Four Rivers Sanitation Authority
Rockford, Illinois

Bidding Requirements and Contract Forms

for

2022-2023 Sanitary Sewer System Lining

Capital Project No. 2337

Not to be used for bidding purposes

Bid Doc. No. 22-401

Four Rivers Sanitation Authority
Rockford, Illinois

Bidding Requirements and Contract Forms
and
General Provisions and Technical Specifications
for
Sanitary Sewer Construction

for

2022-2023 Sanitary Sewer System Lining

Capital Project No. 2337

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Section I

Bidding Requirements

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Article 1 — Notice to Bidders

The Four Rivers Sanitation Authority (FRSA) will receive signed and sealed bids for Capital Project No. 2337, 2022-2023 Sanitary Sewer System Lining, at the Steve Graceffa Administration Building (Administration Building) located at 3501 Kishwaukee Street, Rockford, Illinois until 10:00 a.m. on Tuesday, March 22, 2022, at which time and place responsive / responsible bids will be publicly opened and read aloud.

The 2022-2023 Sanitary Sewer System Lining project shall include all labor, materials, equipment, and supervision to line existing sanitary sewers with cured-in-place pipe (CIPP). This project consists of lining approximately 95,000 LF of existing sanitary sewers ranging from 8" to 24" in diameter, reinstating existing service connections on lined sewer mains, and all other appurtenances as indicated in the Contract documents.

Bidder's attention is called to Article 2 – Instructions to Bidders, Part 2.3, Bidder Prequalification. **All bidders must be pre-qualified to bid this project.**

All lining, televising, testing, and restoration shall be completed by March 31, 2023. Liquidated damages shall be $300.00 per calendar day.

Bid documents may be obtained at a cost of $50.00 per set (non-refundable) by contacting the FRSA Engineering Department at 815-387-7660.

Plans and specifications may also be viewed at the offices of the Northern Illinois Building Contractors Association at 1111 S. Alpine Rd, Rockford, Illinois. For more information, visit the FRSA website at www.rrwrd.dst.il.us.

All construction shall be done in accordance with specifications on file with FRSA, including the *General Provisions and Technical Specifications for Sanitary Sewer Construction*, *Rock River Water Reclamation District* (Current Edition).

Each Proposal must be accompanied by the FRSA Bid Bond form with an acceptable Bid Security attached, in the amount of five percent (5%) of the total bid price. This amount is a guarantee that, if the Proposal is accepted, a Contract will be entered into and its performance properly secured.

The successful bidder will be required to furnish a satisfactory Performance Bond in the full amount of the Bid or Proposal. No Bid shall be withdrawn without FRSA's consent for a period of sixty (60) days after the scheduled closing time for receipt of bids.

FRSA reserves the right to reject any or all bids, or any part thereof, or to accept any bid or any part thereof, or to waive any formalities in any bids, deemed to be in the best interest of FRSA.

Dated this 1st day of March, 2022.

BY: Timothy S. Hanson, Executive Director

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Article 2 — Instructions to Bidders

1 General

1.1 Scope and Intent

This section of the contract documents is concerned with furnishing detailed information and requirements for preparing bids to prospective bidders, bidders' responsibility, the preparation and the submission of bids, basis for awarding the contract and other general information concerned with bidding and executing the contract.

1.2 Contradictions

If in the case of apparent contradiction between or among the Contract Documents, the Contract Documents shall be consulted in the following order: Addenda, Agreement, Supplementary Drawings, Instructions to Bidders, Detailed Specifications, Plans, Four Rivers Sanitation Authority (FRSA) General Provisions and Technical Specifications for Sanitary Sewer Construction. The language in the first such document in which language regarding the conflict, error or discrepancy occurs shall control.

2 Legal Requirements

2.1 Illinois Regulations

1. Public Act 100-1177 requires the Bidder to comply with prevailing wages in accordance with the Illinois Department of Labor Standards. The State of Illinois requires contractors and subcontractors on FRSA projects to submit certified payroll reports via the State's Certified Transcript of Payroll Portal currently found at: https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/certifiedtranscriptofpayroll.aspx. The Bidder is responsible for verifying current information at the State's website.
2. Public Act 83–1030 entitled "Steel Products Procurement Act" requires that steel products used or supplied in performance of this contract or subcontract shall be manufactured or produced in the United States with three exceptions.

   The provisions of this Section shall not apply:

   a. Where the contract involves an expenditure of less than $500.
   b. Where the executive head of the public agency certifies in writing that
      i. the specified products are not manufactured or produced in the United States in sufficient quantities to meet the agency's requirements, or
      ii. obtaining the specified products, manufactured or produced in the United States would increase the cost of the contract by more than 10%.
   c. When its application is not in the public interest.
3. Public Act 96-929 (30 ILCS 570) provides that Illinois residents be employed on Illinois public works projects, provided there has been a period of excessive unemployment (5%) in the State of Illinois as defined in the Act; and, further, that Illinois workers are available and capable of performing the particular type work involved.

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4. Public Act 101-0221 requires that any party to a contract adopt and promulgate written sexual harassment policies that include, as a minimum, the following information:
    a. the illegality of sexual harassment
    b. the definition of sexual harassment under Illinois State law
    c. a description of sexual harassment, utilizing examples
    d. my (our) organization's internal complaint process including penalties
    e. the legal recourse, investigative and complaint process available through the Illinois Department of Human Rights and the Illinois Human Rights Commission
    f. directions on how to contact the Department and the Commission
    g. protection against retaliation as provided by Section 6-101 of the Illinois Human Rights Act

    Upon request, this information shall be provided to the Illinois Department of Human Rights and FRSA.
5. With regard to nondiscrimination in employment, the Contractor for this project will be required to comply with the Illinois Fair Employment Practices Commission's Rules and Regulations.
6. The Contractor for this project shall comply with the Occupational Safety and Health Act.
7. The Contractor for this project shall comply with the Federal Drug-Free Workplace Act.
8. Public Act 96-1416 requires the Certification of Clean Construction and Demolition Debris (CCDD) and uncontaminated soil prior to disposal at a CCDD fill site. The Contractor for this project shall comply with Public Act 96-1416 and be responsible for the certifications and any fees associated with the disposal at a CCDD fill site.
    a. In the event that contaminated soil is uncovered on the project, the Contractor shall notify FRSA immediately. Any extra costs resulting from the presence of contaminated soil shall be evaluated in accordance with District General Provisions & Technical Specs for Sanitary Sewer Construction; General Conditions: Article 5 – Time Provisions and Article 8 – Changes.

2.2 Americans with Disabilities Act

The Contractor for this project will comply with all applicable requirements of the Americans with Disabilities Act of 1990 (ADA). The Contractor will hold harmless and indemnify Four Rivers Sanitation Authority (FRSA) and their representatives from all:

1. suits, claims, or actions
2. costs, either for defense (including but not limited to reasonable attorney's fees and expert witness fees) or for settlement
3. damages of any kind (including but not limited to actual, punitive, and compensatory damages)

relating in any way to or arising out of the ADA, to which said firm is exposed or which it incurs in the execution of the contract.

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2.3 Bidder Prequalification

Prospective bidders shall submit pre-qualification information for approval prior to bid opening or bids will be rejected as unqualified. Pre-qualification submittals shall be presented to Mr. Christopher T. Baer, PE, Director of Engineering, as stated in Article 1 – Notice to Bidders.

Only bids from pre-qualified manufacturers and installers using pre-qualified products and methods will be opened and read. Bids submitted on products or from manufacturers/installers that have not been pre-qualified will be returned unopened. Bid Proposals shall be clearly labeled on the bid envelope with Contractor's name and CIPP manufacturer.

Bidders that have previously pre-qualified for completing sewer lining work for FRSA will be considered pre-qualified as long as they are using the same methods and materials as previously specified and as specified herein.

The following Contractors are pre-qualified to bid this project:

Contractor	CIPP Product
Insituform Technologies	Insituform
Kenny Construction	Inliner USA
Visu-Sewer	National Liner
Michels Pipe Services	Premier-Pipe USA
Hoerr Construction, Inc.	Interplastics COR72-AT-470HT Polyester Resin and Applied Felts Tube

In order to be considered pre-qualified to bid on this project, the product, manufacturer and contractor must each demonstrate, to FRSA's satisfaction, compliance with the following requirements:

a. For the manufacturers product / installation method to be considered as acceptable, a minimum of 250,000 feet or 1,000 line sections of successful wastewater collection system installation in the USA must be documented. In addition, the product shall have been in service within the wastewater collection system for a minimum of two (2) years. The product must be shown to comply with the requirements of the detailed specifications.

b. Submittal of FRSA approved Third Party test data supporting the following product performance requirements. Product samples used for testing shall be similar to those proposed for installation. Test samples shall be prepared so as to simulate installation methods and trauma of the product.

- Chemical resistance – Test shall be conducted in accordance with ASTM F1216, and meet the minimum guidelines listed therein.
- Long-term properties – Tests to confirm 50-year design values shall be conducted in accordance with ASTM D2990. AS an alternative, third party testing of a 10,000 hour external loading test, conducted in a wet environment to simulate field conditions, can be used to verify long-term design values.

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- Flow characteristics – The in-service product shall provide full flow capacity equal to at least 100% of the host pipe's original capacity.
- External hydrostatic pressure testing – Testing of external hydrostatic loading capacity of at least ten (10) restrained pipe samples to verify design techniques.
- Contractor / Manufacturer shall demonstrate structural properties meet or exceed the requirements listed below by providing test results from an independent laboratory for three (3) recent lining projects. A minimum of twelve (12) test results must be submitted.

STRUCTURAL PROPERTIES

Property	Minimum Value	ASTM Test Method
Flexural Strength	4,500 PSI	D790
Flexural Modulus	350,000 PSI	D790

c. For a manufacturer to be considered acceptable, the manufacturer must have provided continuously for at least three (3) years, the specified materials for an acceptable product (as defined above). The manufacturer must be able to demonstrate sufficient in-house engineering support and manufacturing quality control.

d. For a contractor to be considered acceptable, the contractor must have had at least two (2) years active experience in a commercial installation of the product and must have successfully installed at least 100,000 feet of the product in wastewater collection system installations. In addition, the contractor must certify that the installation of the product will be done in accordance with manufacturer's recommended procedures.

   The Contractor shall provide a list of personnel working on this project, including previous project experience of the Foreman / Job Superintendent and Operator responsible for reinstating sewer services.

e. The manufacturer and/or contractor shall submit a copy of the license or certificate verifying the manufacturer's or licenser's approval of the installer.

The final decision to accept or reject the product/manufacturer/installer lies solely with FRSA.

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3 General Instructions

3.1 Bidder's Responsibility

Bidders are cautioned not to submit proposals until having carefully examined the entire site of the proposed work and adjacent premises and the various means of approach and access to the site, and having made all necessary investigations to inform themselves thoroughly as to the facilities for delivering, placing and handling the materials at the site, and having informed themselves thoroughly as to all difficulties involved in the completion of all the work under this Contract in accordance with its requirements.

Bidders must examine the Plans, Specifications and other Contract Documents and shall exercise their own judgment as to the nature and amount of the whole of the work to be done and for the bid prices must assume all risk of variance, by whomsoever made, in any computation or statement of amount or quantities necessary to complete fully the work in strict compliance with the Contract Documents. The Bidder must satisfy himself by making borings or test pits, or by such methods as he may prefer, as to the character and location of the materials to be encountered or work to be performed. No pleas of ignorance of conditions that exist or that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work under this Contract, as a result of failure to make the necessary examinations and investigations, will be accepted as an excuse for any failure or omission on the part of the Contractor to fulfill, in every detail, all of the requirements of the Contract Documents, or will be accepted as a basis for any claims whatsoever for extra compensation or for an extension of time.

The Contractor is responsible for verifying the location of all existing utilities in the project areas.

The Bidder, therefore, shall satisfy himself by such means as he may deem proper as to the location of all structures that may be encountered in construction of the work.

3.2 Addenda and Interpretations

No interpretation of the meaning of the Plans, Specifications, or other Contract Documents will be made to any bidder orally. Every request for such interpretation must be in writing addressed to the Four Rivers Sanitation Authority, 3501 Kishwaukee Street, Rockford, Illinois. To be given consideration, such request must be received at least five (5) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda which, if issued, will be sent by email, fax, or certified mail with acknowledgement of receipt requested, to all prospective bidders, at the respective addresses furnished for such purposes, not later than three (3) days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addenda or interpretation shall not relieve said bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

3.3 Laws and Regulations

The prospective bidder is warned that he must comply with all laws of the United States Government, State of Illinois, all ordinances and regulations of FRSA in the performance of the work under this contract. The Bidder's attention is specifically called to that provision of the General Conditions regarding the rate of wage to be paid on the work.

3.4 Quantities Estimated Only

Bidders are warned that the estimate of quantities of the various items of work and materials, as set forth in the proposal form, is approximate only and is given solely to be used as a uniform basis for the comparison of bids. The quantities actually required to complete the contract work may be less or more than so estimated, and if awarded a contract for the work specified, the Contractor further agrees that he will not make any claim for damages or for loss of profits or for an extension of time because of a difference between the quantities of the various classes of work assumed for comparison of bids and quantities of work actually performed.

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3.5 Form, Preparation, and Presentation of Proposals

For particulars as to the quantity and quality of the supplies, materials and equipment to be furnished, and the nature and extent of the work or labor to be done, prospective bidders are referred to the Contract Documents, which may be examined or obtained at the FRSA office.

Each bid will be submitted upon the prescribed proposal form. All blank spaces for bid prices must be filled in, in ink, with the unit or total sum or both for which the proposal is made. If the proposal contains any omissions, erasures, alterations, additions or items not called for in the itemized proposal, or contains irregularities of any kind, such may constitute sufficient cause for rejection of bid. In case of any discrepancy in the unit price or amount bid for any item in the proposal, the unit price as expressed in figures will govern. In no case is the agreement form to be filled out or signed by the bidder.

Bidders may opt to contact FRSA's Engineering Department at (815)-387-7660 to obtain an electronic Proposal form. If used, this form must be attached to the hard copy proposal form and appropriately signed and executed with the bid.

The bid must be verified and be presented on the prescribed form in a sealed envelope on or before the time and at the place stated in the Advertisement for Bids, endorsed with the name of the person, firm or corporation presenting it, the date of presentation, and the title of the work for which the bid is made. If forwarded by mail, the sealed envelope containing the proposal and marked as directed above, must be enclosed in another envelope addressed to Clerk of Four Rivers Sanitation Authority, 3501 Kishwaukee Street, Rockford, Illinois, 61109 and be sent preferably by certified mail. FRSA will not accept facsimile generated bids.

3.6 Bid Security

Each proposal must be accompanied by FRSA Bid Bond form with an acceptable Bid Security attached, in the amount specified in Article One, Notice to Bidders. This sum is a guarantee that, if the Proposal is accepted, a contract will be entered into and its performance properly secured. FRSA's Bid Bond Form included in the bid packet must be used. No other Bid Bond form may be substituted.

Within ten (10) days after the opening of bids, the deposits of all but the three lowest bidders will be returned. The deposits of the remaining two unsuccessful bidders will be returned within three (3) days after the execution of the contract, or, if no such contract has been executed, within sixty (60) days after the date of opening bids. The deposit of the successful bidder will be returned only after he has duly executed the contract and furnished the required bond and insurance.

3.7 Affidavit of Compliance

Each proposal must be accompanied by an executed Affidavit of Compliance. A separate Affidavit of Compliance form is enclosed with the Proposal packet. Failure to submit an executed Affidavit of Compliance with the proposal may constitute sufficient cause for rejection of the bid.

3.8 Statement of Qualifications

Each proposal must be accompanied by a Statement of Qualifications certifying that the bidder is registered to do business in the State of Illinois, and provides documentation that the bidder possesses the appropriate financial, material, equipment, facility and personnel

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resources and expertise necessary to meet all contractual obligations. The bidder shall document no less than three (3) contracts for sanitary sewer system lining within the past five (5) years having equal or greater value to the bid being submitted. FRSA reserves the right to request additional information as needed to evaluate bids prior to making an award.

3.9 Comparison of Proposals

Bids on item contracts will be compared on the basis of a total computed price arrived at by taking the sum of the estimated quantities of each item, multiplied by the corresponding unit prices and including any lump sum bids on individual items, in accordance with the estimate of quantities set forth in the proposal form. Bids on lump sum contracts will be considered upon the basis of the lowest sum bid.

3.10 Acceptance of Bids and Basis of Award

No bidder may withdraw his bid after the scheduled closing time for receipt of bids, for at least sixty (60) days.

The contract will be awarded, if at all, to the lowest responsive, responsible bidder. FRSA also reserves the right to reject any or all bids.

The bidder whose proposal is accepted shall enter into a written contract for the performance of the work and furnish the required bonds and insurance certificate within ten (10) days after written notice by FRSA's Director of Engineering has been served on such bidder personally or by mailing a postpaid wrapper to such bidder at the address given in his proposal. If the bidder to whom the contract is awarded refuses or neglects to execute it or fails to furnish the required bond and insurance within five (5) days after receipt by him of the notice, the amount of his deposit shall be forfeited and shall be retained by FRSA as liquidated damage and not as a penalty. It being now agreed that said sum is a fair estimate of the amount of damages that FRSA will sustain in case said bidder fails to enter into a contract and furnish the required bond and insurance. No plea of mistake in the bid shall be available to the bidder for the recovery of his deposit or as a defense to any action based upon the neglect or refusal to execute a contract.

3.10.1 Evaluation of Responsiveness

The responsiveness of bidders will be judged on the basis of the completeness of the bid submitted. To be responsive, a Bid must be submitted on the forms provided as part of the Bid Documents and comply with all the requirements of the Instruction to Bidders.

3.10.2 Evaluation of Responsibility

To be judged as responsible, the bidder shall:

a. Have adequate financial resources for performance, the necessary experience, organization, technical qualifications, and facilities, or a firm commitment to obtain such by subcontracts;

b. Be able to comply with the required completion schedule for the project;

c. Have a satisfactory record of integrity, judgment, and performance, including, in particular, any prior performance on contracts from FRSA;

d. Have an adequate financial management system and audit procedures, that provide efficient and effective accountability and control of all property, funds, and assets;

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e. Conform to the civil rights, equal employment opportunity and labor law requirements of the Bid Documents.

f. Have satisfactorily completed no less than three (3) sanitary sewer system lining contracts within the past five (5) years of equal or greater value to the bid being submitted.

3.11 The Rejection of Bids

FRSA reserves the right to reject any bid if the evidence submitted in the statement of the bidder's qualifications, or if investigation of such bidder fails to satisfy FRSA that such bidder is properly qualified to carry out the obligations and to complete the work contemplated therein. Any or all proposals will be rejected if there is reason to believe that collusion exists among the bidders. Conditional bids will not be accepted. FRSA reserves the right to reject any and all bids and to accept the bid which they deem most favorable to the interest of FRSA after all proposals have been examined and canvassed.

3.12 Insurance and Bonding

Contractor shall provide all necessary insurance and bonds required to complete the project. No more than ten (10) calendar days subsequent to FRSA's issuance of an award letter, the Contractor shall provide documentation to prove that he has obtained all required insurance and bonds. FRSA shall be the sole judge as to the acceptability of any such proof.

Contractor shall provide and maintain all insurance and bonds as required by FRSA.

3.12.1 General

The Contractor shall ensure that:

1. All insurance policies shall be specific to the project.
2. The insurance certificate shall state: This certifies that the insurance coverage meets or exceeds that required for the 2022-2023 Sanitary Sewer System Lining, Capital Project No. 2337.
3. FRSA shall be named as Additional Insured in all policies; this shall include the Owners Contractors Protective Policy option.
4. All completed operations coverages and bonds shall remain in force for a period of two (2) years following acceptance of the project and completed operations shall stay in force for two (2) years following completion of the project.

3.12.2 Insurance

The Contractor shall, for the duration of the contract and for two (2) years following project acceptance, maintain the following:

1. General Liability: $1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project or the general aggregate limit shall be twice the required occurrence limit. The Contractor shall provide "XCU" coverage.

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2. Automobile Liability: $1,000,000 combined single limit per accident for bodily injury and property damage including coverages for owned, hired or non-–owned vehicles, as applicable.
3. Workers' Compensation and Employers Liability: Workers' Compensation limits as required by statute and Employers Liability limits of $500,000 per accident and $500,000 per disease.
4. Umbrella: $2,000,000 per occurrence/aggregate for contracts valued at $500,000 or over, or $1,000,000 for contracts below $500,000. $10,000 is maximum allowable self-retained limit.
5. Errors and Omissions: If the Contractor performs professional services, he shall maintain errors and omissions insurance with a limit no lower than $1,000,000 for the duration of the contract.

The policies shall contain, or be endorsed to contain, the following provisions in the General Liability and Automobile Liability Coverage's:

a. Unless otherwise provided in paragraph "c" of this section, FRSA, its officers, officials, employees and volunteers shall be covered as additional insureds as respects liability arising out of activities performed by or on insured's general supervision of the Contractor, products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to FRSA, its officers, officials, employees, volunteers, or agents.

b. Unless otherwise provided in paragraph "c" of this section, the Contractor's insurance coverage shall be primary insurance as respects FRSA, its officers, officials, employees, volunteers, and agents. Any insurance or self-insurance maintained by FRSA, its officers, officials, employees, volunteers, or agents shall be excess of the Contractor's insurance and shall not contribute with it.

c. As an acceptable alternative to provisions "a" and "b" of this section, the Contractor may provide owner's and contractor's protective liability insurance with coverage limits, named insureds, and in conformity with all applicable specifications of this section.

d. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to FRSA, its officers, officials, employees, volunteers, or agents.

e. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

f. All Coverages — Each insurance policy required by this clause shall not be suspended, voided, canceled by either party, reduced in coverage, or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to FRSA.

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3.12.3 Best's Ratings

FRSA shall be the sole judge of whether or not said insurer's ratios are satisfactory. FRSA's decision shall be final and FRSA's bidding procedures contain no appeal provision.

1. Alphabetical Rating: For purposes of this Request for Bids, "insurer" shall mean any surety, insurance carrier, or other organization which proposes to provide an insurance policy or bond for the Contractor. No insurer or surety rated lower than "A-, Excellent" in the current *Best's Key Rating Guide* shall be acceptable to FRSA.
2. Financial Size Rating: Provided an insurer's alphabetical rating is satisfactory, FRSA will examine said insurer's financial size rating.
    a. If Best classifies the insurer XII or larger, said insurer shall be acceptable to FRSA.
    b. If Best classifies the insurer as smaller than XII, but larger than VI, said insurer shall be submitted to FRSA's Director of Finance and/or FRSA's insurance consultant for review.

Financial Size ratings less than VII are not acceptable and will disqualify the Contractor.

3.12.4 Performance Bond and Labor & Materials Payment Bond Form

The Contractor shall provide a Performance Bond and Labor & Materials Payment Bond form acceptable to FRSA. The performance bond shall be for either 100% of the contract price or for the Contractor's unit price times the estimated number of units, as applicable.

This Request for Bids contains a Performance Bond and a Labor & Material Bond form for the Contractor's use.

If the Contractor fails to provide acceptable bonds within the specified time, he shall be in default.

3.12.5 Correction of Contractor's Insurance or Bond Deficiencies

If FRSA determines that the Contractor's insurance or bond documentation does not conform to these specifications, FRSA shall inform said Contractor of the non-conformity. If said Contractor fails to provide conforming insurance or bond documentation within five (5) calendar days of FRSA's deficiency notice, he shall be in default.

3.12.6 Indemnification Clause

Contractor shall protect, indemnify, hold and save harmless and defend FRSA, its officers, officials, employees, volunteers, and agents against any and all claims, costs, causes, actions and expenses, including but not limited to attorney's fees incurred by reason of a lawsuit or claim for compensation arising in favor of any person, including the employees, officers, independent contractors, or subcontractors of the Contractor or FRSA, on account of personal injuries or death, or damages to property occurring, growing out of, incident to, or resulting directly or indirectly from the performance by the Contractor or subcontractor, whether such loss, damage, injury or liability is contributed to by the negligence of FRSA or by premises themselves or any equipment thereon whether latent or patent, or from other causes whatsoever, except that the successful bidder shall have no liability for damages or the costs incident thereto caused by the sole negligence of FRSA.

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The indemnification shall not be limited by a limitation on amount or type of damages payable by or for the Contractor or its subcontractor under any employee benefits act including, but not limited, to the Workers Compensation Act.

No inspection by FRSA, its employees, or agents shall be deemed a waiver by FRSA of full compliance with the requirements of the Contract. This indemnification shall not be limited by the required minimum insurance coverages in the Contract.

3.13 Tax Exemption

FRSA is exempt, by law, from paying bidder Federal Excise Tax and Illinois Retailers' Occupational Tax. Therefore, the bidder shall exclude those taxes from his bid. FRSA's tax exemption number is E9992-3696-06. The bidder shall include all applicable taxes in his bid price.

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Article 3 – Detailed Specifications

1 General

The intent of these *Detailed Specifications* is to provide a description of the work to be done to allow qualified bidders to submit formal proposals to the Four Rivers Sanitation Authority (FRSA) for Capital Project No. 2337, 2022-2023 Sanitary Sewer System Lining. This project involves the rehabilitation of sanitary sewers by lining with a resin–impregnated flexible tube heated to cure the thermosetting resin/felt tube composite, conformed to the inside walls of existing sanitary sewer pipes.

Throughout these specifications, the terms "Owner," "FRSA" and "Engineer" shall be synonymous.

The Illinois Department of Transportation (IDOT) *Standard Specifications for Road and Bridge Construction* referenced in this specification shall be current edition.

The Contractor shall be responsible for any damages caused by his operations to existing structures above or below the ground as described under *G.C. 12:1, Suits at Law,* of the *General Provisions and Technical Specifications for Sanitary Sewer Construction.*

The Contractor shall notify all utility companies, as well as JULIE (800-892-0123), at least forty-eight (48) hours prior to any construction. The Contractor shall notify IDOT, the City of Rockford Department of Public Works, City of Loves Park, Village of Cherry Valley, Rockford Township, the FRSA, and private property owners as applicable forty-eight (48) hours before beginning work.

The Contractor shall be responsible for maintaining the current level of utility and other services to all properties affected by construction for the duration of this project.

