintenance (O&M) manual shall also be required.

8.0 WWS Facility Preliminary Design Technical Memorandum

The design consultant shall be responsible for developing a Preliminary Design Technical Memorandum (TM). The Preliminary Design TM shall at a minimum, include the following information:

- Design information identified in the project-specific CDTM
- Site layout plan with actual location of new facilities
- Storage tank layout and construction type
- Hydraulic profile of new WWS facilities
- Performance type design criteria for cast-in-place concrete and pre-stressed concrete tanks and foundations including geotechnical information and recommendations
- Plans and sections of new facilities including tank, pump station, and diversion structure
- Ventilation system design summary
- Single line electrical diagrams
- Standby generator sizing (where applicable)
- Control/operational description of new WWS facilities including tank, pump station, and diversion structure
- Technical specification list, identification of any proposed deviations from the standard technical specifications, and identification of any procurement issues (license requirements, sole source providers, etc.)
- Design criteria for critical process equipment

- Process and instrumentation diagram of new WWS facilities
- Opinion of probable construction cost
- List of permits and approvals required
- List of easements required
- List of major equipment and recommended suppliers
- Pump selection and design criteria
- Identification of sites for excess excavated material including contaminated material (if applicable)
- Final design schedule and proposed bid and construction schedules

All deviations from the requirements specified herein shall be clearly identified and justified in the Preliminary Design TM. The Preliminary Design TM shall be submitted for review and approval by LFUCG and the PMT before final design is initiated.

9.0 Design Consultant's Use of These Design Guidelines

A. General

The design consultant shall be responsible for complete engineering designs of all new and modified facilities in accordance with LFUCG guidelines and other applicable regulations and requirements. The design consultant shall be responsible for confirming all design parameters identified in these design guidelines and the project-specific CDTM, confirming applicability of LFUCG standard specifications to be used, and for conformance of the design with applicable codes.

B. Confirmation of Sewer Performance

The design consultant shall coordinate with LFUCG's PMT and modeling consultant to confirm sewer and diversion structure hydraulics in the vicinity of the WWS facility to confirm the system will operate as intended. Consideration must be given to design storm conditions at project completion as well as future conditions in accordance with the RMPs. Consideration must also be given to hydraulic performance under flows that exceed design storm conditions.

C. Confirmation of Site Information

The design consultant will be responsible for obtaining and confirming all required site information needed for preparation of contract documents including, but not limited to, existing sewer elevations, existing utility locations, geotechnical information, site topography, location and elevations of all existing site improvements, site environmental information, or other information as required for design.

Appendix A
Sole Source Equipment Procurement Protocol

The design consultant shall provide to the equipment supplier the equipment specification(s) and any other required referenced specifications (General Conditions, Supplemental Conditions, submittal specification, O&M specification, etc.) along with the related contract drawings for the project. The equipment supplier shall provide a preliminary cost proposal that meets all of these documents; shall confirm that they meet all of the contract requirements; and identify any exceptions. All exceptions shall be addressed by the design consultant (i.e. revise specifications) and the equipment supplier's final cost proposal shall match the contract documents without exceptions.

The equipment supplier's final cost proposal shall also include their standard terms and conditions. Payment terms and conditions shall be between the general contractor and equipment supplier in accordance with the Contract Documents and not part of its proposal to LFUCG.

The equipment supplier shall provide information relating to the other comparable projects to the design consultant. This information shall be provided separately as it will not be part of the equipment supplier's cost proposal or part of the contract documents. This information shall be reviewed by the design consultant such that it concludes that the proposed cost proposal is consistent with at least other three projects that the equipment supplier competitively bid. This comparison shall be based on the as-bid costs with comments on any differences in features, size, and costs between the previously bid equipment and the proposed equipment.

With an approved cost proposal, and at least one week before advertisement, the equipment supplier shall provide a notary stamped letter stating that it acknowledges that LFUCG is specifying the proposed equipment as a sole source item for the specific project and thus the equipment supplier agrees to the following additional terms and conditions for supplying the specified equipment per their final cost proposal.

- Its proposal price is guaranteed to LFUCG for use by all contractors bidding the specified project and will not change to any general contractor.
- Its proposal price is guaranteed for the duration of the contract and will not change if the project proceeds in an orderly manner.
- Its proposal price includes all costs for the equipment including O&M submittal, startup and training, and warranty per the related specifications and drawings in the Contract Documents.
- It acknowledges and agrees that the purchase order for the specified equipment will be issued by the general contractor to which the LFUCG awards the contract for the construction of the specified project, and that the general contractor shall be solely responsible for payment.