The Contractor shall be responsible for repair, relocation and reconstruction of all utilities, power poles, signs, lights, signals, underground utilities, etc., conflicting with the proposed construction whether temporary or permanent in accordance with *G.R. 9.1* of the *General Provisions and Technical Specifications for Sanitary Sewer Construction.* Contractor shall be responsible for support and protection of all of these items where construction passes close by.

The Contractor shall provide access to the residences and/or businesses, schools, etc., at all times (i.e., drives, roadways, ramps must remain open or must be provided) for the duration of construction.

Suppliers shall be deemed to impliedly warrant that their products and all component materials incorporated therein are suitable and fit for the intended use of such products and shall be free from defects in material, workmanship or design, such warranty to run to the benefit of the FRSA. The foregoing applies whether the products or their component materials are specified in the contract documents or are of supplier's design.

The FRSA will not supervise, direct, control, have authority over or be responsible for the Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the Contractor to comply with laws and regulations applicable to the furnishing or performance of the work. The FRSA will not be responsible for the Contractor's failure to perform or furnish the work in accordance with the contract documents.

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2 Scope of Work

2.1 General

This section contains detailed specifications relating to proposal items. The work to be done under each item is discussed along with units for payment and measurement for payment. However, the descriptions given do not necessarily outline all the work to be done under any item. The materials and workmanship provided for this project shall meet or exceed the requirements specified herein and the technical specifications referenced below. In the case of contradictions between these *Detailed Specifications* and the technical specifications referenced, these *Detailed Specifications* shall govern. The following current editions of the technical specifications shall apply:

1. *Standard Specifications for Water and Sewer Main Construction in Illinois*
2. *General Provisions and Technical Specifications for Sanitary Sewer Construction*, by the Four Rivers Sanitation Authority.
3. *Standard Specifications for Road and Bridge Construction*, Illinois Department of Transportation.
4. *American Society for Testing and Materials (ASTM)*:
   A. *ASTM D 543* Test Method for Resistance of Plastics to Chemical Reagents
   B. *ASTM D 638* Test Method for Tensile Properties of Plastics
   C. *ASTM D 790* Test Method for Tensile Properties of Non-reinforced and Reinforced Plastics and Electrical Insulating Materials
   D. *ASTM F 1216* Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
   E. *ASTM F 1743* Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Resin Pipe

Bidders shall provide the FRSA with a copy of all the applicable specifications listed for the materials to be used.

The Contractor shall be responsible for all site investigations, all necessary permits and fees, mobilization, access procurement, flow control (bypass pumping), water acquisition, site preparation, traffic control, pipe lining with a cured-in-place lining system, reinstatement of sanitary services, complete restoration, and all other appurtenances required for completing the project in accordance with the specifications.

The Contractor shall comply with all OSHA and manufacturer's safety requirements. Particular attention is drawn to those safety requirements involving work operations within confined spaces and with hot water. The FRSA assumes no responsibility for enforcement of safety standards.

Excavated material or material removed from sewers shall not be stored or cast upon the pavement. All materials cleaned from sewers shall be transported to and disposed of at an approved offsite dumping area. Work areas shall be cleaned at the end of each day by sweeping, washing or other approved methods.

The Contractor shall comply with all permit, notification, safety and traffic control requirements as specified elsewhere herein.

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The Contractor shall provide the FRSA with a construction schedule prior to performing any work. Any work performed by the Contractor without the FRSA's permission or not in the presence of a FRSA inspector may, at the FRSA's sole discretion, be rejected.

If required, all roadway removal and restoration shall be inspected and approved by the governing municipality.

The Contractor shall be responsible for all tests of materials and final installation required by the FRSA. All deficiencies noted by the inspectors shall be promptly corrected by the Contractor without cost to the FRSA and prior to final payment.

2.2 Existing Sewer Video Inspection Records

Sewer television inspection logs and video recordings are available for Contractor's use and inspection at the FRSA Engineering Department, 3501 Kishwaukee St., Rockford, IL, Monday through Friday from 8:00 am to 3:30 p.m. A computer and monitor will be made available for viewing video recordings. The television reports and video recordings indicate the condition of the sewer at the time of the inspection and are no guarantee of the conditions that may be encountered at the time of construction. Contractor's wishing to view existing inspection videos must schedule visits with the FRSA forty-eight (48) hours in advance. While on FRSA property, Contractor must adhere to current FRSA COVID-19 protocols.

2.3 Main Line Repairs (by Others)

The FRSA will be completing a collection systems repair project in conjunction with this sewer lining project. Items requiring repairs prior to lining are identified in *Section III, Lining List*. **No work shall be performed on these items until the repairs have been completed, and the FRSA grants written permission to proceed.** The repairs are tentatively scheduled for completion by October 31, 2022.

The Contractor shall provide the FRSA with a complete listing of any additional main line repairs the Contractor feels are required prior to lining. If a main line repair is requested by the Contractor a minimum of two (2) weeks advance notice will be required by the FRSA. The FRSA may, at its discretion, have this work performed by a third party.

All main line repairs completed by the FRSA or FRSA's main line repair Contractor shall be televised by the lining Contractor and reviewed for final acceptance prior to pipe lining.

2.4 Required Submittals

1. Construction Schedule.
2. All applicable ASTM specifications for materials to be used.

2.5 Payment – Not Used.

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3 Permit Requirements

3.1 General

All work in streets, highways, railroad right–of–way or flood plains shall be subject to the regulations and requirements of the permitting agencies. Should conflicts or contradictions arise between the permit requirements and these specifications, the permits shall govern.

Upon completion of work, the Contractor shall restore the area as required by the permitting agency.

The Contractor shall secure and comply with the requirements of any and all permits required for the construction of this project. For any excavation in roadways, a road cut permit will be required from the roadway authority. The Contractor shall provide all insurance, bonds, etc., as required by the necessary permits

The City of Rockford will issue a blanket right-of-way permit for work within City right-of-ways. The Contractor will be responsible for the permit application. Contact Jordan Masemore at (779)-348-7174, Jordan.masemore@rockfordil.gov. The City of Rockford will waive the permit fee for this project.

For work in the City of Loves Park, contact Shannon Messinger at shannonmessinger@loves-park.il.us .

For work in the Village of Cherry Valley, contact Steve Strasser, Public Works Supervisor, at (815) 580-8874, sstrasser@cherryvalley.org.

For work in The Rockford Township, Contact Barry Palm, Deputy Highway Commissioner, at (815)-962-7313, barrypalm@rockfordtownshipil.gov.

Lining items requiring an IDOT Utility Permit are identified in *Section III, Lining List*. The FRSA will prepare and submit the Utility Permit Application upon contract award. Contractor shall comply with all traffic control requirements of the issued permit.

Where Railroad Right-of-entry permits are required, the FRSA will be responsible for all permit and flagger fees. The Contractor will be responsible for obtaining and payment for any necessary Railroad insurance and bonds.

3.2 Required Submittals

1. Copies of executed Right-of-way permits, as applicable. (FRSA will provide IDOT and Railroad permits to Contractor.)

3.3 Payment

Payment for compliance and procurement of permits shall be included in the Contract unit price per Linear Foot (LF) for the various sanitary sewer lining pay items.

4 Notification & Access

4.1 General

A public notification program shall be implemented and shall, as a minimum, require the Contractor to be responsible for contacting each home or business connected to the sanitary sewer and informing them of the work to be conducted and when the sewer will be out of service. The Contractor shall be responsible for the following:

1. Secure any temporary or permanent access, storage or construction easements from property(ies) which he deems necessary to perform the work as defined in the specifications. The cost of acquiring these easements shall be considered incidental to project.

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2. Notify the FRSA and local roadway authorities three (3) working days, minimum, prior to beginning work.
3. Provide a minimum of forty-eight (48) hours advance written notice (door hanger) to be delivered to each home or business describing the work, schedule, how it affects them, and a telephone number of the Contractor they can call to discuss the project or any problems or concerns that arise. Notification shall also include contact information for the FRSA's Survey and Field Operations Manager, Ben Christiansen, 815-209-7952.
4. Personal contact the day prior to the beginning of work being conducted on the section relative to the residents affected.
5. Personally contact any home or business owner that cannot be reconnected within the time stated in the written notice.

The Contractor shall make every effort to maintain the current level of sanitary sewer service usage for the duration of the project. Sanitary sewer users shall not be without sewer service for more than eight (8) hours.

4.2 Special Access Considerations

Certain businesses and organizations, (i.e., schools and/or hospitals) may require that lining operations be performed on specific dates or during certain hours of the day to maintain access for normal operations. The Contractor shall collaborate with FRSA personnel to make a reasonable effort to accommodate the needs of these businesses and organizations.

4.3 Required Submittals

1. Copy of proposed door-hanger notification.

4.4 Payment

Payment for notification and access shall be included in the Contract unit price per Linear Foot (LF) for the various sanitary sewer lining pay items.

5 Traffic Control and Protection

5.1 General

The Contractor shall be solely responsible for the safety of the operations, and shall comply with all state, local and OSHA regulations and shall implement and maintain approved traffic control measures, including detour routes as required by permits. Traffic control and protection shall be in accordance with the current IDOT standards and specifications.

During the course of construction, a minimum of one (1) lane of traffic shall be kept open on any affected street.

The Contractor shall comply with all rules and regulations of the State, County, and City authorities regarding closing or restricting the use of public streets or highways, including restricted hours of work. No public or private road shall be closed, unless prior permission is obtained from the roadway authority. Contractor shall conduct the work so as to assure the least possible obstruction to traffic and normal commercial pursuits. Contractor shall

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protect all obstructions within traveled roadways by installing approved signs, barricades, and lights, where necessary, for the safety of the public. The Contractor shall notify the appropriate roadway authority a minimum of seventy-two (72) hours prior to beginning any work for approval of traffic control in any affected street, as well as required detour routes and signage.

Contractor shall provide detailed traffic control plans as required by the roadway authority or permit conditions.

When flagmen and guards are required by regulation or when deemed necessary for safety, the Contractor shall furnish the flagmen or guards with approved high-visibility apparel and other regulation traffic control devices.

5.2 Safety Program

The Contractor shall develop and maintain for the duration of this contract, a safety program that will effectively incorporate and implement all required safety provisions as determined by OSHA 29 CFR.

5.3 Required Submittals

1. Traffic control plans as applicable/required by Roadway Authority to obtain permit.
2. Contractor's safety program and standards (for record only).

5.4 Payment

Payment for safety related work shall be included in the Contract unit price per Linear Foot (LF) for the various sanitary sewer lining pay items.

Payment for Traffic Control and Protection will be made at the Contract Lump Sum (LS) price. Individual progress payments will be pro-rated in accordance with the amount of lining completed during the given pay period.

6 Sewer Cleaning

6.1 General

The Contractor shall be responsible for removing foreign materials from the sewer lines and for restoring the sewer lines to an acceptable condition that will permit proper installation of the pipe lining materials. The sewer line cleaning shall be accomplished by using a hydraulically propelled, high–velocity jet, or mechanically powered equipment. Selection of the equipment shall be the responsibility of the Contractor and shall be approved by the FRSA prior to starting any of the work. Should the Contractor wish to perform an internal inspection of the lines to be cleaned to determine the optimal cleaning techniques to employ, he may do so at his expense.

The cleaning equipment shall be capable of removing dirt, grease, rocks, sand, roots, mineral deposits and other materials and obstructions from the sewer lines. As many passes shall be made as necessary to clean the sections of sewer to be televised. If cleaning of an entire section cannot be successfully performed without destroying the existing pipe, the FRSA shall be notified and the line will either have to be repaired or lined over the debris. Upon completion of a repair, the Contractor shall clean, televise, and line the

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section of the sewer. The cleaning effort shall be abandoned if it is determined by the FRSA that a major blockage exists which cannot be cleared or removed by cleaning equipment.

Mineral Deposits greater than 1/4" thick and/or prohibit the TV camera movement shall be removed utilizing a Nozzteq Lumberjack Multi-Purpose Cutter (or FRSA-approved equivalent).

6.2 Cleaning Precautions

The Contractor shall take all necessary precautions when using cleaning equipment to prevent flooding or damage to any of the sewer lines, services, manholes and public or private property. To ensure safe operation, all machines shall be fully enclosed and shall have an automatic overload clutch or relief valve.

When hydraulically propelled cleaning tools or tools which retard the flow in the sewer line are used, precautions shall be taken to ensure that the water pressure generated does not further damage deteriorated pipe or cause flooding of public or private property being served by the sewer.

The Contractor shall be responsible and liable for any damage caused by sewer back-ups that result from sewer cleaning operations.

6.3 Water and Electricity

Any electricity required shall be the responsibility of the Contractor.

The Contractor shall be responsible for coordinating with the appropriate water authority for the availability of public water for this project. If public water is not directly available at specific sites, the Contractor shall be responsible for delivery of water to the site. The Contractor shall be responsible for any fees charged for water usage. If required, the Contractor shall obtain a calibrated water meter from the Water Department to gauge usage of water. The City of Rockford Hydrant meter request form can be submitted online (Rockford Water Hydrant Meter Request (google.com)). Contacts for area water utilities are listed below:

Water Department	Contact	Telephone
City of Rockford	Jamie Rott	815-961-3781
City of Loves Park	Craig McDonald	815-877-1421
North Park Public Water FRSA	Ed Rice	815-633-5461
Village of Cherry Valley	Steve Strasser	815-332-4646

6.4 High-Velocity Jet (Hydro-cleaning) Equipment

All high-velocity sewer cleaning equipment shall be capable of producing a minimum of 1,200 pounds per square inch pressure at the pump and a volume capacity of 60 gallons per minute. The equipment shall have a selection of two or more high-velocity nozzles. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned. The equipment shall carry its own water tank, auxiliary engines, pumps, and hydraulically driven hose reel.

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6.5 Direction of Cleaning

Consecutive manhole sections shall generally be cleaned, with cleaning proceeding from upstream to downstream.

6.6 Solids Disposal

All foreign materials shall be removed at the downstream manhole for the section of sewer being cleaned. Foreign materials shall not be allowed to pass into other pipe sections. Debris removed from sewers during cleaning may be deposited at the FRSA's Sewer Plant dump pad, located at 3333 Kishwaukee St, Rockford, IL, at no cost to the Contractor. Contractor shall coordinate access with the FRSA Survey and Field Operations Manager, Ben Christiansen, (815) 209-7952. The Contractor will be responsible for keeping the dump site clean. All materials shall be removed from the project site and properly disposed of by the Contractor no less often than at the end of each work day. Under no circumstances will the Contractor be allowed to accumulate debris, etc., on the site of work beyond the stated time, except in totally enclosed containers, or as otherwise approved by the FRSA.

6.7 Acceptance of Sewer Line Cleaning

All roots in the sewer pipes that would prevent the proper installation of the liner or that would affect the hydraulic cross–section of the pipe shall be removed. Special attention should be given to ensure proper root removal at all sewer pipe joints.

The Contractor shall televise all sewer lines after they are cleaned to verify satisfactory condition. If the television inspection shows the cleaning to be unsatisfactory, the sewer line shall be re-cleaned and re-televised until it is acceptable to the Contractor and FRSA. No additional compensation will be awarded for re-cleaning or re-televising of sewers.

6.8 Equipment Recovery

If any equipment becomes stuck in the sewer line such that excavation is required for removal, the Contractor shall be responsible for the cost of work necessary, including but not limited to excavation, backfill, restoration, pipe repair and damages resulting from the backup of sewage in the pipe.

6.9 Required Submittals

1. Cleaning equipment list and associated specifications, including proposed jet nozzles and cutting attachments.

6.10 Payment

Payment for sewer cleaning shall be included in the Contract unit price per Linear Foot (LF) for the various sanitary sewer lining pay items.

7 Sewer Flow Control

7.1 General

The Contractor shall be responsible for controlling the flow in the sewers so that the liner can be installed properly and to allow for proper televising of the lines. The depth of flow shall not exceed 20% of the pipe diameter while televising the line. The Contractor shall be allowed to reduce or eliminate the amount of flow by plugging or blocking an upstream line, or by

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pumping the flow at the upstream manhole. All plugs or blocking shall be restrained to ensure that they cannot be washed downstream.

Sewer service to all properties upstream of the sewer to be lined must be maintained at all times. This may require bypass pumping of the sewer main during liner installation.

7.2 Acceptable Flow Control Measures

Flow control measures, if approved by the FRSA, may include one or more of the following:

1. Temporary plugging or blocking of the flow.
2. Diversion pumping of the flow to bypass the sewer sections being cleaned and televised.

7.3 Temporary Plugging

The Contractor shall insert an acceptable temporary plug into the sewer line upstream of the section where work is being performed. The plug shall be designed that any or all of the sewage can be released. During TV inspection and cleaning operations, flow shall be reduced to within the limits specified above. Contractor shall remove the plug well in advance of any possible sewage surcharge or basement flooding. After the work has been completed, flow shall be restored to normal.

7.4 Diversion/Bypass Pumping

When diversion pumping is required, the Contractor shall supply the pumps, conduits, and other equipment to divert the flow of sewage around the manhole section in which work is to be performed. The diversion system shall be of sufficient capacity to handle peak flows that may occur due to a rainstorm. The Contractor will be responsible for furnishing the necessary labor and supervision to set up and operate the diversion pumping system. Estimated peak flowrates are provided in *Section III – Lining List* for sanitary mains that are 12" diameter or larger. This estimated peak flow rate is based upon the FRSA's existing hydraulic model that estimates flowrate during a 10-year rain event (EPA SWMM 5.0).

Diverted flows shall only be pumped flow into other sanitary sewer manholes as approved by the FRSA. The Contractor shall provide sufficient inspection personnel to ensure that surcharging and backups do not occur on public or private property while pumping or plugging operations are being conducted. If bypass pumping is required on a 24–hour basis, the pumping equipment shall be equipped with mufflers to minimize noise levels to 90 decibels or less.

Contractor must to obtain permission from owners prior to routing pipes or hoses through private property.

7.5 Flooding Precautions

While flow in a sewer line is plugged, blocked, or diverted, the Contractor shall take sufficient precautions to protect the sewer lines from damage that might result from sewer surcharging, and to insure that sewer flow control operations do not cause flooding or damage to the public or private property being served by the sewer involved.

The Contractor shall be responsible and liable for any damage caused by sewer back-ups.

7.6 Required Submittals

1. Proposed bypass pumping plan(s) as applicable.

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2. Bypass pumping equipment list and specifications, including pump capacities.

7.7 Payment

Payment for sewer flow control shall be included in the Contract unit price per Linear Foot (LF) for the various sanitary sewer lining pay items.

8 Television Inspection

8.1 General

Prior to installing the liner, the Contractor shall televise and document all sewer line conditions after cleaning the lines. Final televising and digital recording will also be required after the liner is installed and after all services are reinstated. The FRSA will review the digital recordings for final acceptance of the lining work. The flow in the sewer section being televised shall be controlled as stated in these specifications. All televising shall be performed by experienced technicians. The footage counter shall be reset to 0.00 at each manhole when televising through a manhole.

The Contractor shall also provide equipment to play back the digital recordings in the field as requested by the FRSA; the minimum monitor size shall be seventeen inches (17”). The equipment shall play back at the same speed that it was recorded, and shall have a slow–motion or stop–action feature.

Prior to installing the liner, the interior of the pipeline shall be carefully inspected to verify the inside diameter and to determine the locations of any conditions that would prevent the proper installation of the sewer liner. These conditions shall be noted and corrected by the Contractor prior to lining. The Contractor shall keep all documentation for the televised inspections on site for the duration of the project.

If the camera is submerged due to a sag in the pipe, a high velocity jet shall be utilized to divert water away from the camera lens.

8.2 Television Equipment

All televising equipment utilized for television inspection of sanitary sewer pipes by the Contractor shall conform to the minimum standards established herein.

8.3 Definitions

1. MPEG Video: For this specification, MPEG Video shall be defined as ISO-MPEG Level 1 (MPEG-1) coding having a resolution of 352 pixels by 240 pixels and an encoded frame rate of 29.97 frames per second.

8.4 Equipment Scope

Television equipment shall include television camera, television monitor, cables, power source, lights, skids, and other required equipment. The television camera shall be specifically suited for sewer inspection operations.

8.5 Camera Specifications

The camera, television monitor, and other components of the video system shall be capable of producing a minimum 600-line resolution color video picture. The camera shall be rated at three LUX or less.

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The camera shall be operative in 100 percent (100%) humidity conditions and shall be equipped with lighting that will illuminate the pipe while minimizing reflective glare. Lighting and camera quality shall be suitable to provide a clear, in-focus picture of the entire inside periphery of the sewer pipe under all conditions encountered during the work. Focal distance shall be adjustable through a range of six inches (6") to infinity. Picture quality and definition shall be to the satisfaction of the FRSA. The camera shall be of the rotating pan and tilt type capable of spanning 360 degrees circumference and 270 degrees on the horizontal axis and small enough to be able to traverse a six-inch diameter sewer with offset joints.

8.6 Camera Mounting

The camera shall be mounted on skids, tracks or a self-propelled transporter suitably sized for each pipe diameter to be investigated. The skids or transporter shall be capable of keeping the camera axis at the centerline of the pipe.

8.7 Digital Recording Requirements

All sewer televising shall be documented on digital media. The digital recording shall include information that accurately reproduces the original picture of the video inspection. The digital recording shall be free of electrical interference and shall produce a clear and stable image. Separate MPEG Video files shall be created for each item inspected.

The pipeline inspection shall consist of identifying a location both within the pipe segment (physical location) and within the digital recording (video frame location) for each observation. The use of time codes for defect location shall NOT be deemed equivalent or acceptable. This will allow the digital recording and inspection data to be cross-referenced for instant access to any point of interest within the digital recording.

Continuous measurements along sewer lines between manholes shall be permanently electronically recorded for purposes of referencing locations of pipe defects. The following items shall be permanently electronically recorded:

1. Report number
2. Date of TV inspection
3. Upstream and downstream FRSA ACS manhole numbers (from/to)
4. Current distance along reach (counter footage)
5. Item Number of sewer segment (refer to Section III, Lining List)
6. Observation, Location, Clock Position, etc.

8.8 Labeling and Ownership

The files shall be labeled with the item number listed in *Section III, Lining List*, section or manhole numbers to identify the video contents. All final video files shall be delivered to the FRSA on a single SSD external hard drive. The hard drive shall become the property of the FRSA at no additional charge.

8.9 Electrical Power

The electricity for all operations will be the responsibility of the Contractor.

8.10 TV Inspection and data collection practices

All inspection and recording operations shall conform to the minimum standards specified herein and all inspection recordings shall be evaluated against these standards.

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1. **Color:** All recordings shall be in color with the ability to achieve proper balance of tint and brightness. The loss of color or severe redness due to equipment malfunction and black and white pictures, irrespective of quality, may be cause for rejection.
2. **Focus:** All pictures (recordings) shall be clearly in focus, properly illuminated with good contrast and without interference.
3. **Cleaning:** Prior to televising, all lines shall be subject to cleaning by the Contractor as defined in previous specification sections.
4. **Reverse Setups:** If during the inspection, the television camera will not pass through the entire section from manhole to manhole, the Contractor shall reset his equipment in a manner so that the inspection can be performed from the opposite manhole.
5. **Maximum Flow Depth:** If possible, televising shall be performed while the line segments are in service without plugging or flow diversion. Recordings are to be made such that the water depth is no greater than twenty percent (20%) of the pipe diameter. The intent is to be able to view a minimum of eighty percent (80%) of the pipe periphery. The camera lens must remain above the visible water level and may submerge only while passing through clearly identifiable line sags. If at any time the upstream flow exceeds the above cited maximum allowable twenty percent (20%) of the diameter such that the camera lenses become obscured, the Contractor shall reduce the flow/water depth to allow the television inspection to proceed by one of the above-mentioned flow control procedures. It is recommended that the Contractor advance the camera with the sewer jet cleaner to allow flow to be force out of said sags by the water jetting.
6. **Observation of Service Reinstatements:** For the FRSA to properly assess the condition reinstated services the Contractor shall rotate and radially view all service connections. The camera shall be repositioned, if necessary, in order to provide a clear, distinct view of the entire perimeter of the reinstated service.
7. **Camera Movement:** The camera shall be moved forward through the line in the direction of flow from upstream to downstream and shall proceed at a uniform rate, stopping when necessary to properly document the sewer's condition. However, in no case shall the speed of the camera exceed 30 feet per minute. Manual winches, power winches, TV cable, and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions shall be used to move the camera through the sewer line.
8. **Lens Cleaning:** The camera lens must be kept clean and clear. Any fogging due to oil, grease, or other wastewater content or debris that obscures the lens shall be cleaned off before proceeding with the recording operations.
9. **Camera Position:** Camera units shall have adjustable supports and shall be set so the camera axis is at the centerline of the pipe.

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10. **Audio Recording Requirements:** The recording shall contain an audio descriptive narration by the operator/inspector, which will include, but not be limited to, the following information:
    A. Date and time of TV inspection, operator name, and the name of the adjacent street.
    B. Verbal confirmation of upstream and downstream FRSA manhole numbers and TV direction in relation to the direction of flow.
    C. Verbal description of the pipe size, type and condition.
    D. Verbal description and location of each service connection including whether or not the service is active and/or capped at the main.
11. **Sewer Length Accuracy:** Measurement meters shall be accurate to ±1.0 feet over the length of the section being inspected. Marking on cable, or the like, which would require interpolation for the depth of the manhole, will not be allowed. Accuracy of the measurement meter shall be checked daily by the use of a walking meter, roll-a-tape, or other suitable device.
12. **Equipment Recovery:** If any equipment becomes stuck in the sewer line such that excavation is required, the Contractor shall be responsible for the cost of all work necessary to free equipment, including but not limited to: removal and replacement of sanitary sewer, excavation and backfill, restoration, pipe repair, and damage due to back-up of the wastewater.

8.11 Digital Recording Review

The Contractor shall provide digital recordings (1 copy) of all sewer segments before and after rehabilitation with visual and audio records of all services and problem areas in a format that is compatible with the FRSA's equipment. Video files shall be formatted such that the post-lining follows pre-lining for each sewer segment. A complete recording shall be made of each line televised.

All recordings shall be subject to the review process as described herein. The Contractor shall provide an acceptable picture that is distinct, clear, properly illuminated, of good contrast, and without distortion. The picture shall be of true and adequate color and tint, free from interference and at least eighty percent (80%) of the pipe periphery shall be visible above the waterline.

1. **General Review:** All recordings submitted by the Contractor to the FRSA shall be subject to review for acceptability of quality conforming to the minimum standards established herein and to check the Contractor's recording logs against the visible features.
2. **Unacceptable Inspection:** Review of the acceptability of a line segment video shall include the entire line from manhole to manhole. If any portion of the video inspection of a line is unacceptable, the entire segment will be deemed unacceptable and must be re-televised from manhole to manhole. A line that is partially televised and is incomplete due to an excusable condition (i.e., collapsed line) will be accepted for that televised segment only. Loss of color for all or part of a line may be cause for rejection.

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3. **Lighting:** The picture, while moving forward, should be adequately illuminated to clearly ascertain with certainty cracks or fractures and their severity, in addition to the typical features, i.e., laterals and joints.
4. **Picture Clarity:** The picture must be clear and distinct without being obscured by dirty lenses, foggy pipeline condition, or out of focus due to operator inattentiveness.
5. **Unacceptable Flow Conditions:** Heavy flow exceeding the foregoing established criteria will be cause to reject the line segment televised. Any flow where the camera is underwater and is not clearly in a line sag condition will, in general, be unacceptable recording conditions and the line segment shall be subject to rejection.
6. **Incorrect Manhole Identifications:** Incorrect written manhole identifications shall be cause for rejection if confusion is created and leaves doubt as to which line has been televised.
7. **Complete Line Segments:** All line segments must be televised complete from manhole to manhole on the same recording in a continuous run. Partial recording on one file and then completing the run on a separate file will not be accepted.
8. **Inaccurate Locations:** Any inaccuracy in the continuous footage meter or identified defect or features which leave doubt as to the accuracy of the locations or total length shall render the line segment recording as unacceptable.
9. **Unknown Interference:** Any other unidentifiable defect such as equipment interference or malfunction, blurred or obscured images from an unknown source that inhibits the ability to completely, reliably and accurately review the recording shall constitute a basis for rejection.

8.12 Required Submittals – Not Used.

8.13 Payment

Payment for television inspection shall be included in the Contract unit price per Linear Foot (LF) for the various sanitary sewer lining pay items.

9 Grouting Sanitary Sewer Pipe Joints

9.1 General

This work shall consist of all labor, materials, tools, equipment and incidentals required to gout pipeline joints using a packer injection method. The intent of grouting joints is to eliminate or reduce severe active infiltration on main line pipe scheduled for CIPP lining as part of this Contract to ensure the quality of the installed CIPP liner. The Contractor shall be trained in the appropriate safety methods regarding the grouts used under this Contract. A number of main lines that are estimated to require grouting to remediate infiltration prior to CIPP Liner installation are identified in *Section III – Lining List*.

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9.2 Equipment

The equipment employed shall provide a means for introducing air under pressure into the void area created by the expanded ends of the packer pushing against the host pipe. The equipment shall also provide a means for continuously measuring, viewing, and recording the actual static pressure of the test medium and grout within the void area only

Void pressure data shall be transmitted from the void area directly to the monitoring equipment in the grouting truck or to the grouting truck via a video picture of a pressure gauge mounted on the packer and connected to the void area. All test monitoring shall be above ground and in a location to allow for simultaneous and continuous observation of the televising monitor and test monitoring equipment.

Grouting equipment shall consist of the packer and appropriate pumping and hosing systems capable of supplying an uninterrupted flow of sealing materials to completely fill the voids. Grout pumping systems shall be sized to deliver a mixed volume of grout at a minimum of three gallons per minute (3 GPM) and thirty (30) gallons of uninterrupted flow within ten (10) minutes.

The volume of mixed grout pumped must be measured and recorded for each grouted joint.

The Contractor shall provide back-up bladders for pipe packers on-site any time grouting work is being conducted.

9.3 Material

Acrylamide and/or Acrylic based grouts shall be utilized and have the following characteristics:

1. A minimum of ten percent (10%) acrylamide base material by weight in the total grout mix. A higher concentration of acrylamide base material is recommended to increase strength or offset dilution during injection.
2. Product(s) and Manufacturer(s):

   i. Avanti AV-100;
   ii. Avanti AV-118; or
   iii. FRSA Approved equal(s).

At the Contractor's discretion as necessitated by field conditions, the following additives may be selected and used in accordance with the Manufacturers' recommendations:

1. Strengthening Agents: A latex or diatomaceous earth additive may be added to increase compressive and tensile strength. The quantity of strengthening agent additive shall be as recommended by the Manufacturer and approved by the Engineer.

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2. Dye: A Manufacturer approved water soluble dye without trace metals may be added to the grout tank(s) for visual confirmation.
3. Gel Time Modifier: A gel time extending agent may be used in accordance with the Manufacturer(s)' recommendations to extend gel time as necessary.

When using non-soluble additives, the grout tanks must have mechanical mixing devices to keep the additives in suspension and maintain a uniform solution of grout and additive.

9.4 Control Tests

1. Packer Tests – The Contractor shall demonstrate the acceptable performance of air test(s), including:
    a. To ensure the accuracy, integrity and performance capabilities of the testing equipment, a demonstration test (barrel test) shall be performed by the Contractor. The test procedures shall be as follows:
        i. After entering each pipeline segment with the test equipment, but prior to the commencement of joint testing, the Contractor shall position the test equipment on a section of sound sewer pipe between pipe joints, and perform a test as specified. The equipment shall hold a seven to ten PSI (7-10 PSI) test pressure for a period of fifteen (15) seconds with a pressure drop of less than one PSI (<1 PSI). In the event of a failed test, the Contractor shall repair any defective equipment and re-test to verify proper operation of all equipment.
2. Pump Tests - At the beginning of work, prior to application of grout, the Contractor shall perform a pump test. This test shall determine if proper ratios are being pumped from the grout component tanks at the proper rates and shall also measure pump rates. The Contractor shall use separate containers to capture the discharges from each of the grout component hoses to simulate the actual volumes of each component through the interconnect hoses, hose reel and length of grout hose, and to confirm accuracy of the grout pump totalizer. The Contractor shall take corrective action if ratios or rates are not within the Manufacturers' recommended standards.
3. Grout Tests – The Contractor shall perform and record a grout gel test in the presence of the Engineer. This test shall include the recording of the grout tank solution temperature, catalyst tank solution temperature, ambient air temperature in truck, and gel time of the sample. The test shall be performed whenever the following conditions occur:
    a. At the beginning of each day. The material in the hoses shall be recycled to the tanks and a sample shall be taken;
    b. Whenever new batches of grout are mixed; and
    c. Whenever the temperature in the tanks or ambient temperature have changed by more than plus or minus ten degrees Fahrenheit (± 10°F) from the previous gel test.

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9.5 Pipe Preparation

1. Contractor shall clean and inspect pipe in accordance with Article 3, Parts 6 through 8. Contractor shall notify FRSA of obstructions or defects that may prevent the use of grouting equipment following initial cleaning and inspection.

9.6 Grout Preparation

1. The Contractor shall follow the manufacturers' recommendations for mixing and safety procedures.
2. Gel time shall be adjusted as necessary to compensate for changes in temperature in grout component tanks or hoses. The addition of dilution water to extend gel times is not acceptable unless the resulting base material exceeds ten percent (10%) by weight for solution grouts.
3. Gel times shall be within the following formula calculations unless the Contractor's experience and/or field conditions dictate otherwise.
   a. $$Gel\ Time = \left(\frac{Volume\ of\ Packer\ Pipe\ Void\ Space\ (gal)}{Pumping\ Rate\ (gpm)}\right)\left(\frac{60\,\text{sec}}{1\,\text{min}}\right) + 20\,\text{sec}(+/-5\,\text{sec})$$
      i. Packer/Pipe void shall be defined as the volume between the inflated packer and the inside pipe wall when the packer is inflated per manufacturer recommendations.
      ii. For example: an 8" pipe with a pack void space of 0.3 gallons would provide
      iii. $$Gel\ Time = \left(\frac{.3(gal)}{3\,(gpm)}\right)\left(\frac{60\,\text{sec}}{1\,\text{min}}\right) + (20\,\text{sec}) = 26\,\text{sec}$$

9.7 Joint Sealing for Mainlines

1. The Contractor shall position the mainline packer over the joint to be sealed with the aid of a CCTV camera in the line.
2. The Contractor shall pneumatically expand the packer sleeves such that they seal against the inside periphery of the pipe. This shall form a void area at the joint that shall be completely isolated from the remainder of the pipe line.
3. The Contractor shall then pump grout materials into this isolated area. The pump shall be operated until "refusal". The goal of this procedure is the applying of one quarter to one half (0.25 to 0.5) gallons of grout per inch of pipe diameter per pipe joint. Refusal shall mean the joint will not accept any more grout (because it has flowed throughout the void, through any joint failure and into the surrounding soil; or gelled or filled the available void space; and formed a cohesive seal stopping further grout flow). The Contractor shall record the amount of grout pumped on the sealing log.

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4. Upon completion of the injection, the Contractor shall deflate the packer to break away from the ring of gel formed by the packer void. The packer should then be re-inflated and the joint retested at a pressure equal to the initial test pressure. If the joint fails this air test, the Contractor shall repeat the grouting procedure at no additional cost to the Owner, except for the additional grout injected. This sequence of air testing, grouting and subsequent air testing should be repeated until either the joint is sealed or it is determined that the grout consumption is too high. The final determination to stop subsequent attempts to seal a joint shall be made jointly between the Engineer and the Contractor. Should the void pressure meter not read zero point zero PSI plus or minus zero point five PSI (0.0 PSI ± 0.5 PSI), the Contractor shall clean the equipment of residual grout or make the necessary equipment repairs/adjustments to produce accurate void pressure readings.
5. If a mainline joint requires more than one (1) gallon of grout per pipe diameter inch per pipe joint, the Contractor shall modify grouting procedures. This modification shall stage grouting by pumping additional grout in up to four (4) gallon increments, waiting one (1) gel set cycle time or one (1) full minute, whichever is greater between stages. The maximum number of stages shall not exceed two (2) stages of four (4) gallons each unless approved by Owner.

9.8 Joint Sealing Verification

1. The grouting Contractor shall record grouting of joints. This shall include recording the void pressure drop continuously on video and in writing immediately before sealing, and immediately after grouting. After the packer is deflated and moved, the Contractor shall record on video the visual inspection of the joint.
2. After grouting is complete, all pipe sections shall be final inspected by means of a color CCTV system. The inspection shall be conducted as per the NASSCO Pipeline Assessment and Certification Program (PACP). One set of DVDs and reports shall be submitted by the Contractor to the Engineer and/or Owner. The costs for this inspection shall be incidental to the various grouting Contract pay items.

9.9 Required Submittals Payment

1. Equipment operating procedures and systems.
2. Chemical Grout information:
    a. Description of chemical grout materials to be used.
    b. MSDS sheets for all materials to be used.
3. Identification of the Manufacturers of the packers to be utilized on the project.

9.10 Payment

Payment for all labor, materials (except grout), equipment, tools and incidentals related to chemically grouting sanitary sewer pipe joints will be made at Contract unit price per Joint sealed of the applicable diameter.

Payment for grout shall be made at the Contract unit price per Gallon (Gal) of Chemical Grout installed.

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10 Cured–In–Place Pipe Lining

10.1 General

This work shall consist of the rehabilitation of existing sewer lines by the installation of cured-in-place pipe (CIPP). A CIPP is formed by the insertion of a resin-impregnated flexible felt tube into the existing pipe. The tube is expanded in an inversion process so that it conforms to the inside walls of the host conduit, and is then heated to cure the thermosetting resin/felt tube composite, in place.

This specification covers the work necessary to furnish and install the CIPP, complete and in place. The Contractor shall provide all materials, labor, equipment, and services necessary for bypass pumping of sewage flows, cleaning and television inspection of sewer to be lined, installation and curing of liner, service re-connections, and final television inspection and testing of lined pipe system.

10.2 Material Specifications

1. **Tube:** The tube material shall meet the requirements of ASTM F 1216 or ASTM F 1743, Section 5.1.

   A. Absorbent Fabric Tube: The tube shall consist of one or more layers of absorbent fabric capable of carrying resin, and capable of withstanding installation pressures and curing temperatures. The tube shall be compatible with the resin system used. The tube material shall be able to stretch to fit irregular pipe sections and negotiate bends. The outside layer of the tube shall be plastic coated with a material that is compatible with the resin system used. The tube shall be fabricated to a size so that when installed, will fit the internal circumference and the length of the pipe. Allowance should be made for circumferential stretch during inversion. For the pull-in methods of lining, the resin soaked felt tube shall have an outer plastic lining that effectively prevents the scrape off or wash off of resin.

   For sewer lines with varying pipe diameters, the Contractor shall construct a custom made liner to ensure a tight fit in the host pipe with no wrinkling.

   B. Thickness: The finished tube shall have a uniform thickness within ±10% of the specified nominal tube thickness. Thickness shall be measured by compressing the tube material under a load equivalent to typical CIPP installation pressures.

   C. Plastic Coating: The outside layer of the tube (before inversion) shall be plastic coated with a transparent flexible material that is compatible with the resin system used. The plastic coating shall not be subject to delamination after cure of the CIPP in accordance with Section 5.2 of ASTM F 1216 or ASTM F 1743.

   D. Color: The tube shall be a light reflective color so that a clear, detailed examination with closed circuit television equipment may be made.

   E. Delaminations: The bond between all CIPP layers shall be strong and uniform. All layers, after cure, must form one homogeneous structural pipe wall with no

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part of the tube left unsaturated by resin. Delaminations in the test samples will be cause for rejection of the line segment rehabilitated. If in the opinion of the FRSA the video disks of the finished liner fail to show similar delamination, then more sampling and re-testing of the CIPP liner may be done by the Contractor to verify or refute the previous tests.

F. Minimum Structural Properties: The CIPP system shall have the minimum structural properties given below:

CIPP Structural Properties

Property ASTM Test	Minimum Value
Flexural strength D790	4,500 PSI
Flexural modulus D790	350,000 PSI

2. **Resin:** The resin system used shall be a thermoset polyester (or FRSA-approved) meeting the requirements of ASTM F 1216 or ASTM F 1743, Section 5.2.

   A. The manufacturer shall certify that the proposed resin system and cure schedule are appropriate for the proposed application, and have been tested in laboratory and field conditions. The resin shall produce CIPP in accordance with the structural and chemical resistance requirements specified.

   B. The resin used shall be compatible with the felt tube and be able to cure in the presence of water. The initiation temperature for cure shall be less than 180°F. Thixotropic agents that enable the resin system to possess pseudo plastic fluid flow properties and that do not interfere with visual inspection shall be added for viscosity control and to minimize resin washout. Resins may contain pigments that do not interfere with visual inspection or the physical testing of the CIPP filler materials as long as the final pipe product meets or exceeds the minimum standards set forth in this specification.

3. **Deviations:** The Contractor shall submit his price proposal for the appropriate length, size and thickness designated or required. No changes in prices will be entertained by the FRSA as a result of the Contractor modifying the properties of the liner due to unexpected parent pipe conditions.

10.3 CIPP Structural Requirements

1. The CIPP shall be designed in accordance with the requirements of ASTM F 1216, Appendix XI, with the following design parameters. Design calculations shall be submitted to the FRSA for approval prior to lining. The following values must be used in design calculations:

Design safety factor……	2.0
Reduction factor of long-term effects…… (applied to flexural modulus)	0.50
Ovality – Review Video Recordings……	2% minimum
Enhancement factor, K……	7
Groundwater depth……	**to grade**
Soil depth (above crown)……	to the surface

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Soil modulus.	1,000 psi
Soil density.	120#/cf
Live load.	0
Design condition.	fully deteriorated
CIPP flexural strength.	4,500 psi
CIPP flexural modulus.	350,000 psi

Exclusion: No factors of design relating to adhesion or bonding to the existing pipe will be allowed in the design.

Cured CIPP Thickness: The finished thickness of the cured pipe shall not vary from the nominal minimum thickness specified or required by more than 10%. The minimum liner thickness for structurally sound pipe on this project shall be 4.5 mm. No liner will be approved for installation until the liner thickness calculations have been reviewed and approved by the FRSA.

10.4 General Liner Installation Procedures

Liner installation shall be per ASTM F 1216 or ASTM F 1743. The following installation procedures shall be adhered to unless otherwise approved by the FRSA:

1. **Cleaning of Sewer Line**: It shall be the responsibility of the Contractor to remove all internal debris and root intrusions from the sewer.
2. **Inspection of Pipelines**: Inspection of pipeline shall be performed by experienced personnel trained in locating breaks, obstacles, and service connections by closed–circuit television. The Contractor shall be responsible for field verifying the inside diameters of all sewers to be lined.
3. **Line Obstructions**: It shall be the responsibility of the Contractor to clear the line of obstructions such as solids, roots, protruding service connections or pipe fragments that will inhibit or prevent the insertion of the lining. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning/cutting equipment, then the Contractor shall advise the FRSA to make a main line repair excavation to uncover and remove or repair the obstruction.
4. **Reinforced Pre-Liner Installation**: If required, pre-liners shall consist of two (2) or more layers of polyethylene or similar material and a reinforcing cord grid. Contractor shall report any additional lines with significant inflow/infiltration or other defects that may warrant a pre-liner installation to the FRSA upon completion of the pre-lining television inspection.

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5. **Preparation of Liner**:

   A. Designate location where uncured resin and un-impregnated liner will be vacuum impregnated prior to installation. Contractor shall allow FRSA to inspect materials and "wet-out" procedure if requested.

   B. Material shall be to manufacturer's standards and meet the lining thickness required.

   C. Wet Out: The tube shall be impregnated with resin under controlled conditions. The volume of resin used should be sufficient to fill all voids in the tube material at nominal thickness and diameter. Excess resin shall be added to adjust volume changes due to polymerization and to compensate for any resin migration into cracks and joints in the host pipe. A nip roller system shall be used to uniformly distribute the resin throughout the tube. Unsaturated areas of the impregnated tube that are to be installed in the host pipe (the downstream turn back and the down-tube are excluded) will be cause for rejection. Should the unsaturated section of the tube be noticed before inversion, the unsaturated area of the tube shall be re-impregnated with the resin using methods developed by the Contractor, to the satisfaction of the FRSA.

   D. Transport resin impregnated liner to site immediately prior to inversion in suitable light-proof container with temperature maintained below 40 degrees Fahrenheit.

   E. In order to verify that the tube is wet out properly, batch tickets verifying the amount of resin used for each tube (lbs. per tube) and corresponding volume calculations shall be provided to the FRSA prior to tube delivery.

6. **Inversion / Installation**: Insert liner through existing manholes by means of an inversion process and application of hydrostatic head sufficient to fully extend liner to next designated manhole or by means of winching the liner through the pipe to the next designated manhole. Alternatively, the tube can be pulled into place and expanded by water inversion process with an inflation bladder. Non-toxic lubricant may be used to reduce friction. The inversion / installation process shall be conducted at a maximum controlled speed of two feet per second (2 ft./sec.)

7. **Pressure**: Tube installation forces or pressures shall be limited so as not to stretch the tube longitudinally by more than five percent (5%) of the original length. Before installation begins, the tube manufacturer shall provide the minimum pressure required to hold the tube tight against the host pipe and the maximum allowable pressure so as not to over stretch or damage the tube. Once the installation has started, the pressure shall be maintained between the minimum and the maximum pressures until the installation has been completed.

8. **Heated Water Curing of Liner**:

   A. Description: After inversion is completed, a suitable heat source with equipment to circulate heated water throughout the pipe liner will be required. The equipment should be capable of delivering hot water throughout the

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section to uniformly raise the temperature above the temperature required to effect a cure of the resin. Incoming water temperature during the cure period shall be 190 degrees Fahrenheit, ± 15 degrees Fahrenheit or as otherwise recommended by the manufacturer.

B. Temperature Gauges: The heat source shall be equipped with suitable gauges to monitor the temperature of the incoming and outgoing water supply. Another such device should be placed between the impregnated tube and the pipe invert at the termination to monitor the temperatures for the duration of curing.

C. Curing Temperatures: Initial cure will occur during temperature heat-up and is completed when exposed portions of the new pipe appear to be hard and sound, and the remote temperature sensor indicates that the temperature is of a magnitude to realize an exotherm or cure in the resin. Water temperature in the line during the cure period should be as recommended by the resin manufacturer. After initial cure is reached, the temperature should be raised to the post-cure temperature recommended by the resin manufacturer. The post-cure temperature should be held for a period as recommended by the resin manufacturer, during which time the re-circulation of the water and cycling of the boiler to maintain temperature continues. The curing of the CIPP must take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of soil). Temperature gauges shall be monitored by the Contractor every 15 minutes. A curing temperature / time log shall be maintained and provided to the Inspector immediately after the curing schedule is completed. The Contractor shall adhere to the resin manufacturer's guidelines and recommendations and shall retain a copy of the same on the jobsite.

D. Cool Down: Using Cool Water after Heated Water Cure: The new pipe shall be cooled to a temperature below 100 degrees Fahrenheit (38 degrees Celsius) or as recommended by the resin manufacturer before relieving the static head in the inversion standpipe. Cool-down may be accomplished by the introduction of cool water into the inversion standpipe water being drained from the downstream end. Care should be taken in the release of head so that a vacuum will not be developed that could damage the newly installed pipe.

9. **Steam Curing of Liner:**

A. After inversion is completed, suitable steam-generating equipment is required to distribute steam throughout the pipe liner. The equipment shall be capable of delivering steam throughout the section to uniformly raise the temperature within the pipe above the threshold required to effect a cure of the resin.

B. The temperature in the line during the cure period shall be as recommended by the resin manufacturer.

C. The steam-generating equipment shall be equipped with a gauge to monitor the temperature of the outgoing steam. The temperature of the resin being cured shall be monitored by placing gauges between the impregnated tube and

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the existing pipe at both ends to determine the temperature during cure. Temperature gauges shall be monitored by the Contractor every fifteen (15) minutes and recorded on logs which shall be provided to the Inspector immediately after the curing schedule is completed.

D. Initial cure will occur during temperature heat-up and is completed when exposed portions of the new pipe appear to be hard and sound, and the remote temperature sensor indicates that the temperature is sufficient to realize an exotherm or cure in the resin. After initial cure is reached, the temperature shall be raised to post-cure temperatures recommended by the resin manufacturer. The post-cure temperature shall be held for a period as recommended by the resin manufacturer, during which time the distribution and control of steam to maintain the temperature continues. The curing of the CIPP must take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of soil).

E. Cool down using cool water after steam cure. The new pipe should be cooled to a temperature below 113 degrees Fahrenheit (45 degrees Celsius) before relieving the internal pressure within the section. Cool-down may be accomplished by the introduction of cool water into the section to replace the mixture of air and steam being drained from the liner. Care should be taken in the release of the air pressure so that a vacuum will not be developed that could damage the newly installed pipe.

10. **Required Pressures**: Before the curing begins, the pressure required to hold the flexible tube tight against the existing conduit shall be provided by the tube manufacturer. Once the cure has started and dimpling for laterals is completed, the required pressure shall be maintained until the cure has been completed. Should the pressure deviate more than 2.3 ft of water (1 psi) from the required pressure, the installed tube shall be removed from the existing conduit. A continuous log of pressure during cure shall be maintained.

11. **Bypass Pumping**: The Contractor shall provide for the flow of sewage around the section or sections of sewer lines being installed.

12. **Water**: The Contractor shall be responsible for coordinating with the appropriate water authority for the availability of public water for this project. Refer to *Article 3, Part 6.3* for additional information.

13. **Liner Termination in Manholes**: Except where the liner extends through a manhole, the liner pipe shall be cut flush with the manhole wall and there shall be no visible annular space between the liner and invert. In manholes where the liner extends through the manhole, the top of the liner shall be cut flush with the manhole bench. Any voids shall be filled with a FRSA-approved grout. Both upstream and downstream liner ends shall be beveled to 22.5° from the flow line to mid-pipe by grinding.

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14. **Annular Seal at Manholes**: Hydrophilic seals shall be installed at all liner-to-manhole connections. Hydrophilic seals shall be LMK Technologies Hydrophilic O-Rings, Hydrotite O-Ring (RSS-040P), LMK Technologies Insignia Hydrophilic End Seal Sleeves or approved equivalent.

Pipe Diameter	End Seal Requirements
8" – 12"	Require double-o rings or single LMK Insignia seals
15" – 30"	LMK Insignia end seals

15. **Lining through Manholes to be Abandoned**: If the project requires the Contractor to line sanitary sewer through an existing manhole to be abandoned in place, the Contractor shall place sand bags over the liner once the inversion has taken place, in order to keep the liner from raising up in the manhole. If sand bags cannot be placed over the liner, the Contractor shall be required to utilize water inversion method for liner installation, at no extra cost.

10.5 Required Submittals

1. Material and Curing Details: The Contractor shall provide submittals on all lining materials and resins, and shall furnish manufacturer certification that the liner materials are in compliance with the Specifications, Codes, and standards referenced herein. The submittals shall include details of all component materials (end seals, pre-liners, etc.) and construction details including MSDS sheets and complete manufacturer's recommendations for storage procedures and temperature control, (step curing temperature/hours at each and final stage for each section thickness and length) handling, inserting the liner, and curing details.
2. Chemical Resistance Data: The CIPP shall meet the chemical resistance requirements of ASTM F 1216, Appendix X2. Test data from CIPP samples similar to that proposed for actual construction shall be submitted prior to installation. CIPP samples with and without plastic coating shall meet these chemical testing requirements.
3. Long - Term Creep Data: Long–term creep data in accordance with ASTM D 2990 shall be submitted by each manufacturer and/or pipe product supplier prior to installation. Duration of creep testing shall be a minimum of 10,000 hours.
4. Structural Property Testing: To verify past performance, the manufacturer shall submit a minimum of ten (10) independent laboratory test results from previous field installations of the same liner materials proposed for the actual installation. These test results must verify that the structural properties specified under Section 10.3.1 have been achieved in previous field applications.
5. Design Thickness Calculations: Prepared in accordance with these Detailed Specifications.
6. Hydraulic Capacity Calculations: The Contractor shall provide calculations which demonstrate that the liner pipe shall have at least 100% of full flow capacity of the original pipe before rehabilitation in a full gravity flow condition. Calculated capacities may be derived using a commonly accepted roughness coefficient.