The design consultant shall list the sole source equipment in Section 00410 - Bid Form as a separate line item (see example below) and describe this line item in Section 01025 - Measurement and Payment (see example below).

Section 01025 Measurement and Payment

Describe the sole source equipment negotiated pricing:

C. Item A3 – Allowance for Supply of the Sole Source Equipment

1. Measurement and Payment: The allowance shown in the Proposal Form represents the pricing provided by the equipment supplier and as negotiated by the Owner for supply of goods and services related to the equipment and as specified in the manufacturer's proposal for the work. The proposal for the work is included in the specifications. Contractor shall include all additional items, services, goods, resources, and manpower necessary to complete the work in the lump sum item for General Construction.

Section 00410 Bid Form

Line item in bid form for the sole source equipment negotiated pricing

Item	Description	Unit	Quantity	Unit Price	Total Amount
A3	Allowance for Supply of Equipment	LS	X	$XXX,XXX	$XXX,XXX

Attachment

GEOTECHNICAL INVESTIGATION
SCOPE OF WORK AND PERFORMANCE CRITERIA

I. Scope Phases

A. Phase I: Geotechnical Desktop Review

1. Desktop review of all available geologic and geotechnical information pertaining to the project.
2. The results of this review shall be delivered as a memorandum to Engineer and Owner for review.

B. Rock Soundings

1. Perform or have performed rock soundings along the sanitary sewer alignment at all proposed manhole locations and at 50-foot intervals between proposed manholes.

C. Phase II: Field Exploration and Laboratory Testing

1. Field exploration to perform soil and rock core borings, and laboratory testing of selected soil and rock core samples, at locations approved by Owner.
2. The required data shall be delivered as a draft report to Engineer and Owner for review.

D. Phase III: Additional Geotechnical Investigation (IF NECESSARY)

1. Additional field exploration and laboratory testing to be performed on an IF NECESSARY basis, with the plan to be approved by Engineer and Owner following review of Phase I and Phase II results.
2. Additional testing locations will target areas of concern for construction and information gaps if necessary.
3. The results of all field exploration and testing shall be delivered as a finalized report (including information from Phase I and Phase II investigations) to Engineer and Owner. If Phase III is not required, a finalized copy of the Phase II draft report with any comments incorporated shall be submitted to Engineer and Owner.

II. Definitions

A. Tunnel Zone: The area extending from one outside diameter (OD) above the proposed tunnel crown to one OD below the proposed tunnel invert.

III. Phase I: Geotechnical Desktop Review

A. This work shall be included in the fee for Task 2, Preliminary Design.

B. Phase I requires reviewing available geotechnical information in the immediate vicinity of the project area including:

1. Regional soils and geologic mapping from USGS, Kentucky Geological Survey, and other sources.

a. Surficial regional geology

b. Bedrock regional geology

2. Existing geotechnical reports.

3. Information from Subconsultant's previous projects in the area.

4. Record drawings available from DWQ.

5. Historical land usage and area development.

6. Previous local tunneling history.

C. A memorandum describing the findings of this geotechnical desktop review shall be delivered to Engineer and Owner. The memorandum shall include discussion of regional and expected site soil and rock conditions pertinent to the project.

IV. Rock Soundings

A. This work shall be included in the fee for Task 3, Detailed Design.

B. Perform or have performed rock soundings along the sanitary sewer alignment at all proposed manhole locations and at 50-foot intervals between proposed manholes. Elevations for refusal shall be placed on the Contract Drawings.

V. Phase II: Field Exploration and Laboratory Testing

A. This work, if needed, shall be covered by the Allocation for the Phase II Geotechnical Investigation.

B. Soil and rock core borings shall be performed and borings logs prepared in accordance with the following:

1. Number and locations of borings

a. The number of borings will be based on the selected project alignment as determined by the Preliminary Alignment Report. Borings will be required for all proposed tunnels. Borings shall be located near each end of each tunnel, as well as near the midpoint of each tunnel.

b. A boring location plan shall be developed by the subconsultant and provided to Engineer and Owner for review prior to the start of drilling.