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7. Training Certification: Contractor shall submit evidence of installer training, testing and / or certification for the proper installation and use of manufacturer's products.
8. Design Guide/BMP Manual: Contractor shall submit installer's and/or manufacturer's manual of best management practices for design, quality control of liner manufacture and installation, including detailed inspection, testing of physical properties, retention of production samples, and taking of field samples.

10.6 Payment

Payment for sanitary sewer lining will be made at Contract unit price per Linear Foot (LF) of the various diameters of CIPP Lining installed. Measurement for payment will be based upon the section footage provided in *Section III, Lining List*. Distance is measured from center of manhole casting to center of manhole casting. Should actual measured lengths and lengths provided *Section III* differ from the Contractor's field measurement by more than five (5) linear feet, FRSA field measurement shall be used to determine measurement for payment.

11 Sewer Service Reinstatement

11.1 General

1. Prior to installing the sewer liner and after performing any repair work, the Contractor shall locate the sewer lateral openings in the main by televising. Services capped or plugged at the main shall be documented.
2. Services that are capped, plugged, or not in use shall not be reopened. All live services shall be reinstated at the main. The Contractor shall utilize the pan and tilt feature of the TV camera to ascertain which services are capped at the main.
3. If the Contractor cannot ascertain through pan and tilt televising methods whether a sewer service is live or in use, he shall notify the FRSA a minimum of seventy-two (72) hours in advance of liner installation. The FRSA will provide final direction regarding service reinstatement for services in question.
4. After the sewer lining has been completed as required, the Contractor shall re–establish service connections to 100% of the original opening. Service reinstatement shall be done without excavation from the interior of the pipe by means of a television camera and a remotely controlled cutting device. The service cut-ins shall be smooth and even with no rough or jagged edges. All sewer services reinstated shall be smoothed with a wire brush upon reinstatement. The entire circumference (360°) of the sewer service reinstatement shall be televised and recorded on the post-lining recording.

   Over-cutting of the opening will be cause for rejection. In the event of said over-cutting, the Contractor shall either make an open cut saddle type main line repair, or use a method of short-lining the service that overlaps the over-cut portion of the sewer liner. Other methods of correction may be used. The method of correcting an over-cut service must be approved by the FRSA prior to performing the corrective work.

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The operator responsible for sewer service reinstatement shall be approved by the FRSA. The Contractor shall provide documentation to indicate the operator has sufficient prior training and experience to complete this work.

5. Sanitary sewer users shall not be without sewer service for more than eight (8) hours.
6. Any pieces of the liner that were cut from the service connections shall be captured at the downstream manhole and disposed of by the Contractor. No cut liner pieces shall be left in the pipe lateral, main, or manhole.

11.2 Offsite Sewer Service Reinstatement

In certain cases, the FRSA may direct the Contractor to a location offsite in order to reinstate a sanitary sewer service that has been previously lined over. Service reinstatement be completed as specified elsewhere herein. Work shall also include a separate mobilization to the service site, traffic control and safety measures as specified elsewhere herein.

11.3 Required Submittals

1. Names and documentation of experience and training for all operators responsible for service reinstatement.
2. Reinstatement equipment list and specifications.

11.4 Payment

Payment for sewer Service Reinstatement will be made at the Contract unit price per Each (EA).

Payment for Offsite Service Reinstatement will be made at the Contract unit price per Each (EA).

12 Protruding Service Removal

12.1 General

It shall be the responsibility of the Contractor to clear the line of service connections protruding greater than one inch (1”) in length. Protruding services shall be ground within one-half inch (1/2”) of the main line pipe prior to lining. Protruding services must be removed/ground utilizing a robotic cutting tool; the use of “can” cutters will not be allowed. The FRSA must be notified of each service protruding greater than one inch (1”) prior to removal. If inspection reveals the protruding service cannot be removed by conventional cutting equipment, the Contractor shall advise the FRSA to make an open-cut repair to remove the obstruction

12.2 Required Submittals

1. Protruding service removal equipment list and specifications.

12.3 Payment

Payment for Protruding Service Removal will be made at the Contract unit price per Each (EA).

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13 Quality Assurance

13.1 General

The Contractor shall televise the liner after installation of the liner and after services have been reinstated. The television recording shall be used by the FRSA to perform final inspection on the line. The lining shall be impervious and free of any leakage between the pipe and the surrounding ground, as well as any leakage at the manholes between the parent pipe and the liner. All service cuts shall be in precise alignment with the actual service pipe; displacement of the liner cut from the service due to shrinkage, creep, etc., will not be permitted.

The Contractor shall repair, at his own expense, any defects in the liner that will affect the integrity or strength of the pipe and any visual or functional defects such as wrinkles, drill holes, folds, pillows, etc. All repairs will be performed in a manner that is mutually agreed upon by the FRSA and the Contractor.

Leakage testing of the installed liner pipe will not be required on this project.

Hydraulic infiltration testing will not be required on this project.

Defects: The finished liner shall be continuous over the entire length of an inversion run between two manholes or access points and shall be free of visual defects such as foreign inclusions, dry spots, pin holes, lifts, and delaminations.

Wrinkles: Any wrinkles in the bottom half of the finished liner pipe that are larger than 5% of the pipe diameter are unacceptable and shall be removed and repaired by the Contractor at the Contractor's expense; method to be approved by the FRSA.

Annular void: If an annular void exists, Contractor shall either devise a method to grout the void to the satisfaction of the FRSA or repair or replace that section of pipe at his sole expense. Methods of repair shall be proposed by the Contractor and submitted to the FRSA for review and approval.

Post-Lining Televising: Visual inspection of the CIPP shall be in accordance with *ASTM F 1216.*

Third Party Testing: All material testing referred to in this contract specification shall be done by accredited THIRD PARTY testing laboratories. The Contractor shall inform the FRSA at the pre-construction meeting of the testing laboratory he intends to use. All costs for testing shall be incidental to the lining work.

Physical Samples

Pipe samples shall be cut and tested from a minimum number of segments of the cured pipe segments installed in this project based on the table below. Liner segments to be tested will be determined by the FRSA by random methodology. Samples shall be prepared and tested in accordance with *ASTM F 1216*. Copies of certified test reports by an approved testing laboratory shall be provided to the FRSA. If ten percent (10%) or more of the samples tested do not meet the test requirements listed below, the Contractor will be required to provide an extended ten (10) year warranty (total) for all sewer segments lined under this contract. Line segments with structural properties less than fifty percent (50%) of specification shall be removed and new sewer installed from manhole to manhole per FRSA standards.

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Testing Frequency Table

Liner Diameter	Sample Frequency
8-12”	25% of segments
15-21”	50% of segments
24”+	Each segment

Required Structural Properties

Property	Minimum Value	ASTM Test Method
Flexural Strength	4,500 PSI	D790
Flexural Modulus	350,000 PSI	D790

Sampling: For each inversion length tested, CIPP samples shall be cut from a section of cured pipe at an intermediate manhole or at the termination point that has been inverted through a like diameter pipe which has been held in place by a suitable heat sink, such as sandbags. All samples shall be labeled before shipment to the testing laboratory.

Sampling Procedure: The sample shall be large enough to provide a minimum of three but preferably five specimens for flexural testing. The full CIPP sample wall thickness shall be tested whenever possible. If the sample is irregular or distorted such that proper testing is inhibited, wall thickness shall be machined away from only the inside pipe face of the sample. Test specimens shall be oriented on the testing machine with the interior surface of the CIPP in tension.

The following test procedures shall be followed after the sample is cured and removed.

1. Flexural (bending) Properties: The tangent flexural modulus of elasticity and flexural stress shall be measured for gravity and pressure pipe applications in accordance with Test Method D 790, Test Method #1 - Procedure A.
2. Thickness Measurement: The thickness of the CIPP will be monitored by the testing lab using the above referenced flexural samples. If there is a dispute between the Contractor and the FRSA as to the actual thickness of the CIPP based on these samples, then the thickness will be established by means of Ultrasonic Thickness Measurement. The thickness measurements will be taken using an ultrasonic thickness gauge or flaw detector. A series of four (4) measurements will be taken at various points inside the pipe and an average thickness will be determined. This thickness will be the basis for any penalty for substandard thickness and said testing will be done at the Contractor’s expense.

13.2 Required Submittals

1. Third party test results.

13.3 Payment

Payment for quality assurance shall be included in the Contract unit price per Linear Foot (LF) for the various sanitary sewer lining pay items.

The FRSA will retain ten percent (10%) of all payments until the physical testing data has been submitted, reviewed and approved.

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14 Restoration Work

14.1 General

All restoration of private and public property, sidewalks, driveways, all other slab work, concrete and asphalt, drainage channels, storm sewers and dry wells, disturbed or damaged as a result of this construction project shall be promptly completed, in accordance with roadway authority standards or on private property equal to or better than the pre-construction conditions as directed by the FRSA and guaranteed by the Contractor for a period of two (2) years following satisfactory completion and final acceptance of the total contract.

All excavated areas shall be guaranteed against subsidence and settlement for a period of three (3) years upon final completion of the contract. Any restoration work damaged as a result of trench subsidence shall be restored again at no cost to the FRSA.

All storm sewer, watermain, gas main, corrugated metal pipe, drainage tile or other drainage devices shall be repaired and re-laid or replaced at original elevations. Pipes which have been, in the estimation of the FRSA significantly damaged by the Contractor, shall be replaced with new pipe of the same diameter, length and type, at no added expense to the FRSA; any necessary couplings and fittings shall be used, as necessary, and the work shall to the FRSA's satisfaction. When necessary, temporary restoration of roads, drives, fences, etc., will be required.

Reference *General Provisions and Technical Specifications for Sanitary Sewer Construction, Section 4:2*, for specifications on seeding and sodding and fertilizer, and *Sections 250*, *251*, and *252* of the IDOT *Standard Specifications for Road and Bridge Construction in Illinois*, Current Edition.

On private property and public right-of-way, the Contractor shall remove and replace (or replant) all bushes, shrubs and plants damaged or destroyed with species of similar type, size and quantity. These shall be guaranteed for a period of one (1) year after job completion.

14.2 Required Submittals – Not used.

14.3 Payment

Payment for restoration work shall be included in the Contract unit price per Linear Foot (LF) for the various sanitary sewer lining pay items.

15 Warranty

The Contractor shall unconditionally warrant their products and workmanship for a period of two (2) years commencing on the date installation of the entire system is completed and accepted, in writing, by the FRSA. The Contractor shall repair, at his own expense, any defects in the liner that will affect the integrity or strength of the pipe. All repairs will be performed in a manner that is mutually agreed upon by the FRSA and the Contractor. Any such repairs shall likewise be covered by the same warranty period from the date of subsequent installation and written approval by the FRSA.

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Any repairs required after the liner is installed and within the two (2) year warranty period will require testing in accordance with *T.S. 9 Acceptance Tests, Pages 94 through 98 of the General Provisions and Technical Specifications for Sanitary Sewer Construction.* This testing shall be performed by the Contractor at no additional cost to the FRSA. Complete site restoration of any repairs shall also be the responsibility of the Contractor.

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Section II

Contract Forms

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Proposal

Project: **2022-2023 Sanitary Sewer System Lining**
Capital Project No. 2337

Location: The existing sanitary sewer collection system located throughout the City of Rockford, Loves Park, Cherry Valley, and Rockford Township, Winnebago County, Illinois.

Completion Date: March 31, 2023

Liquidated Damages: $300/calendar day per each completion date deadline

To: Board of Trustees
Four Rivers Sanitation Authority
3501 Kishwaukee Street
Rockford, IL 61109

From: _____
(Individual, Partnership or Corporation, as case may be)

_____

(Address of Individual, Partnership or Corporation)

Gentlemen:

I (We), the undersigned, hereby propose to furnish all materials, equipment, tools, services, labor, and whatever else may be required to construct and place in service the above subject Sanitary Sewer for the Four Rivers Sanitation Authority all in accordance with the plans and specifications, provided by Four Rivers Sanitation Authority. The undersigned also affirms and declares:

1. That I (we), have, examined and am (are) familiar with all the related contract documents and found that they are accurate and complete and are approved by the undersigned.
2. That I (we), have carefully examined the site of the work, and that, from my (our) investigation, has satisfied myself (ourselves) as to the nature and location of the work, the character, quality, and quantity of materials and the kind and extent of equipment and other facilities needed for the performance of the work, the general and local conditions and all difficulties to be encountered, and all other items which may, in any way, effect the work or its performance.
3. That this bid is made without any understanding, agreement or connection with any other person, firm, or corporation making a bid for the same purposes, and is in all

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respects fair and without collusion or fraud; and that I (we) are not barred from bidding as a result of a bid-rigging or bid-rotating conviction.

4. That accompanying the Proposal is a Bidder's Bond in the amount specified in Article 1, Notice to Bidders, payable to the Board of Trustees of the Four Rivers Sanitation Authority, which it is agreed, shall be retained as liquidated damages by said Four Rivers Sanitation Authority if the undersigned fails to execute the Contract in conformity with the contract documents incorporated in the contract documents and furnish bond as specified, within ten (10) days after notification of the award of the contract to the undersigned.

5. The Bidder is of lawful age and that no other person, firm or corporation has any interest in this Proposal or in the Contract proposed to be entered into.

6. The Bidder is not in arrears to the Four Rivers Sanitation Authority, upon debt or contract, and is not a defaulter, as surety or otherwise, upon any obligation to the Four Rivers Sanitation Authority.

7. No officer or employee or person whose salary is payable in whole or in part by the Four Rivers Sanitation Authority is, shall be or become interested, directly or indirectly as a contracting party, partner, stockholder, surety of otherwise, in this Proposal, or in the performance of the Contract, or in the work to which it is relates, or in any portion of the profits thereof.

8. The Bidder which I represent complies with all applicable requirements of the Americans with Disabilities Act (ADA) and the Occupational Safety and Health Act (OSHA) and that if said bidder is awarded a contract, it will complete all OSHA-required or ADA-required employee and customer training, will make available all required information, and will hold harmless and indemnify the Four Rivers Sanitation Authority and the Four Rivers Sanitation Authority's representatives.

   In regard to participation in an approved Apprenticeship program, upon request, Contractor will be required to provide written proof of participation.

9. The undersigned as Bidder, declares that he has adopted and promulgated written sexual harassment policies in accordance with Public Act 101-0221 and will make this information available upon request.

10. The undersigned, as Bidder, declares he will comply with prevailing wages in accordance with the Illinois Department of Labor Standards. The State of Illinois requires contractors and subcontractors on public works projects (including Four Rivers Sanitation Authority) to submit certified payroll reports via the State's Certified Transcript of Payroll Portal found at www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/certifiedtranscriptofpayroll.aspx.

11. The undersigned, as Bidder, declares he will comply with the Federal Drug Free Workplace Act.

12. The undersigned, as Bidder, declares he will comply with Public Act 83-1030 entitled "Steel Products Procurement Act".

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13. The undersigned, as Bidder, declares he will comply with Public Act 96-929 (30 ILCS 570) regarding Illinois residents' employment.

14. The undersigned, as Bidder, declares he will comply with non-discrimination in employment in accordance with the Illinois Fair Employment Practices Commissions Rules & Regulations.

15. The undersigned, as Bidder, declares that he currently participates in an apprenticeship or training program that is registered with the United States Department of Labor's Bureau of Apprenticeship and Training or other acceptable State of Illinois Department of Labor monitored program.

In submitting this bid, it is understood that the right is reserved by the Four Rivers Sanitation Authority to reject any and all bids. It is agreed that this bid may not be withdrawn for a period of sixty (60) days from the opening thereof.

The undersigned further declares that he (they) has (have) carefully examined the following items of work and that the cost of all the work to complete this project is given in this Proposal.

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Item No.	Quan-tity	Unit	Description	Unit Price (In Writing)	Unit Price (In Figures)	Total Price (In Figures)
1	56,356	LF	8" Diameter CIPP Lining			
2	34,896	LF	9" Diameter CIPP Lining			
3	890	LF	10" Diameter CIPP Lining			
4	1,638	LF	12" Diameter CIPP Lining			
5	399	LF	20" Diameter CIPP Lining			
6	939	LF	21" Diameter CIPP Lining			
7	337	LF	24" Diameter CIPP Lining			
8	1,699	EA	Service Reinstatements			
9	5	EA	Offsite Service Reinstatement			
10	85	EA	Protruding Service Removal			
11	20	Joints	Grouting 8" Dia. Pipe Joints			
12	4	Joints	Grouting 12" Dia. Pipe Joints			
13	18	Joints	Grouting 21"Dia. Pipe Joints			
14	295	Gallons	Chemical Grout			
15	1	LS	Traffic Control & Protection			
			TOTAL BID PRICE:			
				(In Writing)		(In Figures)

The undersigned acknowledges receiving Addendum numbers _____, _____, _____, and realizes that all Addenda are considered part of the Contract.

_____

By: _____

Name: _____ Title: _____ Date: _____

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Fair Employment Practices Affidavit of Compliance

PROJECT: 2022-2023 Sanitary Sewer System Lining, Capital Project No. 2337

NOTE: THE BIDDER MUST EXECUTE THIS AFFIDAVIT AND SUBMIT IT WITH ITS SIGNED BID. THE FOUR RIVERS SANITATION AUTHORITY CANNOT ACCEPT ANY BID WHICH DOES NOT CONTAIN THIS AFFIDAVIT

_____, being first duly sworn, deposes and says that:
(Name of person making affidavit)

They are: _____ of _____
(Officer's Title) (Company Name)

that said company is and "Equal Opportunity Employer" as defined by Section 2000(e) of Chapter 21, Title 42 of the United States Code annotated and Federal Executive Orders #11375 which are incorporated herein by reference;

and that said company will comply with any and all requirements of Title 44 Admin. Code 750. APPENDIX A – Equal Opportunity Clause, Rules and Regulations, Illinois Department of Human Rights, which read as follows:

"In the event of the contractor's non-compliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act or the Rules and Regulations of the Illinois Department of Human Rights ("Department"), the contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation. During the performance to this contract, the contractor agrees as follows:

1. That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, marital status, national origin or ancestry, citizen status, age, physical or mental handicap unrelated to ability, sexual orientation, military status or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
2. That, if he or she hires additional employees in order to perform this contract or any portion of this contract, he or she will determine the availability (in accordance with the Department's Rules and Regulations) of minorities and women in the areas from which he or she may reasonably recruit and he or she will hire for each job classification for which employees are hired in a way that minorities and women are not underutilized.
3. That, in all solicitations or advertisements for employees placed by him or her or on his or her behalf, he or she will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, sexual orientation, marital status, national origin or ancestry, citizenship status, age, physical or mental handicap unrelated to ability, sexual orientation, military status or an unfavorable discharge from military service.
4. That he or she will send to each labor organization or representative of workers with which he or she has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any labor organization or representative fails or refuses to cooperate with the contractor in his or her efforts to comply with such Act and Rules and Regulations, the contractor will promptly so notify the Department and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations under the contract.
5. That he or she will submit reports as required by the Department's Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and the Departments Rules and Regulations.
6. That he or she will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and the Department for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.
7. That he or she will include verbatim or by reference the provisions of this clause in every subcontract awarded under which any portion of the contract obligations are undertaken or assumed, so that the provisions will be binding upon the subcontractor. In the same manner as with other provisions of this contract, the contractor will be liable for compliance with applicable provisions of this clause by such subcontractors; and further it will promptly notify the contracting agency and the Department in the event any subcontractor fails or refuses to comply with the provisions. In addition, the contractor will not utilize any subcontractor declared by the Illinois Human Rights Commission to be ineligible for contacts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

(Source: Amended at 32 I11. Reg. 16484, effective September 23, 2008)"

IL Dept of Human Rights Registration No.: _____ Expiration Date: _____

_____
Signature

Subscribed and sworn to before me this _____ day of _____, 20_____.

_____
Notary Public

Not to be used for binding purposes

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we:

_____ (hereinafter called the Principal)

and

_____ (hereinafter called the Surety)

a Corporation chartered and existing under the laws of the State of _____ with its principal offices in the City of _____ and authorized to do business in the State of Illinois are held and firmly bound onto the Four Rivers Sanitation Authority (FRSA) of Winnebago County, Illinois, in the full and just sum of: **FIVE PERCENT (5 %) OF THE TOTAL BID PRICE** good lawful money of the United States of America, to be paid upon demand of the FRSA, to which payment will and truly to be made we bind ourselves, our heirs, executors, administrators, and assigns, jointly and severally and firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted to FRSA, a proposal for constructing Sanitary Sewers and Appurtenances.

WHEREAS, the Principal desires to file this bond, in accordance with law, to accompany this Proposal.

NOW THEREFORE, The conditions of this obligation are such that if the Proposal be accepted, the Principal shall, within ten days after the date of receipt of a written notice of award of Contract, execute a Contract in accordance with the Proposal and upon the terms, conditions, and prices set forth therein, in the form and manner required by FRSA, and execute a sufficient and satisfactory Contract Performance Bond payable to said FRSA in an amount of one hundred percent (100%) of the Contract price (including alternates) in form and with security satisfactory to said FRSA, then this obligation to be void, otherwise to be and remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid FRSA, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

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IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed this _____ day of _____, 20_____.

_____

Principal

(Seal)

By _____

Name: _____

Title: _____

Date: _____

Attest:

_____

Secretary

_____

Surety

(Seal)

By _____

Name: _____

Title: _____

Date: _____

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Agreement

1. General

THIS AGREEMENT, made and concluded this _____ day of _____ _____, 2022, between the Four Rivers Sanitation Authority (FRSA), Rockford, Illinois, acting by and through the Board of Trustees, and _____ _____, his/their executors, administrators, successors or assigns:

2. Scope of Work

WITNESSETH: That for and in consideration of the payments and agreements made in the Proposal attached hereto, to be made and performed by FRSA and according to the terms expressed in the Bond referring to these presents, the Contractor agrees with FRSA at his/their own proper cost and expense to do all the work, furnish all equipment, materials and all labor necessary to complete the work in accordance with the plans and specifications hereinafter described, and in full compliance with all of the terms of this agreement and the requirements of FRSA and its representative.

And it is also understood and agreed that the Bidding Requirements, Detailed Specifications, Contract Forms, General Conditions, General Requirements, Technical Specifications, Plans, Addenda, and provisions required by law are all essential documents of the contract, and are a part hereof, as if herein set out verbatim or as if attached, except for titles, subtitles, headings, table of contents and portions specifically excluded.

3. Contract Price

FRSA shall pay to the Contractor, and the Contractor shall accept, in full payment for the performance of this Contract, subject to any additions or deductions provided for hereby, in current funds, the Total Contract Price of _____ _____ and 00/100 ($_____).

Payments are to be made to the Contractor in accordance with and subject to the provisions of Section 7 of this Agreement, which is a part of this Contract.

4. Bond

The Contractor has entered into and herewith tenders a bond of even date herewith, in the penal sum of _____ and 00/100 ($_____) to insure the faithful performance of this Contract, which said bond is hereby made a part of this Contract by reference.

5. Maintenance and Guarantee

The Contractor shall promptly repair, replace, restore or rebuild any imperfections that may arise and shall maintain satisfactory to FRSA all work for a period three years from the date of final acceptance of the Contract for trench settlement and for a period of two years all other work, except where periods of maintenance and guarantee are provided for. The Contractor shall, for this period, indemnify and save harmless the FRSA, its officers and agents from any injury done to property or persons as a direct or alleged result of imperfections in the Contractors' work, and shall immediately assume and take charge of the defense of such

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action or suits in like manner and to all intents and purposes as if said actions and suits had been brought directly against the Contractor.

If the Contractor shall fail to repair, replace, rebuild or restore such defective or damaged work promptly after receiving notice given by FRSA, the FRSA shall have the right to have the work done by others and to call on the Contractor and his bondsman to pay the costs thereof.

6. Contract Execution

IT IS EXPRESSLY UNDERSTOOD AND AGREED that the entire improvement shall be done in a thorough and workmanlike manner, under the direction and to the satisfaction of FRSA and in full compliance with all the requirements of its representative under them. All loss or damage arising out of the nature of the work to be done, or from any detention of unforeseen obstruction or difficulty which may be encountered in the prosecution of the work, or from the action of the elements, shall be sustained by the Contractor.

The Contractor will be held responsible for all accidents, and hereby agrees to indemnify and protect FRSA from all suits, claims, and actions brought against it, and all cost, and damages which FRSA may be put to by reason of an injury or alleged injury, to the person or property of another in the execution of this contract, or the performance of the work, or in guarding the same, or for any material used in its prosecution or in its construction.

Any person employed on the work who shall refuse or neglect to obey the directions of FRSA or its representative, or who shall be deemed by FRSA to be incompetent, or who shall be guilty of any disorderly conduct, or who shall commit any trespass on any public or private property in the vicinity of the work, shall at once be removed from the work by the Contractor when so requested by FRSA.

Any request to extend the contract completion date must be considered by the Board at the Board meeting prior to the then-existing contract termination date. Any deviation from this action will result in the liquidated damage clause in the contract to be exercised.

7. Payments to Contractor

FRSA hereby covenants and agrees, in consideration of the covenants and agreements in this Contract, specified to be kept and performed by the Contractor and subject to the conditions herein contained, and if FRSA receives an acceptable invoice prior to the tenth day of the month and receives approval of the work by the FRSA's Director of Engineering, FRSA shall issue payment before the fifth day of the succeeding month. If FRSA receives an acceptable invoice on or after the tenth day of the month, FRSA shall issue payment before the fifth day of the second succeeding month.

FRSA reserves the right at all times to refuse to issue payment in case the Contractor has neglected or failed to pay any subcontractors, workmen or employee on the work.

8. Subcontracts

No part of the work herein provided for shall be sublet or subcontracted without the express consent of FRSA, to be entered in the records, and in no case shall consent relieve the Contractor from the obligation herein entered into, or change the terms of this Agreement.

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9. Contractor's Responsibility

This Contract shall extend to and be binding upon the successors and assigns, and upon the heirs, administrators, executors, and legal representatives of the Contractor.

In consideration of and to induce the award of this Contract to him, the Contractor represents and warrants: that he is not in arrears to FRSA upon debt of the Contract and that he is not a defaulter, as surety, contractor or otherwise; that he is financially solvent and sufficiently experienced and competent to perform the work; that the work can be performed as called for by the Contract; that the facts stated in his proposal and the information given by him is true and correct in all respects, and that he is fully informed regarding all the conditions affecting the work to be done and labor and materials to be furnished for the completion of this Contract and that his information was secured by personal investigation and research.

The Contractor shall pay not less than the prevailing wage rate as determined by the Department of Labor, to all laborers, workmen and mechanics performing work under this Contract. Contractor shall comply with current revisions of the wage standards; as required by law. The Contractor shall be responsible for verifying the prevailing wages each month and notifying all subcontractors of the appropriate monthly rates. The State of Illinois requires contractors and subcontractors on FRSA projects to submit certified payroll reports via the State's Certified Transcript of Payroll Portal currently found at:

https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/certifiedtranscriptofpayroll.aspx.

The Contractor is responsible for verifying current website.

In regard to nondiscrimination in employment, Contractor will be required to comply with the Illinois Fair Employment Practices Commission's Rules and Regulations as provided herein.

The Contractor shall comply with the American Disabilities Act of 1990 (ADA). The Contractor will hold harmless and indemnify FRSA and their representatives from all:

(a) suits, claims, or actions;
(b) costs, either for defense (including but not limited to reasonable attorney's fees and expert witness fees) or for settlement, and;
(c) damages of any kind (including but not limited to actual, punitive, and compensatory damages)

relating in any way to or arising out of the ADA, to which said firm is exposed or which it incurs in the execution of the contract.

Contractor shall also comply with Public Act 101-0221, which requires any party to a contract to adopt and enforce a written policy regarding sexual harassment that includes, as a minimum, the following information:

(a) the illegality of sexual harassment
(b) the definition of sexual harassment under Illinois State law;
(c) a description of sexual harassment, utilizing examples;
(d) my (our) organization's internal complaint process including penalties;

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(e) through the Illinois Department of Human Rights and the Illinois Human Rights Commission;
(f) directions on how to contact the Department and the Commission; and
(g) protection against retaliation as provided by Section 6-101 of the Illinois Human Rights Act.

Upon request this information will be provided to the Illinois Department of Human Rights. Upon FRSA award of a contract, FRSA will be provided this information described no more than ten working days after FRSA issues its award notification.

The Contractor shall comply with Public Act 96-929 (30 ILCS 570) which provides that Illinois residents be employed on Illinois public works projects, provided there has been a period of excessive unemployment (5%) in the State of Illinois as defined in the Act; and further, that Illinois workers are available and capable of performing the particular type work involved.

The Contractor shall comply with all rules and regulations of OSHA during the execution of this Contract.

The Contractor shall comply with the Federal Drug Free Workplace Act.

The Steel Products Procurement Act, Illinois Public Act 83-1030, requires that steel products used or supplied in performance of this Contract or subcontract shall be manufactured or produced in the United States with three exceptions, as explained in the Instructions to Bidders.

The Contractor shall comply with Public Act 96-1416 regarding the disposal of CCDD and uncontaminated soil at CCDD fill sites as explained in the Instructions to Bidders.

10. Time

Work under this Agreement shall be commenced upon written Notice to Proceed. The completion date for this project shall be March 31, 2023.

11. Liquidated Damages

The amount of liquidated damages shall be $300.00 per calendar day.

12. Counterparts

This Agreement may be executed and recorded in counterparts, each of which shall be deemed an original and all of which, when taken together, shall constitute one and the same instrument. The Parties hereby acknowledge and agree that facsimile signatures or signatures transmitted by electronic mail in so-called "pdf" format shall be legal and binding and shall have the same full force and effect as if an original of this Agreement had been delivered. Each of the parties (a) intend to be bound by the signatures on any document sent by facsimile or electronic mail, (b) are aware that the other party will rely on such signatures, and (c) hereby waive any defenses to the enforcement of the terms of this Agreement based on the foregoing forms of signature.

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13. Seals

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals, and such of them as are corporations have caused these presents to be signed by their duly authorized officers.

Four Rivers Sanitation Authority
Winnebago County, Illinois

(Seal)

By _____
President, Board of Trustees

ATTEST: _____
Clerk of the Board

Contractor

By _____
Contractor's Officer

(Corporate Seal)

Name: _____
Title: _____
Date: _____

ATTEST: _____

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Labor & Material Payment Bond

TO: _____Contractor Name

_____Contractor City, State

KNOW ALL MEN BY THESE PRESENTS

That _____(Contractor)

as Principal, and _____

a corporation of the State of _____ as Surety, are held and firmly bound unto the Four Rivers Sanitation Authority, as Obligee, for the use and benefit of claimants as hereinafter defined in the amount of

_____Dollars ($_____), for the payment where of Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____20__ Entered into a Contract with Obligee for _____ in accordance with contract documents prepared by the Four Rivers Sanitation Authority which Contract is by reference made a part hereof, and is hereinafter referred to as "the Contract".

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if Principal shall promptly pay for all laborers, workers and mechanics engaged in the work under the Contract, and not less than the general prevailing rate of hourly wages of a similar character in the locality in which the work is performed, as determined by the State of Illinois Department of Labor pursuant to the Illinois Compiled Statutes 280 ILCS 130 / 1-12 et.seq. and for all material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect.

1. A claimant is deemed as any person, firm, or corporation having contracts with the Principal or with any of Principal's subcontractors for labor or materials furnished in the performance of the Contract on account of which this Bond is given.

2. Nothing in this Bond contained shall be taken to make the Obligee liable to any subcontractor, material man or laborer, or to any other person to any greater extent than it would have been liable prior to the enactment of The Public Construction Bond Act, approved June 20, 1931, as amended; provided further, that any person having a claim for labor and materials furnished in the performance of the Contract shall have no right of action unless he shall have filed a verified notice of such claim with the Obligee within 180 days after the date of the last item of work or the furnishing of the last item of materials, which claim shall have been verified and shall contain the name and address of the claimant, the business address of the claimant within the State of Illinois, if any, or if the claimant be a foreign corporation having no place of business within the State the principal place of business of the corporation, and in all cases of

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partnership the names and residences of each of the partners, the name of the Contractor for the Obligee, the name of the person, firm or corporation by whom the claimant was employed or to whom such claimant furnished materials, the amount of the claim and a brief description of the public improvement for the construction or installation of which the contract is to be performed. No defect in the notice herein provided for shall deprive the claimant of its right of action under the terms and provisions of this Bond unless it shall affirmatively appear that such defect has prejudiced the rights of an interested party asserting the same.

3. No action shall be brought on this Bond until the expiration of 120 days after the date of the last item of work or of the furnishing of the last item of material except in cases where the final settlement between Obligee and the Contractor shall have been made prior to the expiration of the 120 day period, in which case action may be taken immediately following such final settlement; nor shall any action of any kind be brought later than 6 months after the acceptance by the Obligee of the work. Such suit shall be brought only in the circuit court of this State in the judicial district in which the Contract is to be performed.

4. Surety hereby waives notice of any changes in the Contract, including extensions of time for the performance thereof.

5. The amount of this Bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder.

6. The Principal and Surety shall be liable for any attorneys' fees, engineering costs, or court costs incurred by the Obligee relative to claims made against this Bond.

Signed and Sealed this _____day of _____, 20___.

CONTRACTOR	SURETY
_____	
Contractor Firm Name	
By: _____	By: _____
Signature	Attorney-in-Fact Signature
_____	_____
Printed Name	Printed Name
_____	_____
Title	Resident Agent

ATTEST:

_____
Corporate Secretary (Corporations only)

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Performance Bond

KNOW ALL MEN BY THESE PRESENTS, that WHEREAS, the Four Rivers Sanitation Authority has awarded to: _____
hereinafter designated as the "Principal", a contract, dated, _____, for the Four Rivers Sanitation Authority.

WHEREAS, said Principal is required under the terms of said Contract to furnish a bond for the faithful performance of said Contract (the "Bond");

NOW, THEREFORE, we the Principal and _____,
as Surety, are firmly bound unto the Four Rivers Sanitation Authority in the penal sum of
_____ Dollars
($_____) lawful money of the United States for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally firmly by these presents for a performance bond. The conditions of this obligation is such that if the said Principal does well and faithfully performs all the conditions and covenants of said Contract, according to the true intent and meaning thereof, upon its part to be kept and performed, then the above obligation is to be null and void, otherwise to remain in full force and effect.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden Principal, its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the said Contract, including the provisions for liquidated damages in the said Contract, any changes, additions or alterations thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Four Rivers Sanitation Authority, its officers and agents, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect. And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same and no inadvertent overpayment of progress payments shall in any way affect its obligations on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications or of any inadvertent overpayment of progress payments. The Four Rivers Sanitation Authority shall be named as beneficiary on this Performance Bond.

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IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their seal this _____day of _____, 20_____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

_____
Contractor Firm Name

By: _____
Signature

_____
Printed Name

_____
Title

ATTEST:

_____
Corporate Secretary (Corporations only)

SURETY

By: _____
Attorney-in-Fact Signature

_____
Printed Name

_____
Resident Agent

Not to be used for bidding purposes

Section III

Lining List

Not to be used for bidding purposes

2022-2023 SANITARY SEWER SYSTEM LINING
FRSA CAPITAL PROJECT NO. 2337
SECTION III - LINING LIST

ITEM No.	UP Basin	UP MH	DN Basin	DN MH	Location	Pipe Dia. (INCH)	Length (FT)	Existing Pipe Material	Service Reinstatements (EACH)	Roots (R)	Inflow/ Infiltration (I/I)	Broken Pipe or Cracks (BP)	Date Last TV'd	Notes	Roadway Jurisdiction	Area Map No.
1	004	127	004	126	2801 Collins St	8	301.1	VCP	10.0	R		BP	07/15/20		City of Rockford	12
2	005	071	005	070	3114 11th St	8	176.2	VCP	1.0				03/17/21	EASEMENT	City of Rockford/Easement	13
3	007	020	007	019	2903 Greendale Dr	8	187.0	VCP	0.0	R	I/I		06/07/21	EASEMENT/RAILROAD	City of Rockford/Easement/Railroad	13
4	007	029	007	020	2915 Greendale Dr	8	188.4	VCP	6.0		I/I		06/04/21		City of Rockford	13
5	007	030	007	029	3023 Greendale Dr	8	312.9	VCP	8.0	R	I/I	BP	06/04/21		City of Rockford	13
6	009	047	009	189	348 Buckbee Street	9	309.3	VCP	5.0	R		BP	06/26/13		City of Rockford	9
7	009	173	009	045	Seminary Street	9	333.0	VCP	2.0	R		BP	03/12/15		City of Rockford	9
8	010	020	010	019	1203 20th Avenue	9	465.4	VCP	8.0	R		BP	11/26/13		City of Rockford	12
9	010	039	010	037	1113 22th Avenue	9	376.1	VCP	8.0	R		BP	09/02/21		City of Rockford	12
10	010	052	010	051	20th Avenue & 8th Street	9	489.0	VCP	6.0	R		BP	06/09/21		City of Rockford	12
11	010	073	010	072	S 5th St	9	396.0	VCP	12.0	R		BP	10/05/21		City of Rockford	12
12	010	074	010	073	S 5th St	9	433.8	VCP	15.0	R		BP	10/05/21		City of Rockford	12
13	010	089	010	088	5th Street & 22nd Avenue	9	524.0	VCP	12.0	R		BP	08/14/19		City of Rockford	12
14	010	096	010	95A	4TH ST	9	237.5	VCP	7.0	R		BP	06/25/19		City of Rockford	12
15	010	116	010	115	Kishwaukee Street	9	396.7	VCP	2.0	R		BP	10/06/21	IDOT UTILITY PERMIT REQ.	IDOT	12
16	010	120	010	014	20th Avenue	8	248.9	VCP	0.0	R		BP	09/22/20		City of Rockford	13
17	011	033	011	032	18th Avenue	9	251.0	VCP	6.0	R		BP	02/26/03		City of Rockford	13
18	011	113	011	112	2212 26th Streeet	8	325.9	VCP	5.0	R		BP	06/08/21		City of Rockford	13
19	011	114	011	113	2308 26th Street	8	300.9	VCP	8.0		I/I	BP	06/08/21		City of Rockford	13
20	011	191	011	006	18th Avenue	9	378.0	VCP	11.0	R		BP	11/27/06		City of Rockford	13
21	012	064	012	063	2316 Nebraska Road	8	226.6	VCP	3.0	R			05/17/21		City of Rockford	13
22	015	029	015	028	17th Avenue	9	358.7	VCP	11.0	R	I/I	BP	01/30/18		City of Rockford	13
23	015	041	015	040	16th ave	9	395.6	VCP	12.0	R		BP	09/23/19		City of Rockford	13
24	015	095	015	094	1514 Parmele St	9	330.6	VCP	10.0	R		BP	10/18/21		City of Rockford	13
25	016	037	016	036	2617 Broadway	8	162.1	VCP	1.0	R		BP	08/14/19		City of Rockford	13
26	016	039	016	038	2711 Broadway	8	187.5	VCP	5.0	R		BP	08/13/19		City of Rockford	13
27	016	068	016	067	2805 16th Street	8	154.3	VCP	2.0	R		BP	11/02/20		City of Rockford	13
28	016	091	016	090	3019 Broadway	8	275.4	VCP	3.0		I/I	BP	10/15/13		City of Rockford	13
29	020	030	020	029	1935 S. Alpine Rd.	8	301.9	VCP	3.0			BP	02/15/22	BAD BREAK AT 185; ADJACENT TO BLDG	Easement	14
30	024	046	024	045	11th Ave	9	450.5	VCP	3.0	R		BP	09/10/20		City of Rockford	10
31	024	088	024	087	1325 6th Street	9	303.9	VCP	10.0	R		BP	04/20/17		City of Rockford	9
32	024	125	024	106	11th Street	9	304.0	VCP	6.0	R		BP	09/10/20	EASEMENT	City of Rockford/Easement	13
33	025	024	025	120	1216 6th Ave	9	356.0	VCP	8.0	R		BP	02/04/20		City of Rockford	9
34	025	060	025	059	Williams Park	9	204.8	VCP	1.0	R		BP	12/02/19	EASEMENT/HOSIPITAL	City of Rockford/Easement	10
35	025	061	025	059	1522 1ST AVE	9	276.7	VCP	1		I/I	BP	11/18/21	EASEMENT/HOSIPITAL	City of Rockford/Easement	10
36	025	062	025	061	1543 1ST AVE	9	157.0	VCP	1		I/I		11/18/21	HOSPITAL	City of Rockford	10
37	025	105	025	009	1525 9th Ave	9	272.0	VCP	6.0	R		BP	09/25/20		City of Rockford	10
38	025	119	025	053	1500 CHARLES ST	9	332.5	VCP	0.0	R		BP	12/02/19	RPS 205 SCHOOL	City of Rockford	10
39	026	010	026	008	12TH AVE	8	329.6	VCP	9.0	R		BP	06/10/21		City of Rockford	10
40	026	036	026	035	1637 4th Avenue	9	332.3	VCP	9.0	R		BP	05/19/15		City of Rockford	10
41	026	041	026	068	S Prospect St	9	295.6	VCP	9.0	R		BP	06/15/21		City of Rockford	10
42	026	059	026	042	208 Prospect Street	9	266.7	VCP	9.0	R		BP	06/14/21		City of Rockford	10
43	026	068	026	039	325 S Prospect St	9	300.0	VCP	9.0	R		BP	06/15/21		City of Rockford	10
44	026	021A	026	021	1639 8th Ave	9	299.2	VCP	6.0	R		BP	09/18/17		City of Rockford	10
45	027	009	027	008	1001 15th St	8	367.1	VCP	11.0	R		BP	05/26/21		City of Rockford	10
46	028	021	028	020	Charles St	8	332.6	VCP	2.0	R		BP	02/20/20		City of Rockford	10
47	029	036	029	035	Jordan Place	8	268.0	VCP	8.0		I/I	BP	10/29/04		City of Rockford	10

Not to be used for bidding purposes

2022-2023 SANITARY SEWER SYSTEM LINING
FRSA CAPITAL PROJECT NO. 2337
SECTION III - LINING LIST

ITEM No.	UP Basin	UP MH	DN Basin	DN MH	Location	Pipe Dia. (INCH)	Length (FT)	Existing Pipe Material	Service Reinstatements (EACH)	Roots (R)	Inflow/ Infiltration (I/I)	Broken Pipe or Cracks (BP)	Date Last TV'd	Notes	Roadway Jurisdiction	Area Map No.
48	029	047	029	046	928 Woodland Dr	8	374.4	VCP	10.0	R		BP	03/09/21		City of Rockford	10
49	029	048	029	047	1009 Woodland Dr	8	248.8	VCP	4.0	R		BP	03/09/21		City of Rockford	10
50	030	035	030	034	1240 Sanford Street	9	399.7	VCP	10.0	R		BP	10/26/21		City of Rockford	9
51	030	036	030	035	1208 Sanford Street	9	338.6	VCP	9.0	R		BP	10/26/21		City of Rockford	9
52	030	045	030	044	1257 Clover Avenue	9	321.2	VCP	7.0	R		BP	11/15/21		City of Rockford	9
53	030	046	030	045	1232 Clover Avenue	9	307.1	VCP	12.0	R		BP	07/23/18		City of Rockford	9
54	030	060	030	095	809 Lincoln Avenue	9	267.5	VCP	9.0	R		BP	08/01/18		City of Rockford	9
55	030	061	030	060	Lincoln Avenue	9	446.9	VCP	14.0	R		BP	08/01/18		City of Rockford	9
56	030	064	030	063	1401 Clifton Avenue	9	434.4	VCP	5.0	R		BP	03/14/18		City of Rockford	9
57	030	072	030	008	406 Salter St	9	450.1	VCP	8.0	R		BP	10/18/17		City of Rockford	9
58	030	073	030	071	218 Lane Street	9	237.3	VCP	2.0	R		BP	12/08/16		City of Rockford	9
59	030	078	030	077	200 Loomis Street	9	238.7	VCP	2.0	R		BP	08/02/18		City of Rockford	9
60	030	082	030	081	1306 S. Church Street	9	299.4	VCP	5.0	R		BP	07/30/18		City of Rockford	9
61	030	089	030	088	806 Island Avenue	9	456.3	VCP	14.0	R		BP	01/10/11		City of Rockford	9
62	030	095	030	059	721 Lincoln Avenue	9	269.3	VCP	5.0	R		BP	04/17/20		City of Rockford	9
63	031	042	031	040	1003 S Central Avenue	8	165.3	VCP	1.0		I/I	BP	07/10/19		City of Rockford	9
64	032	010	032	009	Winnebago Street & Kent Street	9	260.0	VCP	4.0	R		BP	07/01/04	COMMUNITY CENTER	City of Rockford	9
65	032	022	032	023	Church Street	9	190.3	VCP	1.0	R		BP	10/08/09		City of Rockford	9
66	032	037	032	036	Sanford Street	9	285.2	VCP	7.0	R		BP	10/16/09		City of Rockford	9
67	032	045	032	044	Winnebago Street & Loomis Street	9	273.0	VCP	6.0	R		BP	06/10/04		City of Rockford	9
68	032	053	032	052	Loomis Street	9	395.0	VCP	6.0	R		BP	10/27/21		City of Rockford	9
69	032	075	032	059	1205 Church Street	9	375.4	VCP	6.0	R		BP	09/27/18		City of Rockford	9
70	033	015	033	014	1024 Blake St	8	340.1	VCP	10.0	R		BP	10/05/21		City of Rockford	9
71	033	016	033	014	Sanford Street	9	397.0	VCP	5.0	R		BP	09/17/18		City of Rockford	9
72	034	098	037	097	Indian Terrace	9	322.4	VCP	10.0	R		BP	08/11/16	APARTMENTS ADJACENT	City of Rockford	9
73	034	099	034	069	Wyman Street & Jefferson Street	24	337.0	VCP	0.0		I/I		06/04/20	EST. PEAK FLOW - 0.05 MGD ; IDOT UTILITY PERMIT REQ.	IDOT	9
74	035	005	035	004	503 S 2nd St	8	280.2	VCP	5.0	R		BP	09/14/20		City of Rockford	9
75	035	006	035	002	504 S 1st St	8	343.2	VCP	5.0	R		BP	09/11/20		City of Rockford	9
76	035	019	035	017	S 2nd St	8	394.4	VCP	8.0				09/15/20		City of Rockford	9
77	036	073	036	071	01st Street	20	398.2	VCP	3.0			BP	03/04/20	EST. PEAK FLOW - 0.53 MGD	City of Rockford	9
78	037	066	037	059	1348 Benton Street	9	275.6	VCP	12.0	R		BP	09/06/11		City of Rockford	10
79	037	070	037	045	Revell Avenue	9	127.0	VCP	1.0	R	I/I	BP	09/25/13		City of Rockford	10
80	038	014	038	013	1404 Benton Street	9	318.3	VCP	9.0	R	I/I	BP	01/17/17		City of Rockford	10
81	038	016	038	015	1411 Crosby Street	9	223.2	VCP	7.0	R	I/I	BP	06/09/21		City of Rockford	10
82	038	054	038	052	Chicago Avenue	8	361.0	VCP	11.0		I/I	BP	01/11/17		City of Rockford	10
83	039	075	039	074A	211 Welty Avenue	8	300.0	VCP	11.0		I/I	BP	02/10/14		City of Rockford	10
84	041	022	041	021	508 Parkside Drive	8	193.6	VCP	2.0		I/I	BP	01/19/16		City of Rockford	11
85	042	081F	042	081E	400 Daisyfield Rd	8	320.0	VCP	4.0			BP	11/17/20		City of Rockford	8
86	044	040	044	039	406 Independence Avenue	9	395.0	VCP	9.0		I/I	BP	09/24/18		City of Rockford	8
87	044	070	044	024	Hinkley Avenue	8	371.4	VCP	0.0	R		BP	09/17/18		City of Rockford	9
88	044	087	044	049	Preston Street	8	72.2	VCP	0.0		I/I	BP	11/19/14		City of Rockford	8
89	045	013	045	011	2019 Chestnut Street	9	262.6	VCP	3.0	R		BP	05/18/16		City of Rockford	8
90	045	014	045	011	209 Steward Avenue	9	289.7	VCP	6.0	R		BP	05/18/16		City of Rockford	8
91	045	029	045	028	234 Royal Avenue	9	394.3	VCP	14.0	R		BP	09/27/21		City of Rockford	8
92	045	031	045	030	232 Miriam Avenue	9	368.3	VCP	14.0	R		BP	09/10/18		City of Rockford	8
93	045	042	045	091	Johnston Avenue	9	241.4	VCP	6.0	R		BP	10/22/21		City of Rockford	8
94	045	058	045	096	2720 State Street	8	244.2	VCP	0.0	R		BP	10/26/21	IDOT PROJ./ UTILITY PERMIT	IDOT	8

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2022-2023 SANITARY SEWER SYSTEM LINING
FRSA CAPITAL PROJECT NO. 2337
SECTION III - LINING LIST