2. Boring depth, sampling and boring log requirements
    a. Each boring shall be drilled to a minimum depth of two tunnel diameters (OD) or ten feet below the invert of the proposed tunnel, whichever is deeper, at each shaft location.
    b. Perform Standard Penetration Tests (SPT) in each boring, in accordance with ASTM D 1586, using split barrel samplers starting at 2.5 feet below ground surface and continuing at 2.5-foot intervals to the bottom of the Tunnel Zone.
    c. If soft to medium clays or cemented soils are encountered, obtain at least one undisturbed sample in accordance with ASTM D 1587 for each stratum.
    d. For cohesive soils, use a Pocket Penetrometer or Torvane to determine the consistency and approximate bearing capacity of the soil.
    e. Retain a representative sample of each type of material encountered in the split spoon sample for possible future quality control for test results.
    f. Describe each sample in accordance with ASTM D 2488, including:
        i. Moisture condition
        ii. Percent or proportion of soils
        iii. Particle size range
        iv. Particle angularity
        v. Particle shape
    g. Provide the color of the soil in moist condition.
    h. If auger refusal is encountered in a drilled hole before the depth specified above is reached, DO NOT TERMINATE the drilling. Advance the drilling continuously using a double-tube core barrel with a diamond bit.
    i. Samples shall be prepared, transported, and stored prior to laboratory testing in accordance with ASTM D 4220.
3. Standard Penetration Test (SPT) *N*-values
    a. Hammer blows for each 6 inches of penetration for the STP. The boring log shall note if six (6) inches of penetration are not achieved after one hundred (100) blows.
4. Rock core logging
    a. Rock Core Recovery (REC), in percent.
    b. Rock Quality Designation (RQD).
    c. Photos of all rock cores.
    d. Observations on joint spacing and orientation.
    e. Auger refusal

i. The drilling shall be continued using a double-tube core barrel with a diamond bit capable of retrieving rock samples at least 1 5/8-inch diameter in accordance with ASTM D 2113.

ii. Determine the REC and RQD of the rock sample.

5. Groundwater levels

   a. Groundwater level in the boring upon boring completion and at 24 hours after completion of boring.

6. Ground elevation (tied to project survey) and depth on each boring log

7. Grouting of boring holes

   a. Fill all boreholes with lean grout following completion of drilling and the end of the groundwater monitoring period.

C. Laboratory testing shall be performed on samples obtained from the drilling operation. Select samples to be tested after review of the field logs and approval by Engineer and Owner. The following are the minimum tests to be performed on samples:

1. Laboratory testing on selected soil samples. Assume all samples classified in accordance with USCS and half of the samples assigned other listed soil tests.

   a. Classification of all samples in accordance with the Unified Soil Classification System (USCS) (ASTM D 2487).

   b. Moisture content tests (ASTM D 2216) and sieve analysis (ASTM D 6913) performed on representative non-cohesive soil samples.

   c. Moisture content, density and Atterberg Limits (ASTM D 4318) tests performed on representative samples that exhibit a plastic nature.

   d. Unconfined compressive strength tests (ASTM D 2166) performed on undisturbed clay and cemented soil samples.

2. Laboratory testing on selected rock samples. Assume six (6) sets of tests that include each of the following:

   a. Unconfined Compressive Strength Test (ASTM D 2938)

   b. Cerchar Abrasivity Index (CAI, ASTM D 7625)

   c. Splitting (Brazilian) Tensile Strength (ASTM D 3967)

   d. Point Load Index Strength (ASTM D 5731)

   e. Punch Penetration Test

   f. Moh's Hardness Scale

   g. Slake Durability (ASTM D 4644) on shale and other similar weak rocks.

   h. Rock mechanics testing shall be performed by the Earth Mechanics Institute (EMI) at the Colorado School of Mines, GeoTesting Express, or equivalent qualified and experienced rock mechanics laboratory.