ITEM No.	UP Basin	UP MH	DN Basin	DN MH	Location	Pipe Dia. (INCH)	Length (FT)	Existing Pipe Material	Service Reinstatements (EACH)	Roots (R)	Inflow/ Infiltration (I/I)	Broken Pipe or Cracks (BP)	Date Last TV'd	Notes	Roadway Jurisdiction	Area Map No.
95	046	010	046	009	Stanley Street	9	396.8	VCP	2.0	R		BP	05/29/20	RPS 205 SCHOOL	City of Rockford	9
96	046	054	046	033	Elm Street	9	205.0	VCP	0.0	R		BP	09/02/15		City of Rockford	9
97	047	066	047	027	738 N 1ST ST	9	367.7	VCP	12.0	R		BP	08/02/19		City of Rockford	9
98	048	012	048	011	JOSLYN ST	8	412.5	VCP	8.0		I/I	BP	10/30/19		City of Rockford	10
99	048	038	048	035	Bohm Court	8	263.0	VCP	6.0		I/I	BP	06/14/10		City of Rockford	10
100	048	048	048	047	1609 BROWNWOOD DR	8	283.3	VCP	2.0		I/I	BP	11/08/19		City of Rockford	10
101	048	068	048	069	612 SUMMIT ST	9	274.6	VCP	9.0		I/I	BP	11/18/19		City of Rockford	10
102	049	022	049	021A	523 N London Avenue	9	353.1	VCP	10.0		I/I	BP	06/03/20		City of Rockford	10
103	049	048	049	047	Jackson Street	9	465.7	VCP	16.0		I/I		06/04/20		City of Rockford	10
104	049	056	049	055	638 N. Rockford Avenue	9	461.4	VCP	16.0	R		BP	07/31/18		City of Rockford	10
105	049	001B	049	001	619 Chicago Avenue	9	279.0	VCP	9.0		I/I	BP	08/23/11		City of Rockford	10
106	049	021A	049	021	620 London Avenue	9	275.4	VCP	9.0	R	I/I	BP	08/31/11		City of Rockford	10
107	050	005	050	004	411 Welty Avenue	8	252.8	VCP	7.0		I/I	BP	09/13/19		City of Rockford	10
108	050	007	050	006	307 Welty Avenue	8	252.6	VCP	7.0		I/I	BP	09/13/19		City of Rockford	10
109	050	028	050	027	810 PARKVIEW AVE	8	300.8	VCP	8.0		I/I	BP	12/12/19		City of Rockford	10
110	050	035	050	034	2412 GUILFORD RD	8	257.5	VCP	3.0		I/I	BP	12/18/19		City of Rockford	10
111	050	038	050	037	LUNDVALL	8	312.1	VCP	8.0		I/I	BP	12/04/19		City of Rockford	10
112	050	055	050	106	719 JAMES AVE	8	240.1	VCP	4.0		I/I	BP	12/11/19		City of Rockford	10
113	050	110	050	096	728 GREENMEADOW AVE	8	336.8	VCP	7.0		I/I	BP	12/0319		City of Rockford	10
114	051	038	051	037	715 ROLAND AVE	8	348.7	VCP	7.0		I/I	BP	12/05/19		City of Rockford	10
115	051	052	051	047	812 WESTCHESTER DR	8	323.9	VCP	6.0		I/I	BP	11/21/19		City of Rockford	10
116	051	059	051	047	GUILFORD RD	8	140.0	VCP	1.0		I/I	BP	12/20/19		City of Rockford	10
117	051	061	051	059	Guilford Road	8	299.4	VCP	3.0		I/I	BP	12/19/19		City of Rockford	10
118	052	030	052	029	Hilton Ave	8	390.8	VCP	9.0	R		BP	03/06/20		City of Rockford	10
119	052	047	052	045	510 Fairview Blvd	8	198.2	VCP	2.0	R		BP	03/16/20		City of Rockford	10
120	052	063	052	061	622 Warren Ave	8	440.0	VCP	10.0	R		BP	03/10/20		City of Rockford	10
121	052	108	052	107	Cardinal Lane	8	250.4	VCP	6.0	R		BP	03/13/20		City of Rockford	10
122	054	011	054	010	225 N. Hinkley Avenue	9	274.1	VCP	6.0	R		BP	09/23/13		City of Rockford	9
123	054	012	054	011	316 N. Hinkley Avenue	9	303.8	VCP	4.0	R		BP	08/26/13		City of Rockford	9
124	054	024	054	023	439 Irving Avenue	9	145.1	VCP	4.0	R		BP	08/26/13		City of Rockford	9
125	054	038	054	037	Central Avenue	9	244.2	VCP	9.0	R		BP	09/21/17		City of Rockford	8
126	054	056	054	055	Sunset Avenue	9	423.2	VCP	10.0	R		BP	10/29/14		City of Rockford	8
127	054	061	054	059	421 Albert Street	9	319.2	VCP	8.0	R		BP	09/18/13		City of Rockford	8
128	054	068	054	066	304 Miriam Avenue	9	357.0	VCP	10.0	R		BP	09/03/13		City of Rockford	8
129	057	009	057	008	433 UNDER WOOD ST	9	355.5	VCP	8.0	R		BP	08/06/19		City of Rockford	9
130	057	070	057	068	Jilson Avenue & Andrews Street	9	377.0	VCP	7.0	R		BP	08/21/18		City of Rockford	9
131	057	074	057	080	Andrews Street & Hinkley Avenue	9	425.9	VCP	7.0	R		BP	11/09/18		City of Rockford	9
132	058	038	058	036	Mulberry Street	9	381.3	VCP	7.0	R		BP	10/08/20		City of Rockford	9
133	058	108	060	029	Park Avenue	9	230.8	VCP	4.0	R		BP	06/25/18		City of Rockford	9
134	060	034	060	033	602 Woodlawn Avenue	9	331.0	VCP	10.0	R		BP	06/08/18		City of Rockford	9
135	060	035	060	033	Woodlawn Avenue	12	396.9	VCP	6.0	R		BP	11/27/13	EST. PEAK FLOW - 0.19 MGD	City of Rockford	9
136	060	051	060	048	Winnebago Street & Fisher Avenue	9	129.0	VCP	2.0	R		BP	03/25/13		City of Rockford	9
137	060	052	060	051	Winnebago Street & Maple Street	9	271.0	VCP	7.0	R		BP	03/25/13		City of Rockford	9
138	060	074	060	073	Horsman Street & Acorn Street	9	398.0	VCP	11.0	R		BP	11/15/05		City of Rockford	9
139	060	086	060	098	1105 Horsman Street	9	297.0	VCP	4.0	R		BP	04/09/10		City of Rockford	4
140	060	098	060	097	Horsman Street	9	270.0	VCP	3.0	R		BP	04/09/10		City of Rockford	4
141	061	007	061	114	1044 Franklin Place	9	216.9	VCP	8.0	R		BP	10/05/18		City of Rockford	4
142	061	033	061	032	1012 Grant Avenue	9	166.1	VCP	3.0	R		BP	07/27/20		City of Rockford	4

Not to be used for bidding purposes

2022-2023 SANITARY SEWER SYSTEM LINING
FRSA CAPITAL PROJECT NO. 2337
SECTION III - LINING LIST

ITEM No.	UP Basin	UP MH	DN Basin	DN MH	Location	Pipe Dia. (INCH)	Length (FT)	Existing Pipe Material	Service Reinstatements (EACH)	Roots (R)	Inflow/ Infiltration (I/I)	Broken Pipe or Cracks (BP)	Date Last TV'd	Notes	Roadway Jurisdiction	Area Map No.
143	061	040	061	036	Vale Avenue	9	376.8	VCP	8.0	R		BP	09/27/18		City of Rockford	4
144	061	042	061	041	1126 Grant Ave	9	250.4	VCP	8.0	R		BP	11/10/21		City of Rockford	4
145	061	056	061	055	1251 Garrison Avenue	9	221.9	VCP	9.0	R		BP	09/28/18		City of Rockford	4
146	061	057	061	053	745 John Street	9	238.3	VCP	2.0	R		BP	05/31/16		City of Rockford	4
147	062	006	062	005	Harlem Blvd	9	548.2	VCP	11.0	R		BP	08/14/12		City of Rockford	4
148	062	014	062	010	Camp Avenue	9	504.0	VCP	17.0	R		BP	06/18/12		City of Rockford	4
149	062	015	062	014	1306 Post Avenue	9	367.2	VCP	6.0	R		BP	10/07/21		City of Rockford	4
150	062	033	062	032	1632 Harlem Blvd	9	438.8	VCP	10.0	R		BP	08/15/12		City of Rockford	5
151	062	037	062	034	Camp Avenue	9	475.0	VCP	13.0	R		BP	08/16/13		City of Rockford	5
152	062	038	062	037	Camp Avenue & Hancock Street	9	440.0	VCP	14.0	R		BP	08/16/13		City of Rockford	5
153	062	062	062	078	1701 Harlem Blvd	9	368.0	VCP	11.0	R		BP	07/12/12		City of Rockford	5
154	062	068	062	077	Harlem Blvd	9	500.2	VCP	11.0	R		BP	04/17/19		City of Rockford	5
155	062	071	062	070	112 Glen Road	9	134.2	VCP	2.0	R	I/I	BP	07/31/13		City of Rockford	4
156	062	072	062	071	144 Glen Road	9	342.3	VCP	11.0	R		BP	07/31/13		City of Rockford	4
157	063	043	063	041	Cosper Avenue	8	188.0	VCP	3.0		I/I	BP	08/25/09		City of Rockford	10
158	063	068	063	051	Ridgewood Road	9	293.0	VCP	3.0	R		BP	07/25/05		City of Rockford	10
159	065	091	065	042	2607 Highcrest Rd	8	196.9	VCP	0.0	R		BP	04/16/21	EASEMENT	City of Rockford/Easement	5
160	067	040	067	039	1923 Shelly Drive	8	110.9	VCP	0.0	R			01/04/21		City of Rockford	8
161	070	018	070	016	Huffman Blvd & Custer Avenue	10	352.0	VCP	11.0	R		BP	06/03/21		City of Rockford	4
162	070	039	070	038	Garrison Avenue	9	434.6	VCP	11.0	R		BP	04/07/09		City of Rockford	4
163	070	084	070	083	N Winnebago St	8	386.5	VCP	12.0	R		BP	08/06/19		City of Rockford	4
164	070	087	070	086	Winnebago St	8	350.0	VCP	3.0	R		BP	04/14/20		City of Rockford	4
165	070	096	070	094A	Tacoma Ave	8	174.9	VCP	6.0	R		BP	05/26/21		City of Rockford	4
166	071	117	071	116	2009 Grant Avenue	8	175.5	VCP	6.0	R		BP	06/03/21		City of Rockford	4
167	072	107	072	106	Melrose Street	9	281.6	VCP	10.0	R		BP	03/19/20		City of Rockford	5
168	076	001	076	039	Gilbert Avenue	21	315.4	VCP	0.0		I/I		10/12/17	EST. PEAK FLOW - 0.72 MGD	City of Rockford	4
169	076	006	076	003	3427 Garfield Drive	8	300.1	VCP	8.0		I/I	BP	09/16/14		City of Rockford	4
170	076	049	076	054	Belden Street	21	331.4	VCP	2.0		I/I		10/13/17	EST. PEAK FLOW - 0.74 MGD	City of Rockford	4
171	076	60A	076	059A	3605 Liberty Dr	8	393.0	VCP	7.0	R	I/I	BP	06/15/21	SEE RECORD DWG VII_10	City of Rockford	4
172	077	050	077	049	3033 Lawndale Ave	8	215.3	VCP	1.0	R		BP	06/26/20		City of Rockford/IDOT	4
173	079	002	079	001	Williams Avenue	21	291.8	VCP	0.0		I/I		01/22/09	EST. PEAK FLOW - 0.79 MGD ; HEAVY I&I	City of Rockford/Easement	4
174	079	045	079	044	2308 Sauber Avenue	8	376.0	VCP	9.0	R			04/14/21		City of Rockford	4
175	082	049D	082	049A	5317 EAST DRIVE	8	272.9	VCP	7.0		I/I	BP	05/14/19	HEAVY I&I	City of Loves Park	5
176	085	017	085	018	Pepper Drive	8	267.7	VCP	3.0		I/I	BP	10/03/16		City of Rockford	6
177	085	020	085	019	4320 Crawford Dr	8	198.1	VCP	3.0		I/I	BP	06/10/16		City of Rockford	6
178	085	025	085	024	4420 Lori Drive	8	278.2	VCP	4.0		I/I	BP	01/23/17		City of Rockford	6
179	085	031	085	030	4422 Crawford Dr	8	169.2	VCP	1.0		I/I	BP	06/14/16		City of Rockford	6
180	085	060	085	059	3143 Talbot Trl	8	250.6	VCP	4.0		I/I	BP	01/09/17		City of Rockford	6
181	085	085	085	086	3305 Pecan Street	8	392.9	VCP	5.0		I/I	BP	01/06/17		City of Rockford	6
182	085	115	085	114	Eaton Drove	8	102.9	VCP	0.0		I/I	BP	01/20/17		City of Rockford	6
183	088	025	088	024	1520 Jonathan Avenue	8	294.6	VCP	5.0	R			02/17/21		City of Rockford	4
184	089	009	089	008	Belmont Blvd	8	212.8	VCP	8.0	R		BP	04/09/20		City of Rockford	1
185	089	068	089	067	1504 Notre Dame Rd	8	244.1	VCP	5.0	R		BP	11/13/20		City of Rockford	1
186	089	072	089	071	1716 Notre Dame Rd	8	264.4	VCP	9.0	R		BP	11/12/20		City of Rockford	1
187	090	030	090	029	Merrill Ave	8	327.9	VCP	12.0				08/09/21		City of Loves Park	2
188	093	056	093	003	5001 N 2ND ST	8	85.0	VCP	0.0		I/I	BP	08/09/19	RAILROAD; HEAVY I &I	Railroad	5
189	094	266	094	265	Lisa Drive	8	96.0	VCP	0.0		I/I	BP	01/10/03		City of Rockford	6

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2022-2023 SANITARY SEWER SYSTEM LINING
FRSA CAPITAL PROJECT NO. 2337
SECTION III - LINING LIST

ITEM No.	UP Basin	UP MH	DN Basin	DN MH	Location	Pipe Dia. (INCH)	Length (FT)	Existing Pipe Material	Service Reinstatements (EACH)	Roots (R)	Inflow/ Infiltration (I/I)	Broken Pipe or Cracks (BP)	Date Last TV'd	Notes	Roadway Jurisdiction	Area Map No.
190	095	033	095	032	328 E Riverside Blvd	8	424.0	VCP	10.0			BP	04/13/21		City of Loves Park	2
191	095	034	095	033	E Riverside Blvd	8	422.6	VCP	4.0			BP	04/13/21		City of Loves Park	2
192	097	049	097	048	6323 Elm Avenue	8	243.0	VCP	6.0	R			02/18/21		City of Loves Park	2
193	100	051C	100	051D	4623 CHESHIRE PL	8	191.4	VCP	1.0		I/I	BP	05/09/19		City of Loves Park	3
194	100	051K	100	051D	BUNKER HILL RD	8	235.2	VCP	4.0		I/I	BP	05/09/19		City of Loves Park	3
195	101	038	101	037	4215 Singleton Rd	8	340.6	VCP	3.0		I/I	BP	12/14/17		City of Rockford	6
196	102	015	102	014	3012 Oriental Court	8	239.7	VCP	3.0	R		BP	08/05/16		City of Rockford	13
197	103	007	103	004	4308 O'Connell Street	8	338.0	VCP	10.0	R		BP	03/01/12		City of Rockford	14
198	103	008	103	007	4214 O'Connell Street	8	340.0	VCP	10.0	R		BP	10/27/10		City of Rockford	14
199	103	148	103	147	Stenstrom Rd & Brick Dr	8	359.1	VCP	4.0	R		BP	01/27/21		City of Rockford	14
200	103	173	103	171	New England Drive & Patrick Place	8	136.4	VCP	1.0	R		BP	10/04/10		City of Rockford	14
201	103	182	103	181	(Easement)	8	73.0	VCP	0.0	R		BP	10/21/10		Easement	14
202	103	183	103	182	(Easement)	8	158.1	VCP	0.0	R		BP	10/22/10		Easement	14
203	103	184	103	183	(Easement)	8	245.1	VCP	1.0	R		BP	10/22/10		Easement	14
204	104	014	104	013	28th Avenue	12	400.3	VCP	4.0	R		BP	08/25/21	EST. PEAK FLOW - 0.57 MGD	City of Rockford	14
205	104	016	104	015	28th Avenue	12	402.8	VCP	4.0			BP	08/24/21	EST. PEAK FLOW - 0.57 MGD	City of Rockford	14
206	104	022	104	021	27th Avenue	8	400.0	VCP	4.0	R		BP	08/26/21		City of Rockford	14
207	104	024	104	021	3170 Forest View Rd	8	300.5	VCP	3.0	R		BP	08/26/21		City of Rockford	14
208	104	025	104	024	Forest View Rd	8	317.2	VCP	3.0	R		BP	08/26/21		City of Rockford	14
209	104	029	104	028	5107 26th Ave	8	399.9	VCP	3.0	R		BP	08/31/21		City of Rockford	14
210	106	095	106	096	4620 Longmeadow Lane	8	236.2	VCP	5.0	R	I/I	BP	11/04/13		City of Rockford	14
211	107	036	107	034	Gregwood Place (Easement)	8	327.0	VCP	6.0	R		BP	02/01/06	EASEMENT	Rockford Township/Easement	14
212	107	037	107	036	Gregwood Place (Easement)	8	220.0	VCP	2.0	R		BP	02/01/06	EASEMENT	Rockford Township/Easement	14
213	107	038	107	037	5006 Gregwood Place	8	180.8	VCP	1.0	R		BP	09/21/21		Rockford Township	14
214	107	039	107	038	Gregwood Place	8	95.0	VCP	1.0	R		BP	09/21/21	EASEMENT	Rockford Township/Easement	14
215	107	043	107	042	Gregwood Place (Easement)	8	391.0	VCP	7.0	R		BP	03/30/06	EASEMENT	Easement	14
216	107	048	107	046	Newburg Road (Easement)	8	98.0	VCP	0.0	R		BP	03/29/06	EASEMENT	Easement	14
217	107	055	107	054	Charlotte Drive	8	235.0	VCP	5.0	R		BP	02/09/06		City of Rockford	14
218	107	056	107	055	Charlotte Drive	8	361.0	VCP	7.0	R		BP	02/09/06		City of Rockford	14
219	107	057	107	056	Village Court	8	280.8	VCP	3.0	R			09/24/21		City of Rockford	14
220	107	058	107	057	Village Court	8	299.0	VCP	7.0	R		BP	02/09/06		City of Rockford	14
221	107	065	107	064	5121 Forest View Ave	8	359.2	VCP	5.0	R		BP	09/22/21		City of Rockford	14
222	107	091	107	045	7422 Sovereign Blvd	8	407.1	VCP	4.0	R		BP	09/22/21		Rockford Township	14
223	108	010	108	009	Sequoia Road	8	302.0	VCP	3.0	R		BP	11/19/14		City of Rockford	11
224	108	019	108	012	Sequoia Rd	8	245.2	VCP	2.0	R		BP	03/08/17		City of Rockford	11
225	108	020	108	019	Crescent Dr	8	214.8	VCP	2.0	R		BP	03/07/17		City of Rockford	11
226	108	032	108	031	Lanewood Drive	8	250.0	VCP	2.0	R		BP	03/02/17		City of Rockford	11
227	108	054	108	051	4616 Edgewood Hills Dr	8	287.7	VCP	3.0	R		BP	03/07/17		City of Rockford	11
228	109	013	109	012	Brendenwood Terrace & Manheim Road	8	194.0	VCP	3.0	R		BP	11/07/05		City of Rockford	11
229	109	029	109	028	4727 Manheim Road	8	175.5	VCP	2.0	R		BP	06/14/06	EASEMENT	City of Rockford/Easement	11
230	109	059	109	058	(Easement)	12	198.0	VCP	0.0		I/I	BP	08/18/06	EST. PEAK FLOW - 1.57 MGD; EASEMENT	Easement	11
231	109	093	109	092	Woodridge Drive	8	139.0	VCP	1.0	R		BP	07/31/06		City of Rockford	11
232	109	094	109	093	Woodridge Drive & Woodridge Court	8	252.0	VCP	6.0	R		BP	07/31/06		City of Rockford	11
233	110	044	110	039	Gramercy Drive	8	124.0	VCP	0.0	R			07/28/21	EASEMENT	City of Rockford/Easement	11
234	110	047	110	044	Gramercy Drive	8	160.2	VCP	0.0	R		BP	07/27/21		City of Rockford	11
235	110	048	110	047	Gramercy Drive	8	93.0	VCP	0.0	R		BP	07/28/21	EASEMENT	City of Rockford/Easement	11
236	110	055	110	052	Gramercy Drive	8	191.0	VCP	0.0			BP	07/27/21		City of Rockford	11

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ITEM No.	UP Basin	UP MH	DN Basin	DN MH	Location	Pipe Dia. (INCH)	Length (FT)	Existing Pipe Material	Service Reinstatements (EACH)	Roots (R)	Inflow/ Infiltration (I/I)	Broken Pipe or Cracks (BP)	Date Last TV'd	Notes	Roadway Jurisdiction	Area Map No.
237	110	059	110	055	Gramercy Drive	8	156.0	VCP	0.0	R		BP	07/27/21		City of Rockford	11
238	110	078	110	077	5619 Elaine Dr	8	307.9	VCP	7.0	R	I/I	BP	07/23/21		City of Rockford	11
239	110	079	110	078	5649 Elaine Dr	8	331.3	VCP	8.0	R	I/I	BP	07/23/21		City of Rockford	11
240	110	083	110	077	Arnold Avenue	8	305.0	VCP	3.0	R		BP	12/02/10		City of Rockford	11
241	112	035	112	033	807 Bluecrest Dr	8	198.4	VCP	0.0	R		BP	09/17/20		City of Rockford	11
242	113	031	113	020	LA Cumbre Lane	8	330.8	VCP	6.0	R		BP	06/08/05		Rockford Township	11
243	113	036	113	035	5701 LA Cumbre Lane	8	164.0	VCP	2.0	R		BP	06/06/05		Rockford Township	11
244	114	055	114	054	707 Nassau Pkwy	8	220.5	VCP	3.0	R		BP	07/30/21		Rockford Township	11
245	114	056	114	055	5865 Inverness Dr	8	233.0	VCP	2.0	R		BP	07/30/21		Rockford Township	11
246	114	083	114	082	St Andrews Way	8	300.0	VCP	7.0	R		BP	08/18/21		Rockford Township	11
247	114	085	114	084	1011 St Andrews Way	8	315.0	VCP	6.0	R		BP	08/18/21		Rockford Township	11
248	117	029	117	028	1810 Jonquil Cir	8	410.9	VCP	5.0	R	I/I		08/02/21		City of Rockford	6
249	117	030	117	029	1831 Jonquil Cir	8	170.8	VCP	0.0		I/I	BP	08/03/21		City of Rockford	6
250	117	032	117	028	2193 Jonquil Place	8	395.0	VCP	6.0	R		BP	03/06/13		City of Rockford	6
251	117	036	117	035	Jonquil Place	8	238.0	VCP	6.0	R		BP	09/19/05		City of Rockford	6
252	117	037	117	036	Jonquil Place & Sweetbriar Drive	8	363.0	VCP	7.0	R		BP	09/19/05		City of Rockford	6
253	117	041	117	040	Jonquil Place & Ponderosa Drive	8	305.0	VCP	6.0		I/I	BP	03/21/17		City of Rockford	6
254	117	051	117	050	Silverthorn Drive	8	400.0	VCP	7.0	R		BP	03/21/17		City of Rockford	6
255	117	054	117	053	Honeysuckle Drive	8	91.7	VCP	2.0		I/I	BP	08/03/21		City of Rockford	6
256	117	055	117	054	1877 Honeysuckle Drive	8	130.9	VCP	1.0		I/I	BP	08/03/21		City of Rockford	6
257	117	061	117	023	Taliesen Lane	8	403.0	VCP	7.0	R		BP	09/22/05		Rockford Township	6
258	117	066	117	064	2112 Balmoral Pl	8	216.7	VCP	1.0		I/I	BP	10/22/20		City of Rockford	6
259	118	005	118	004	4414 Berkshire Clos	8	197.4	VCP	2.0		I/I	BP	08/30/17		City of Rockford	6
260	118	006	118	005	4405 Berkshire Clos	8	199.0	VCP	2.0		I/I	BP	08/30/17		City of Rockford	6
261	118	034	118	033	Spring Creek Road	8	323.6	VCP	3.0	R		BP	09/13/17		City of Rockford	6
262	118	083	118	004	Alpine Road	8	192.4	VCP	0.0	R	I/I	BP	09/19/17	TRAFFIC CONTROL	City of Rockford	6
263	119	010	119	009	4531 Sunderman Road	8	233.0	VCP	5.0		I/I	BP	02/04/11		City of Rockford	6
264	119	011	119	010	2892 Southbridge Road	8	260.0	VCP	3.0	R		BP	02/04/11		City of Rockford	6
265	119	066	119	065	Soland Drive	8	65.0	VCP	1.0		I/I	BP	08/17/17		City of Rockford	6
266	119	090	119	091	2671 Melody Ln	8	210.6	VCP	1.0		I/I	BP	08/21/20		City of Rockford	6
267	120	010	120	002	3044 Imperial Oaks Drive	8	228.1	VCP	2.0		I/I	BP	06/02/21		City of Rockford	6
268	120	029	120	028	Montlake Drive	8	260.0	VCP	6.0	R		BP	11/26/13		City of Rockford	6
269	120	041	120	040	5641 Weymouth Drive	8	115.5	VCP	2.0		I/I	BP	12/20/16		City of Rockford	6
270	120	051	120	050	Conover Drive	8	301.5	VCP	6.0	R		BP	12/27/16		City of Rockford	6
271	120	065	120	064	3055 Spring Lake Drive	8	226.9	VCP	3.0		I/I	BP	01/30/17		City of Rockford	6
272	120	076	120	075	Weymouth Drive	8	183.7	VCP	1.0	R		BP	12/29/16		City of Rockford	6
273	120	126	120	125	Creekside Ct	8	71.3	VCP	0.0	R		BP	02/17/17	EASEMENT	Easement	6
274	121	119	121	046	4905 Pepper Drive	8	305.3	VCP	4.0		I/I	BP	11/12/15		City of Rockford	6
275	122	038	122	037	Windsor Road	8	194.9	VCP	2.0	R		BP	11/21/12		City of Loves Park	2
276	125	022	125	021	2615 Boylan Court	8	282.0	VCP	2.0	R		BP	03/16/10	EASEMENT	City of Rockford/Easement	8
277	126	033	126	032	4110 Florence Avenue	8	200.0	VCP	1.0	R		BP	04/09/18		Rockford Township	8
278	126	057	126	055	Woodrow Street	8	324.5	VCP	7.0	R		BP	08/24/18		Rockford Township	8
279	126	058	126	057	Woodrow Street	8	330.4	VCP	9.0	R		BP	04/05/18		Rockford Township	8
280	126	071	126	070	State Street (Easement)	8	352.0	VCP	0.0	R		BP	08/27/03	EASEMENT	Easement	8
281	126	074	126	073	405 Monroe Street	8	104.7	VCP	2.0	R		BP	03/21/17		Rockford Township	8
282	126	046E	126	046D	306 Daisyfield Road	8	284.2	VCP	3.0	R		BP	04/04/18		City of Rockford	8
283	127	005	127	004	416 Soper Avenue	8	207.6	VCP	2.0	R		BP	09/05/18		City of Rockford	8
284	127	008	127	007	308 Soper Avenue	8	160.6	VCP	6.0	R		BP	09/05/18		City of Rockford	8

Not to be used for bidding purposes

2022-2023 SANITARY SEWER SYSTEM LINING
FRSA CAPITAL PROJECT NO. 2337
SECTION III - LINING LIST

ITEM No.	UP Basin	UP MH	DN Basin	DN MH	Location	Pipe Dia. (INCH)	Length (FT)	Existing Pipe Material	Service Reinstatements (EACH)	Roots (R)	Inflow/ Infiltration (I/I)	Broken Pipe or Cracks (BP)	Date Last TV'd	Notes	Roadway Jurisdiction	Area Map No.
285	127	035	127	034	Jefferson Street	8	133.0	VCP	1.0	R		BP	09/21/18		City of Rockford	8
286	127	070	127	069	312 Willard Avenue	8	282.2	VCP	5.0	R		BP	07/12/13		City of Rockford	8
287	127	071	127	070	202 Willard Avenue	8	283.6	VCP	10.0	R		BP	07/12/13		City of Rockford	8
288	127	081	127	080	Carbaugh Avenue	8	211.5	VCP	4.0	R		BP	09/19/18		City of Rockford	8
289	127	082	127	081	Carbaugh Avenue	8	222.9	VCP	5.0	R		BP	09/19/18		City of Rockford	8
290	127	085	127	084	201 N. Pierpont Avenue	8	258.0	VCP	5.0	R		BP	09/19/18		City of Rockford	8
291	128	020	128	019	1916 Jamestown Drive	8	119.9	VCP	2.0	R		BP	08/22/17		City of Rockford	16
292	128	034	128	033	1920 Jamestown Drive	8	299.4	VCP	6.0	R		BP	08/18/17		City of Rockford	16
293	128	039	128	038	3401 ED-Vera Drive	8	267.9	VCP	8.0	R		BP	08/22/17		City of Rockford	16
294	128	074	128	075	20th Street	8	280.0	VCP	1.0	R		BP	07/09/13		City of Rockford	13
295	128	079	128	075	20th Street	8	354.8	VCP	6.0	R		BP	10/26/12		City of Rockford	13
296	128	080	128	079	3017 20th Street	8	398.9	VCP	6.0	R		BP	07/09/13		City of Rockford	13
297	128	082	128	074	3217 20th Street	8	299.2	VCP	1.0	R		BP	04/15/13		City of Rockford	13
298	128	083	128	082	20th Street	8	333.8	VCP	0.0	R		BP	07/09/13		City of Rockford	13
299	129	033	129	032	2402 Gateway Road	8	299.5	VCP	0.0	R		BP	10/03/11	EASEMENT	City of Rockford/Easement	16
300	131	116	131	114	5151 8th Street	8	131.0	VCP	0.0	R		BP	09/21/11	EASEMENT	Easement	16
301	133	039	133	033	421 Hemlock Ln	8	370.8	VCP	5.0		I/I	BP	02/19/20		City of Rockford	11
302	133	045	133	044	716 HEMLOCK LN	8	245.6	VCP	5.0	R		BP	01/08/20		City of Rockford	11
303	133	046	133	045	810 Hemlock Lane	8	244.7	VCP	5.0	R		BP	01/08/19		City of Rockford	11
304	133	050	133	049	3841 Sunrise Ln	8	339.9	VCP	7.0		I/I	BP	02/03/20		City of Rockford	11
305	133	055	133	055A	207 Wood Road	8	254.0	VCP	1.0		I/I	BP	01/10/14	EASEMENT	City of Rockford/Easement	11
306	133	057	133	056	311 Wood Road	8	250.3	VCP	3.0	R		BP	01/09/14		City of Rockford	11
307	133	068	133	022	522 Wood Road	8	120.7	VCP	2.0	R		BP	05/03/17		City of Rockford	11
308	133	072	133	071	Rural Street	8	230.0	VCP	2.0	R		BP	06/29/06		City of Rockford	11
309	133	083	133	079	Guilford Road & Sterling Drive	8	277.4	VCP	2.0	R		BP	03/02/20		City of Rockford	11
310	133	089	133	088	4132 Guilford Road	8	201.0	VCP	3.0	R		BP	03/02/20		City of Rockford	11
311	133	113	133	024C	Morsay Drive	10	55.0	VCP	0.0		I/I		08/19/21	EASEMENT	City of Rockford/Easement	11
312	133	114	133	115	Morsay Drive - Parking Lot	12	163.0	VCP	1.0		I/I	BP	08/23/21	EST. PEAK FLOW - 0.01 MGD; EASEMENT; I&I	Easement	11
313	133	115	133	136	Morsay Drive - Parking Lot	12	76.2	VCP	1.0		I/I	BP	08/23/21	EST. PEAK FLOW - 0.01 MGD; EASEMENT; I&I	Easement	11
314	133	055B	133	055C	Morsay Dr	10	331.6	VCP	1.0		I/I	BP	08/23/21	EASEMENT	Easement	11
315	133	085A	133	084	Sterling Drive & Abbotsford Road	8	287.0	VCP	6.0	R		BP	11/11/09		City of Rockford	11
316	134	006	134	005	Starkweather Road	8	115.0	VCP	1.0	R		BP	11/19/04	EASEMENT	Easement	5
317	134	007	134	006	1704 Starkweather Road	8	237.6	VCP	1.0	R				EASEMENT	City of Rockford/ Easement	5
318	134	018	134	007	Starkweather Road	8	233.1	VCP	1.0		I/I	BP	03/21/11		City of Rockford	5
319	134	019	134	018	2009 Orchard Road	8	167.3	VCP	3.0		I/I	BP	03/21/11		City of Rockford	5
320	134	020	134	019	1918 Orchard Road	8	130.5	VCP	2.0	R		BP	03/21/11		City of Rockford	5
321	134	025	134	024	Old Orchard Road	8	111.0	VCP	1.0	R		BP	11/22/04		City of Rockford	5
322	134	026	134	025	Old Orchard Road	8	150.0	VCP	2.0	R		BP	11/22/04		City of Rockford	5
323	134	032	134	031	2227 Carmella Court	8	207.1	VCP	4.0		I/I	BP	03/23/16		City of Rockford	5
324	134	034	134	032	Carmella Court	8	278.0	VCP	3.0	R	I/I	BP	11/22/04	EASEMENT	City of Rockford/Easement	5
325	134	042	134	017	Easement - Spring Creek Road	8	125.9	UNK	0.0					NO TV REPORT; EASEMENT	Easement	5
326	134	043	134	042	Easement - Spring Creek Road	8	200.0	VCP	1.0	R	I/I	BP	11/23/09	EASEMENT; HEAVY I&I	Easement	5
327	135	005	135	004	2122 BRADLEY RD	8	142.8	VCP	4.0		I/I	BP	11/04/19	HEAVY I&I	City of Rockford	5
328	135	021	135	044	1814 Kings Hwy	8	172.6	VCP	0.0					EASEMENT	Cify of Rockford/Easement	5
329	135	022	135	021	1912 Kings Hwy	8	283.4	VCP	4.0	R		BP	11/08/19		City of Rockford	5
330	135	029	135	028	1729 OLD WOOD RD	8	113.8	VCP	0.0	R		BP	11/06/19	EASEMENT	Easement	5

Not to be used for bidding purposes

2022-2023 SANITARY SEWER SYSTEM LINING
FRSA CAPITAL PROJECT NO. 2337
SECTION III - LINING LIST

ITEM No.	UP Basin	UP MH	DN Basin	DN MH	Location	Pipe Dia. (INCH)	Length (FT)	Existing Pipe Material	Service Reinstatements (EACH)	Roots (R)	Inflow/ Infiltration (I/I)	Broken Pipe or Cracks (BP)	Date Last TV'd	Notes	Roadway Jurisdiction	Area Map No.
331	135	044	135	020	1815 Stratford Ln	10	150.6	VCP	1.0					EASEMENT	City of Rockford/ Easement	5
332	135	054	135	049A	3510 HIGHCREST RD	8	311.0	VCP	4.0	R		BP	11/14/19		City of Rockford	5
333	135	069	135	049	HIGHCREST RD	8	152.6	VCP	3.0	R		BP	11/18/19		City of Rockford	5
334	135	091	135	090	1903 BRADLEY RD	8	228.6	VCP	4.0		I/I	BP	09/20/19		City of Rockford	5
335	141	020	141	019	Marlin Drive	8	407.0	VCP	2.0				11/22/17	EASEMENT	Easement	17
336	144	141	144	140	5755 Alma Drive	8	302.0	VCP	7.0	R		BP	10/25/12		City of Rockford	11
337	151	035	151	033	Hubbard Lane	8	317.0	VCP	6.0	R	I/I	BP	09/21/04		City of Rockford	7
338	156	046	156	176	Bell School Road	8	84.5	VCP	0.0		I/I	BP	12/10/20		Village of Cherry Valley	15
339	156	095	156	094	Harrison Avenue (Easement)	8	390.0	VCP	0.0	R	I/I	BP	04/06/10	EASEMENT	Village of Cherry Valley/Easement	15
340	156	124	156	123	Salem Street	8	374.1	VCP	3.0	R		BP	04/17/19	EASEMENT	Village of Cherry Valley/Easement	15
341	156	130	156	129	418 Camp St	8	207.1	VCP	2.0	R			04/16/19		Village of Cherry Valley	15
342	157	054	157	053	(Easement)	8	252.0	VCP	1.0	R		BP	08/18/05		Village of Cherry Valley	15
343	163	009	163	005	2412 Holmes Street	8	129.7	VCP	1.0		I/I	BP	06/14/10		City of Rockford	14
344	163	081	163	080	2320 Evanston Drive	8	169.0	VCP	4.0	R		BP	06/14/10		City of Rockford	14

DENOTES ITEMS REQUIRING PIPE REPAIR (BY OTHERS). NO WORK SHALL BEGIN ON THESE ITEMS UNTIL NOTIFICATION IS PROVIDED BY FRSA. ALL REPAIRS WILL BE COMPLETED PRIOR TO 10/31/22.

DENOTES ITEMS WITH HEAVY I&I NOTED MAY REQUIRE CHEMICAL GROUTING TO MITIGATE I&I PRIOR TO LINING, SEE ARTICLE 3, PART 9.

1. DEFECTS INDICATED (I/I, R, BP) DO NOT NECESSARILY REFLECT CURRENT PIPE CONDITIONS OR RELEIVE THE CONTRACTOR FROM THEIR RESPONSIBILITY TO INSPECT THE SEWERS PRIOR TO LINING AND DETERMINE SUITABILITY TO LINE IN ACCORDANCE WITH CONTRACT DOCUMENTS.
2. ESTIMATED PEAK FLOW PROVIDED FOR 12" DIAMETER AND LARGER SEWERS IS BASED ON IEPA SWMM V 5.0 MODEL OF THE FRSA COLLECTION SYTEM WHICH PREDICTS FLOW DURING A 10-YR RAIN E\

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Section IV

Lining Area Maps

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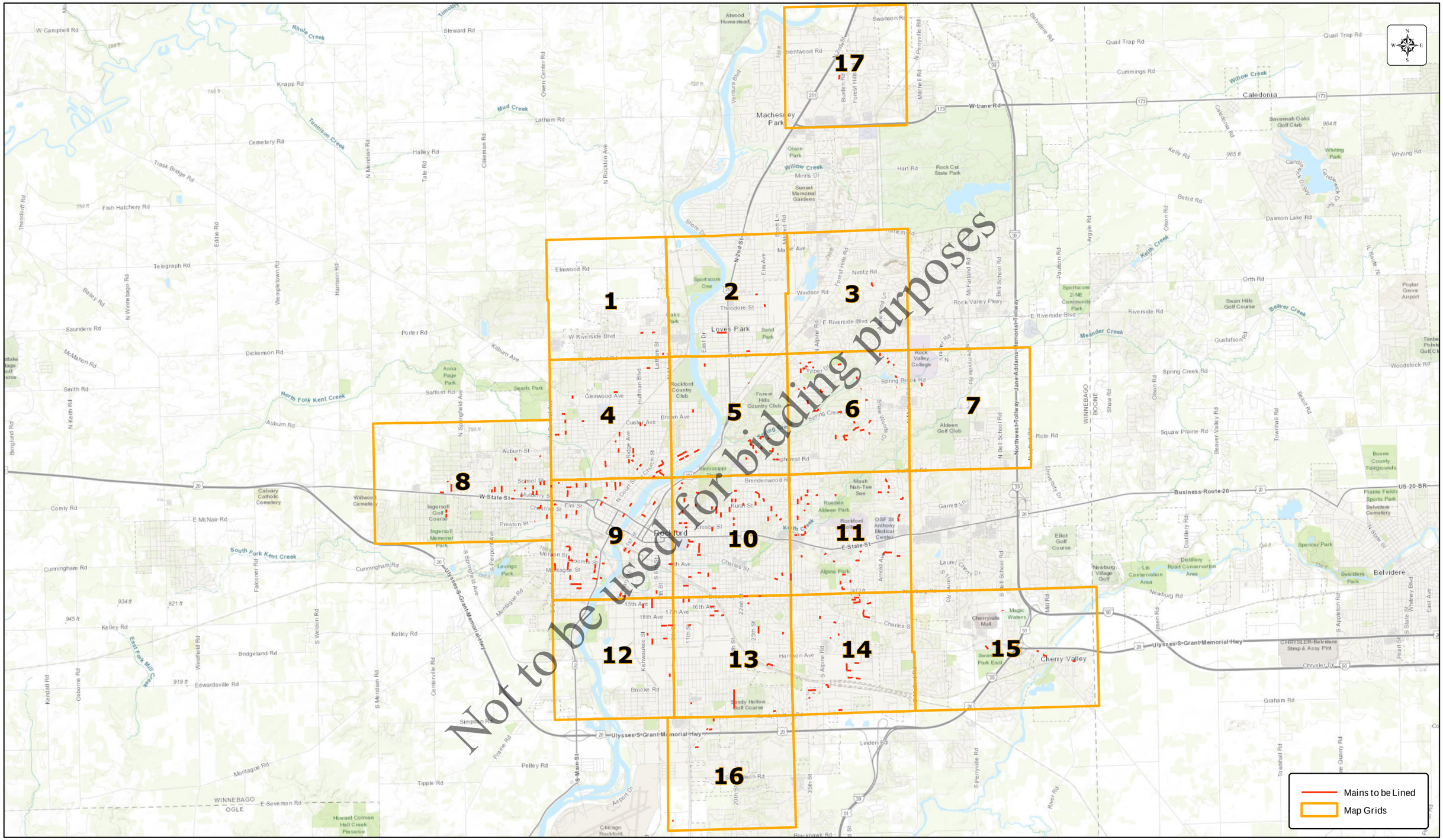
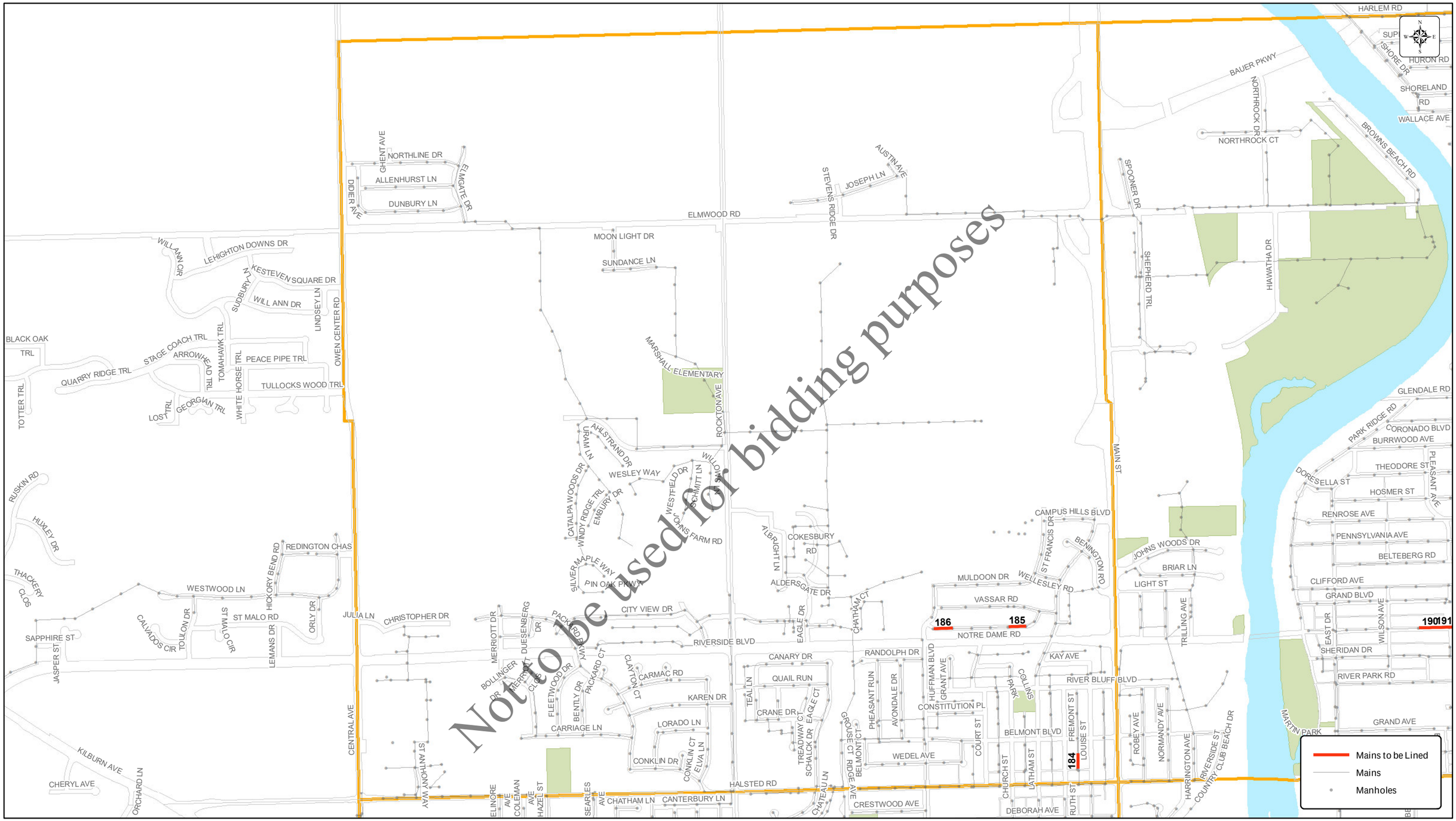


Four Rivers
Sanitation Authority

Map Grid Locations

Capital Project #2337

By: JK
Produced: 2/22/2022
FRSA Engineering Department



Four Rivers Sanitation Authority

Map #1

Capital Project #2337

By: JK
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FRSA Engineering Department

Four Rivers
Sanitation Authority

Map #2

Capital Project #2337

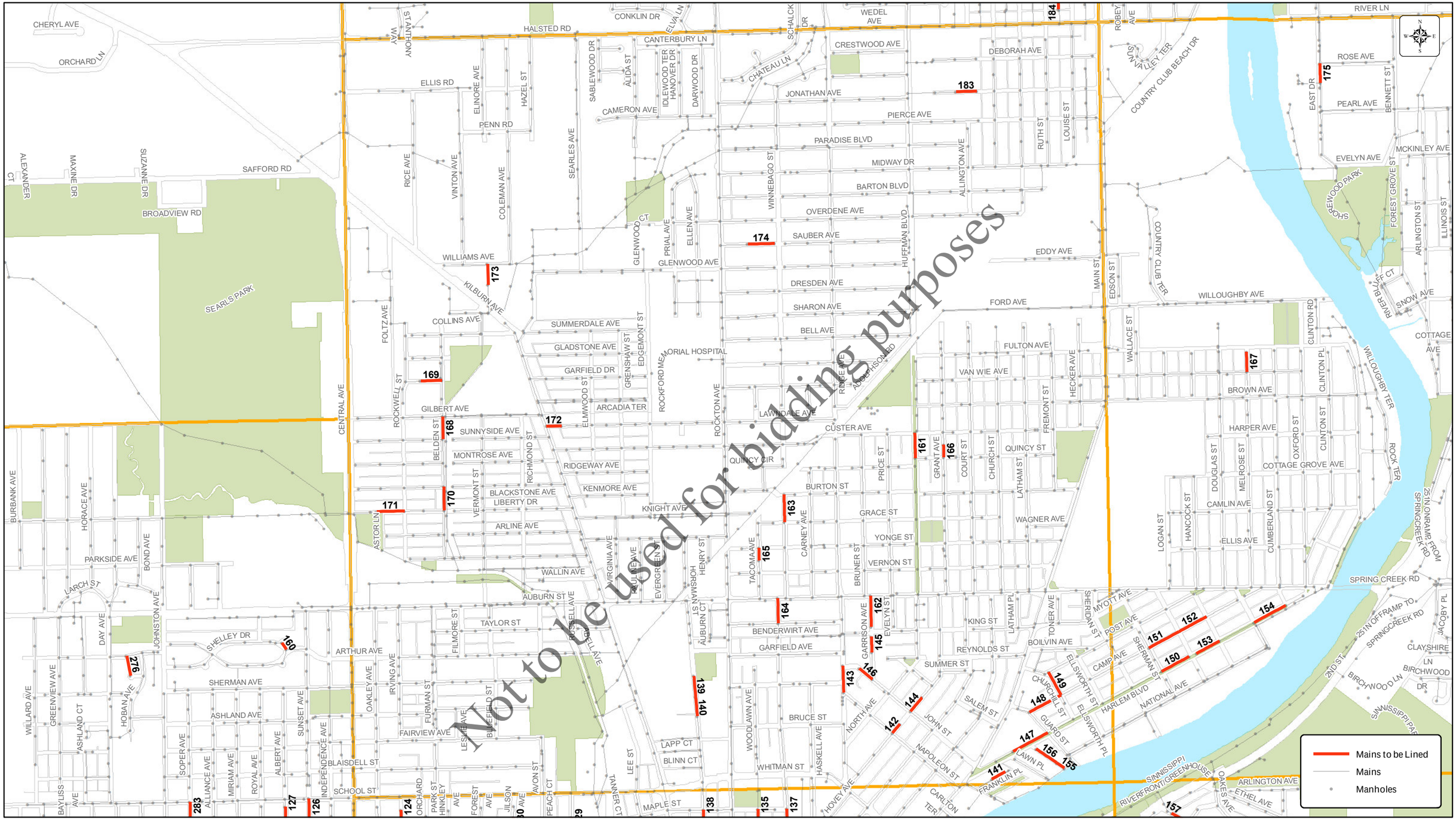
By: JK
Produced: 2/22/2022
FRSA Engineering Department