VI. Phase II: Report Requirements

A. This work, if needed, shall be covered by the Allocation for the Phase II Geotechnical Investigation.

B. Basic Narrative

1. The report shall give an overview of the site description. This shall include discussion of at least the following site properties:
    a. Location
    b. Ownership
    c. Current land usage
    d. Proximity to major roadways, streams, etc.
2. Review of the conclusions from the Phase I geotechnical desktop review.
    a. A discussion of previous construction activity shall address any existing fills or subsurface openings, if encountered. Outline the engineering properties of any existing fills pertinent to the project.
3. Stratigraphy
    a. Discussion of soil and rock strata grouping.
    b. Strata layers shall be grouped and classified into project specific groups for the purpose of design layout and construction.
4. Discussion of groundwater, proximity/hydraulic connection to surface waters, hydraulic conductivity/permeability, and recommendations/expectations for dewatering pertinent to the project.
5. Discussion of temporary shoring/excavation support properties at proposed launch and exit shaft locations.
6. Conditions present at the site requiring groundwater control, dewatering, or surface drainage during excavation and drilling of shafts. Anticipated types of dewatering shall be described.
7. Summary of field and test data including the following:
    a. Map of boring locations
    b. Boring logs
        i. SPT *N*-values for each split spoon sample per 6-inch of penetration.
        ii. Rock Core Recovery and Rock Quality Designation for rock cores.
        iii. Boring surface elevation.
        iv. Elevation and depth from surface to each soil and rock stratum.
        v. Elevation and depth of bottom of boring.

vi. Soil description including color, moisture condition, consistency/relative density and USCS classification designation.

vii. Rock description, including extent and character of color, weathering, type, and hardness.

viii. Orientation of bedding planes or foliation relative to axis of boring in rock cores.

ix. Groundwater information at completion of drilling and at 24 hours after completion.

x. Information on any bag samples, special observations or other pertinent remarks such as presence of sand stringers, slickenside clay layers, etc.

xi. The location of the carrier pipe and/or casing pipe shall be superimposed onto the boring logs before final submission.

c. Tabulate the following field exploration and laboratory test data:

i. Field moisture contents.

ii. Density values.

iii. Atterberg limits.

iv. Unconfined compressive strengths according to boring and sample numbers.

d. Unconfined compressive strengths test stress-strain curve if test is performed.

8. Include any other information the Subcontractor deems relevant/necessary to design.

9. Report must be signed and sealed by a Professional Engineer registered to the Commonwealth of Kentucky.

VII. Phase III: Additional Geotechnical Investigation (IF NECESSARY)

A. This work, if needed, shall be covered by the Allocation for the Phase III Geotechnical Investigation.

B. Phase III will be performed on an IF NECESSARY basis to collect information to supplement Phase II. Phase III would include:

1. A separate proposal detailing the cost required to perform the additional geotechnical investigation, after review of the Phase II Report by Engineer and Owner.

2. Additional field exploration and laboratory testing performed to collect additional data. The type of exploration and testing required will be provided in the testing plan developed in conjunction with Engineer and Owner. These additional explorations and tests will follow the same general procedures as noted in Field Exploration and Laboratory Testing, and may include:

a. Additional soil and rock core borings

b. Additional laboratory testing of soil and rock samples

c. Geophysical investigation
d. Groundwater/infiltration testing

RMP Project Closeout Checklist

DWQ Project Manager (DWQ PM): Bob Peterson, PE

RMP Project Manager (RMP PM):

Engineer of Record (EOR):

Contractor:

File Manager: Jody Scrivner

Project Name:

DWQ PM
RMP PM
EOR
Contractor
File Manager

	Task	From	To	CC	Complete/ Submitted	Approved	Closeout Requirement
Contract Administration Closeout Checklist							
1	Plan of Operation (Pump Station and Wet Weather Storage Projects Only)	EOR	DWQ PM				Copy of plan to file [plan will include description of facility, how it was design to work, etc] DWQ PM will provide copy to Pump Station Maintenance or Plant Staff
2	Manufacturer's Startup (Pump Station and Wet Weather Storage Projects Only)	EOR	DWQ PM				Report from EOR/Manufacturer with date of startup
3	Training (Pump Station and Wet Weather Storage Projects Only)	Contractor	LFUCG Staff				Letter or email from EOR with sign in sheet of attendees to file
4	Startup with LFUCG (Pump Station and Wet Weather Storage Projects Only)	Contractor	EOR / LFUCG Staff				Letter or email from EOR with date of startup and attendees to file
5	Deliver copies of CCTV Logs	Contractor	EOR/DWQ PM				Hard Copies in File
6	Declaration of Beneficial Occupancy (Consent Decree Compliance)	EOR	DWQ PM	File Manager			Memo from EOR to file
7	Request for Substantial Completion and Punchlist Creation	Contractor	EOR	File Manager			Memo from Contractor to file
8	Verify all easements requirements (as listed in the MOU) have been satisfied	EOR	DWQ PM	Contractor			EOR Memo to File
10	EOR coordinates final inspection and prepares *Punchlist*	EOR	Contractor	DWQ PM			Punchlist to file
11	Recommendation of release of retainage (less 200% of remaining work estimate)	EOR	DWQ PM	File Manager			Nothing to file
12	Release of retainage less 200% of remaining work estimate	DWQ PM	Contractor	EOR			Nothing to file
13	Prepare Final Adjusting Change Order	EOR	DWQ PM	RMP PM			Nothing to file
15	(Upon completion of punchlist) Letter requesting final pay and release of all retainage. Must include:	Contractor	EOR	DWQ PM			Letter/Email to file
17	*Waiver of Release, Claims, and Liens*	Contractor	EOR	DWQ PM			EOR Document to File
19	Recommendation for final pay and release of all retainage	EOR	DWQ PM	Contractor			EOR Memo to file
21	Recommendation for project acceptance and initiation of warranty period	EOR	DWQ PM	RMP PM			EOR Letter to file
Engineering Services Closeout Checklist							
25	Record Survey and Drawings	EOR	DWQ PM				Record Survey can be included on record drawings. XYZ coordinates of all manholes, all as-built manhole elevations.Record Drawings to file
26	Model verification (record survey and drawings provided to cap consultant)	DWQ PM	CAP Consultant				Provide record drawings to CAP/Stantec, they will return verified model letter, letter goes to file
27	Consultant's *Certificate of Completion* to DOW	EOR	DOW/(KIA if SRF funded)	DWQ PM, File Manager			Memo to file
29	Compile complete project construction and project closeout notebook with copies of contract documents, bonds, NTP, pay requests approvals, change requests/approvals, progress meeting agendas/summaries, Daily Inspection Reports and all closeout information listed above included.	EOR & DWQ PM	File Manager				Searchable, digitial (.pdf) submitted to file
30	(Pump Station and Wet Weather Storage Projects Only) Statement/inventory of assets accepted into the system and asset values (includes engineering design, CA and RPR, easement costs, permit costs, and construction costs); includes lengths and sizes of all pipes, manholes, pump stations, air release valves, pump stations with description of facilities (screening, grit removal, pumps, buildings, chemical feeds, etc), and all other appurtenant structures	EOR	DWQ PM				Memo to file
Division of Water Quality Closeout Checklist							

RMP Project Closeout Checklist

DWQ Project Manager (DWQ PM): Bob Peterson, PE

RMP Project Manager (RMP PM):

Engineer of Record (EOR):

Contractor:

File Manager: Jody Scrivner

Project Name:

DWQ PM
RMP PM
EOR
Contractor
File Manager

	Task	From	To	CC	Complete/ Submitted	Approved	Closeout Requirement
31	(Pump Station and Wet Weather Storage Projects Only) Asset inventory and asset values for inclusion in fixed asset inventory and GASB 34	DWQ PM	Finance/ Accounting	RMP PM			Nothing to file
32	Statement of project completion, Consent Decree compliance and accepted into LFUCG system (POTW; fixed assets), initiation of operation, and establishing warranty period. DWQ PM and EOR follow-up with Contractor	RMP PM	DWQ PM	EOR, Consultant Program Manager, File Manager			DWQ Letter to file
33	Record drawings submitted to KIA (KIA Funded projects only)	EOR	KIA	DWQ PM			Proof of submission to file
35	Loan Recipient's *Certificate of Completion* (KIA Funded projects only)	File Manager	KIA				Proof of submission to file
36	Submittal to KIA (via File Manager) stating initiation of operation date	RMP PM / File Manager	KIA				Memo to file
37	KIA final project closeout per SRF Manual	File Manager	KIA				Nothing to file
39	Distribute shop drawings and record drawings to PSM or Plant Staff	DWQ PM	PSM/SLM	RMP PM			Nothng to file
40	Project File to OnBase file management system	DWQ PM	Chris Bagley				Nothing to file
42	Review of Contractor	DWQ PM	RMP PM	File Manager			Copy to file
43	Review of Engineer of Record	DWQ PM	RMP PM	File Manager			Copy to file