Four Rivers Sanitation Authority

Map #3

Capital Project #2337

By: JK
Produced: 2/22/2022
FRSA Engineering Department

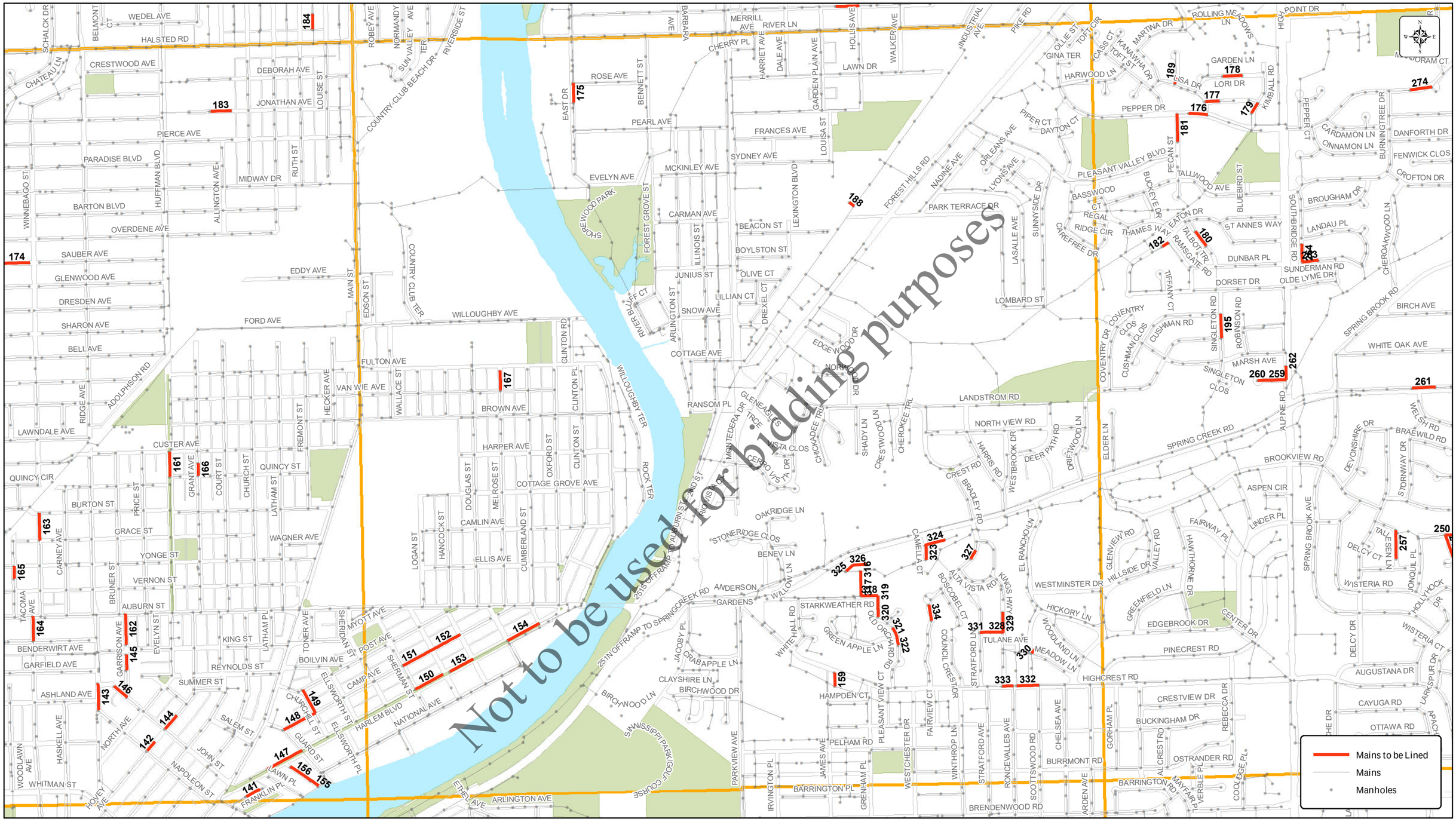


Map #4

Capital Project #2337

Four Rivers Sanitation Authority

By: JK
Produced: 2/22/2022
FRSA Engineering Department

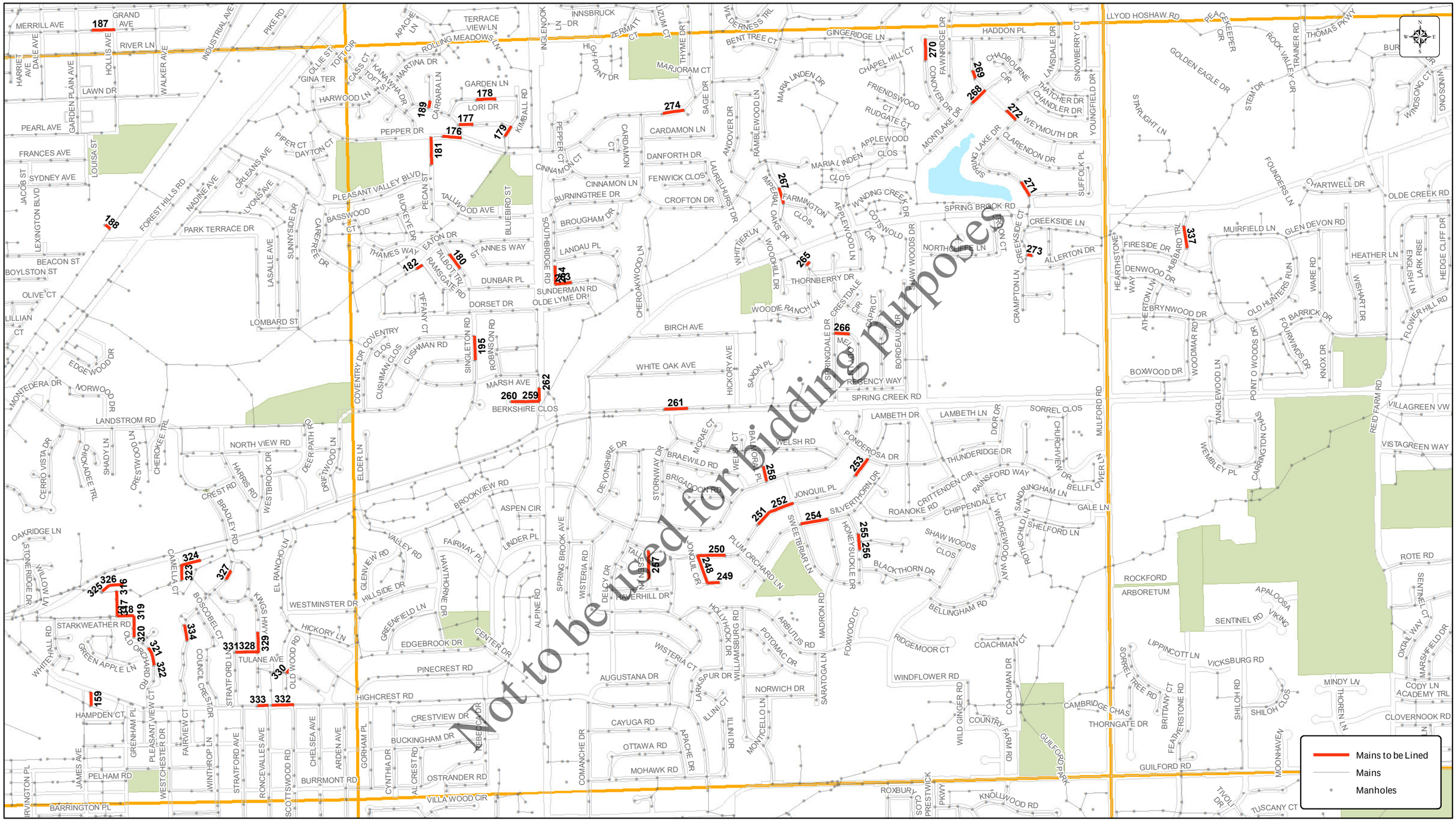


Four Rivers
Sanitation Authority

Map #5

Capital Project #2337

By: JK
Produced: 2/22/2022
FRSA Engineering Department

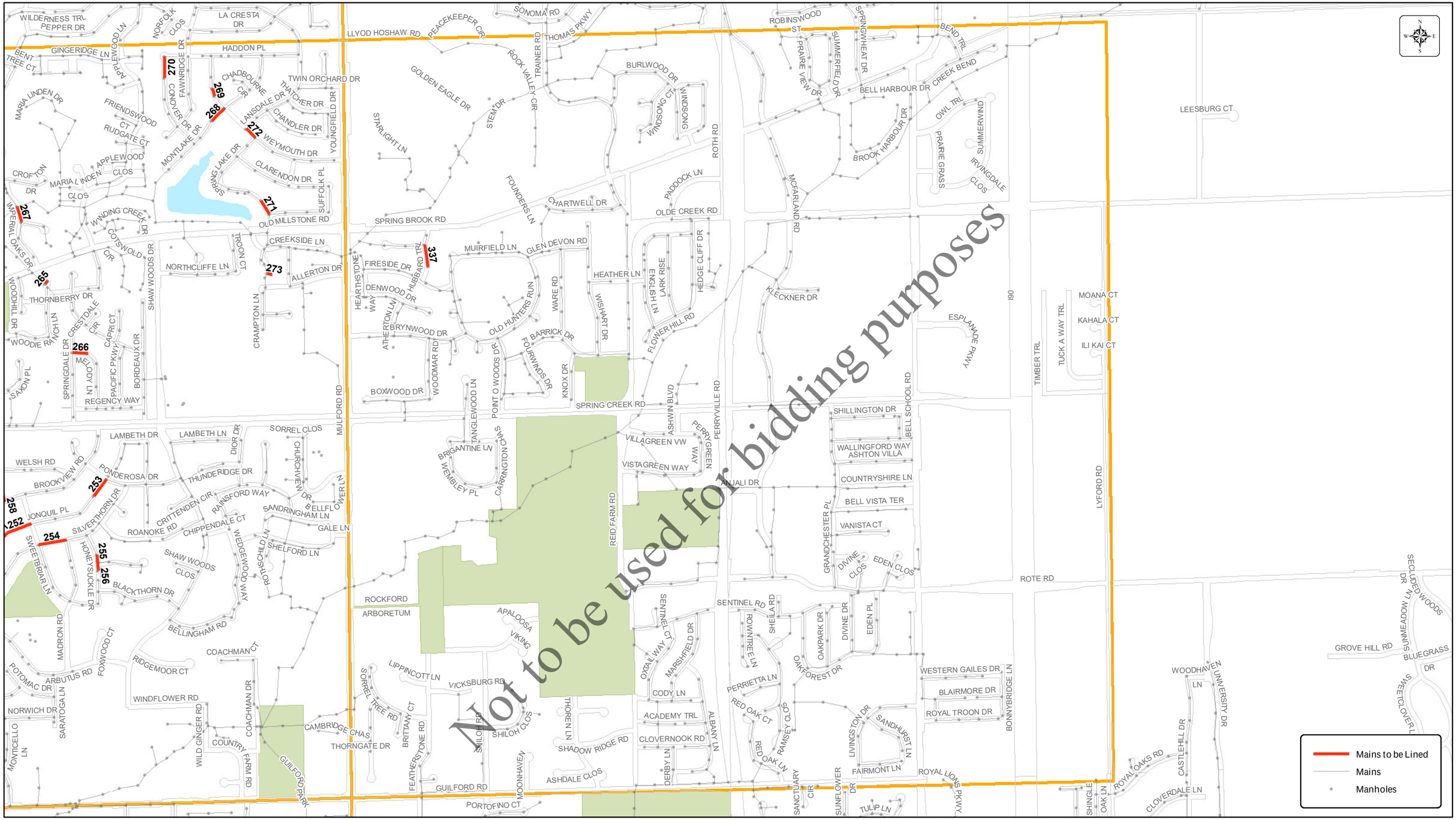


Four Rivers
Sanitation Authority

Map #6

Capital Project #2337

By: JK
Produced: 2/22/2022
FRSA Engineering Department

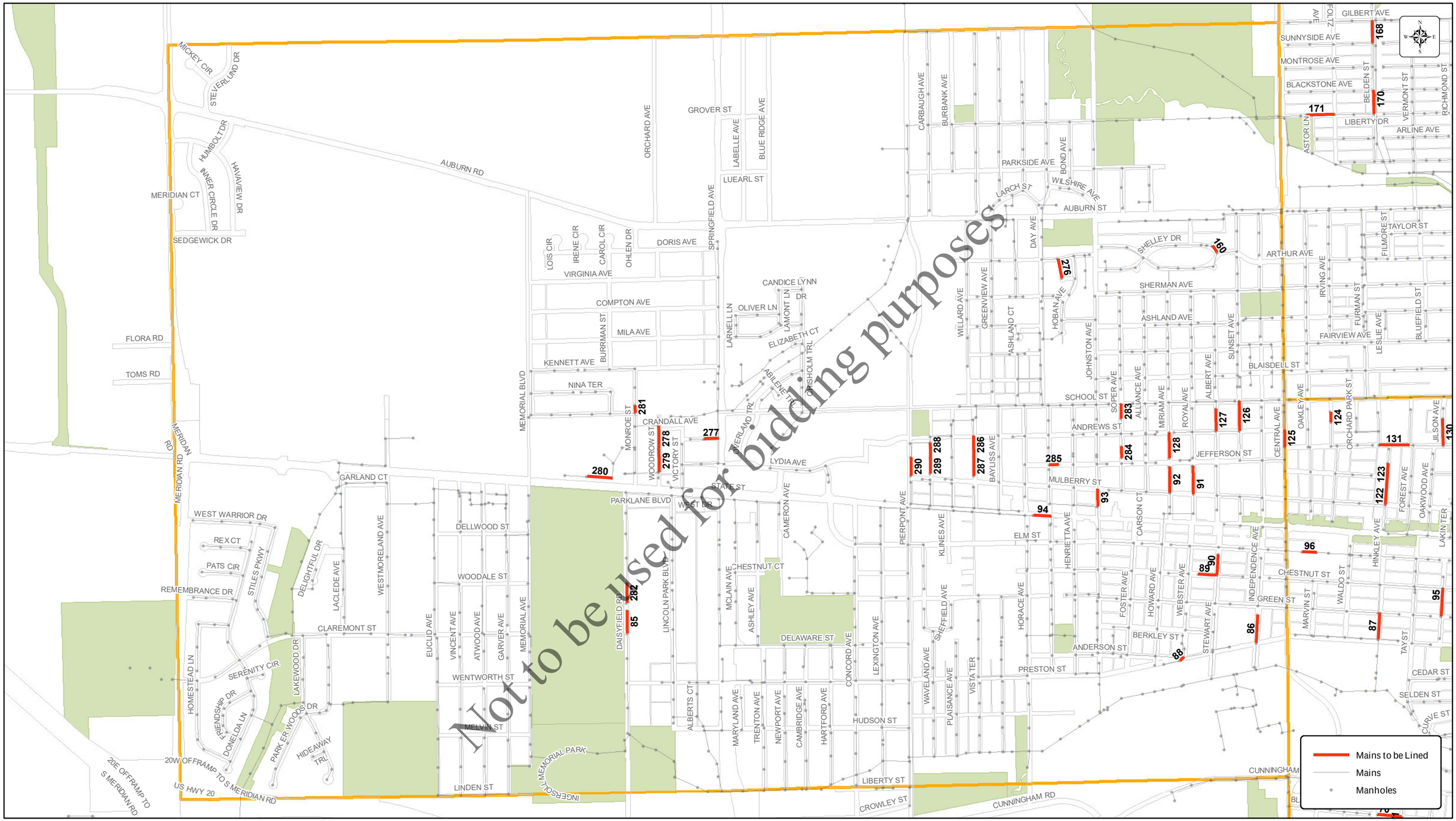


Four Rivers Sanitation Authority

Map #7

Capital Project #2337

By: JK
Produced: 2/22/2022
FRSA Engineering Department

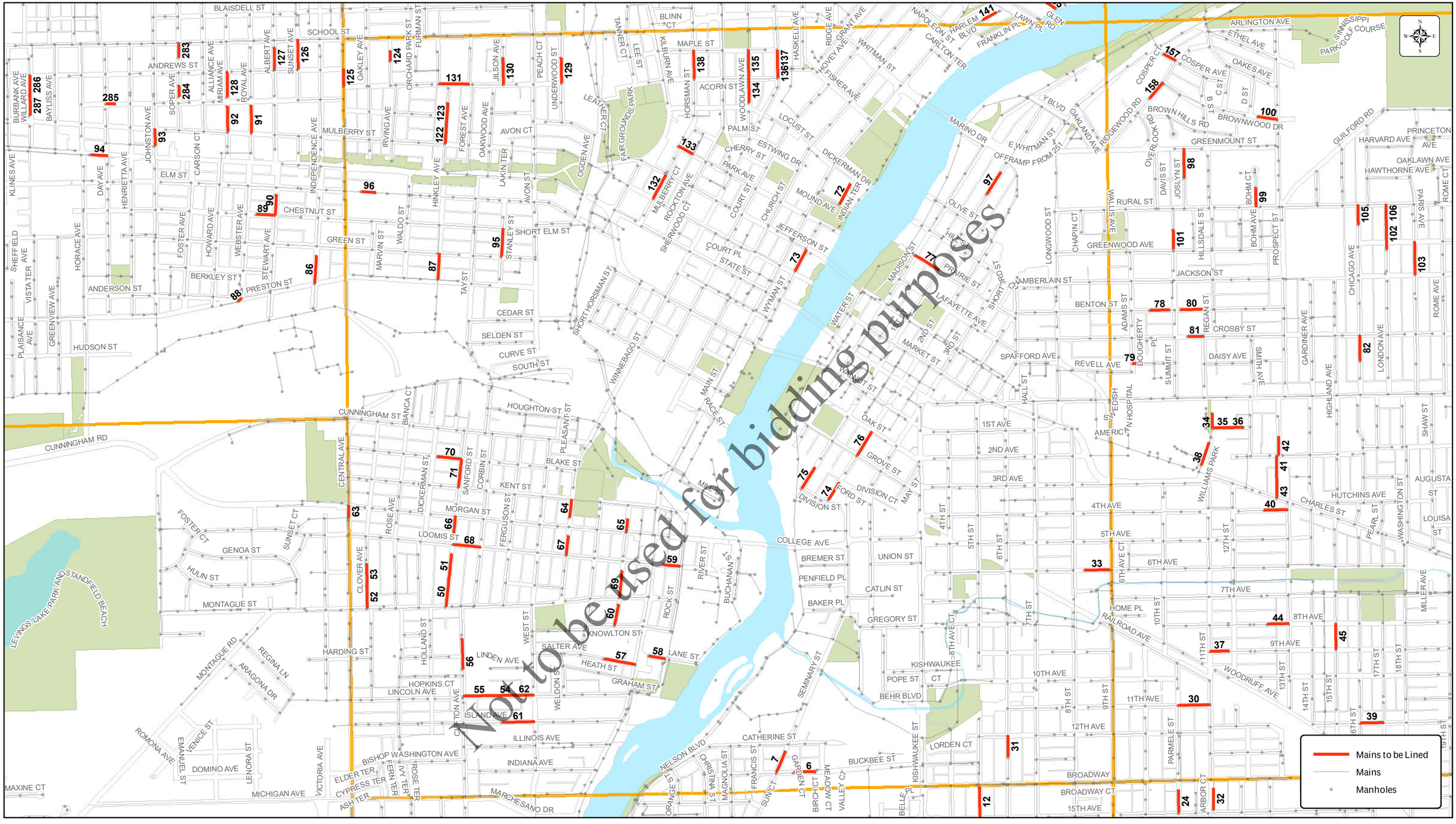


Four Rivers
Sanitation Authority

Map #8

Capital Project #2337

By: JK
Produced: 2/22/2022
FRSA Engineering Department



Four Rivers
Sanitation Authority

Map #9

Capital Project #2337

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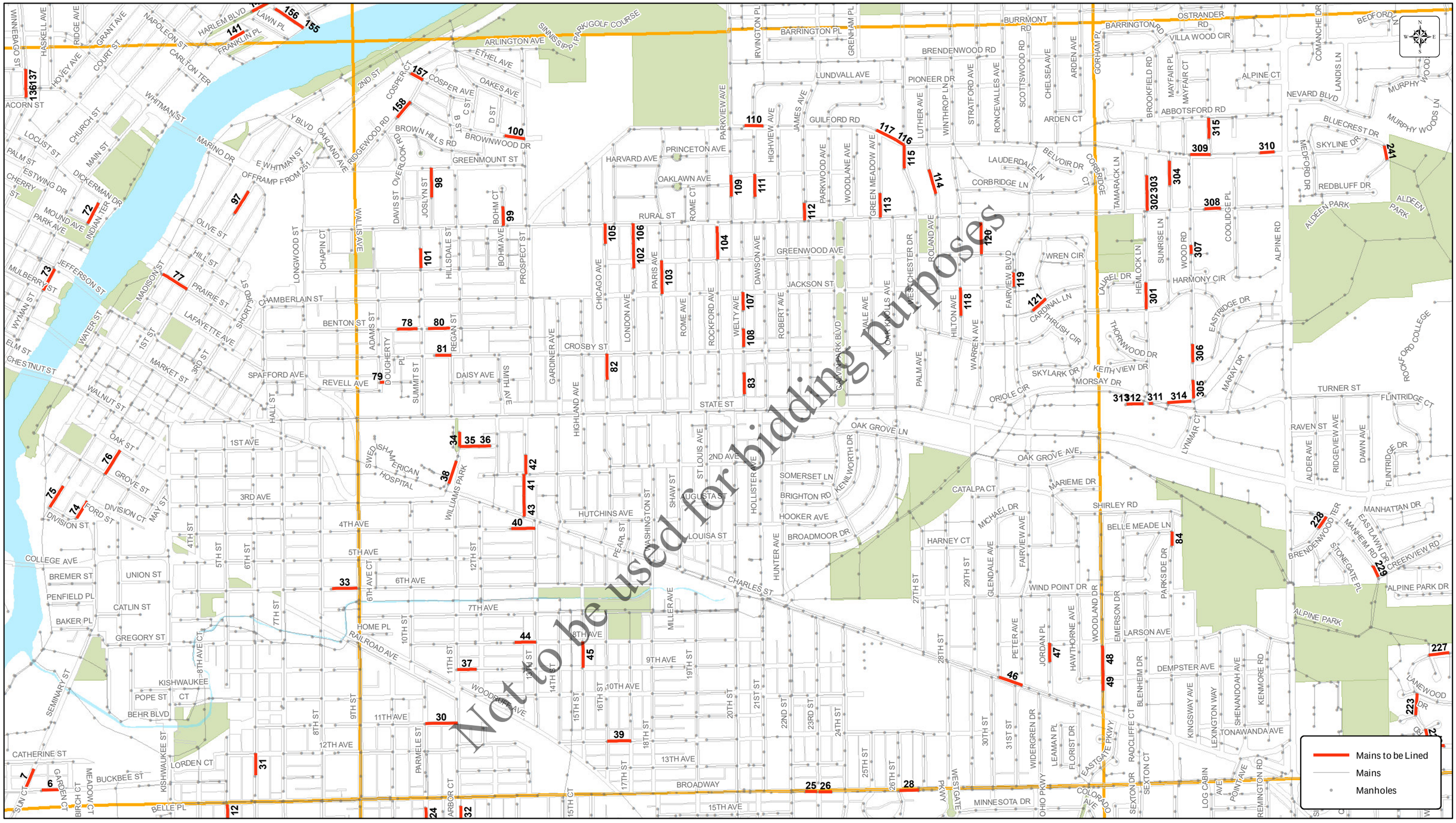
FRSA Engineering Department



Four Rivers
Sanitation Authority

Map #10

Capital Project #2337

By: JK
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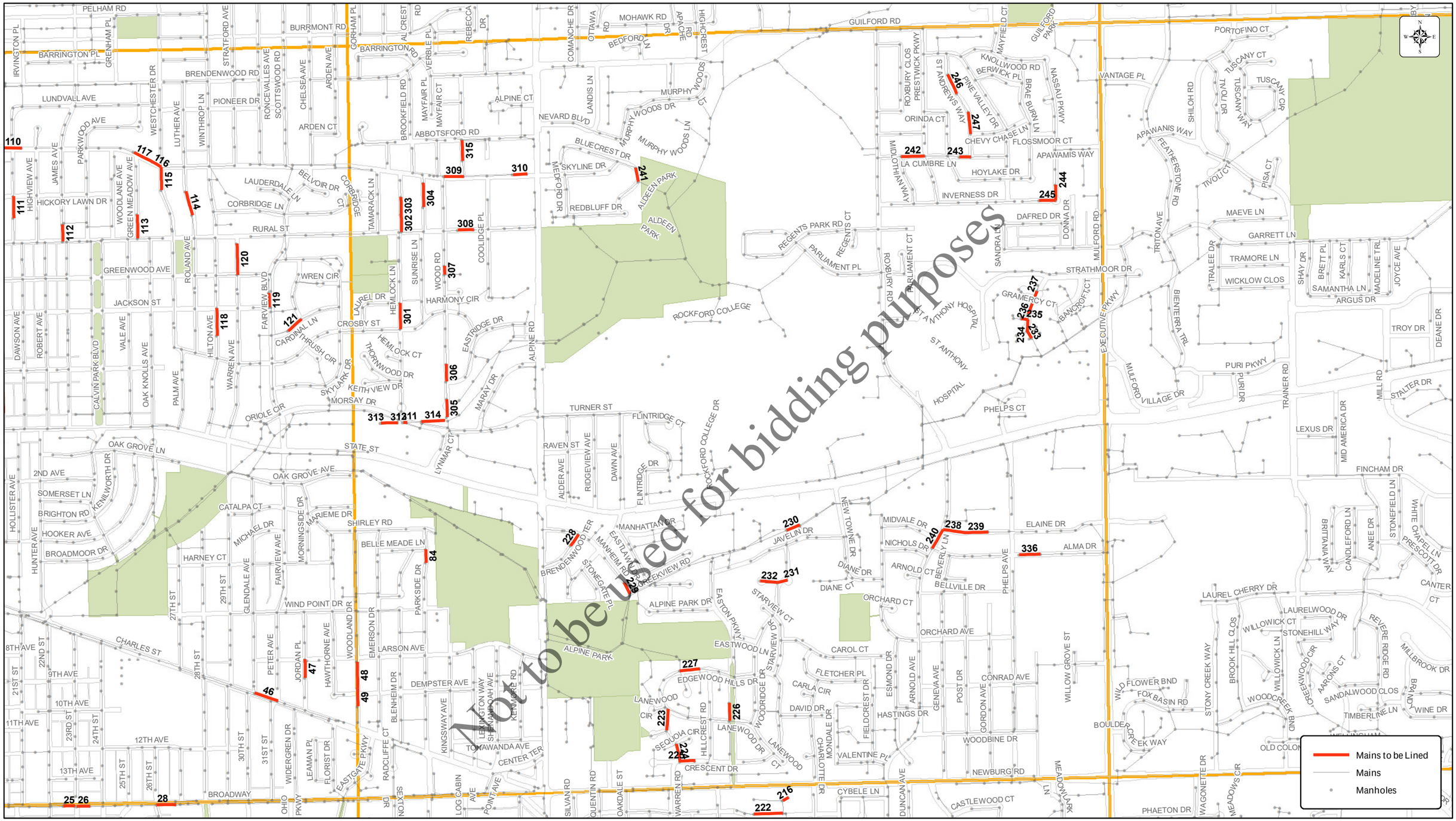
FRSA Engineering Department



Four Rivers
Sanitation Authority

Map #11

Capital Project #2337

By: JK
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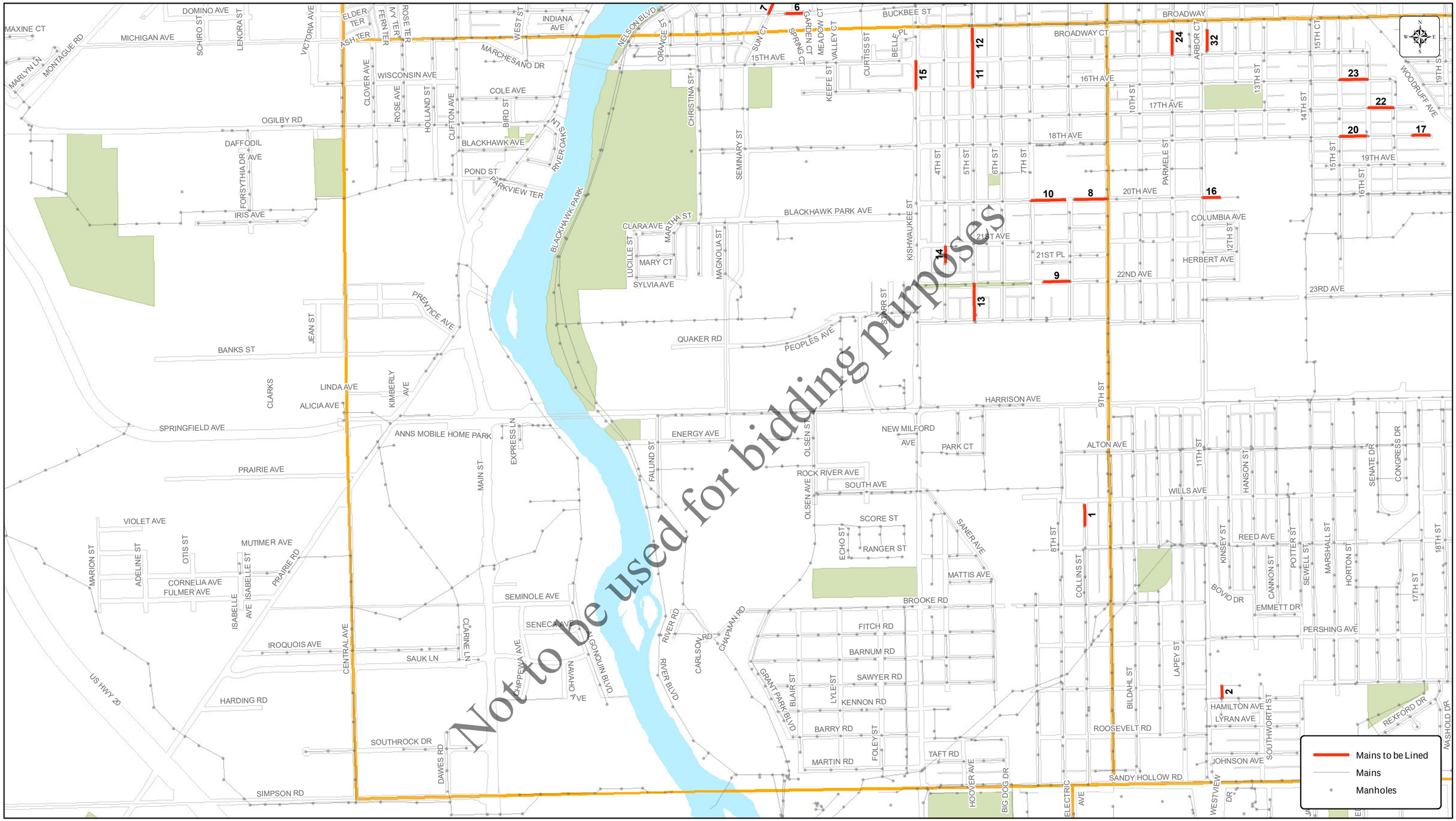
FRSA Engineering Department



Four Rivers
Sanitation Authority

Map #12

Capital Project #2337

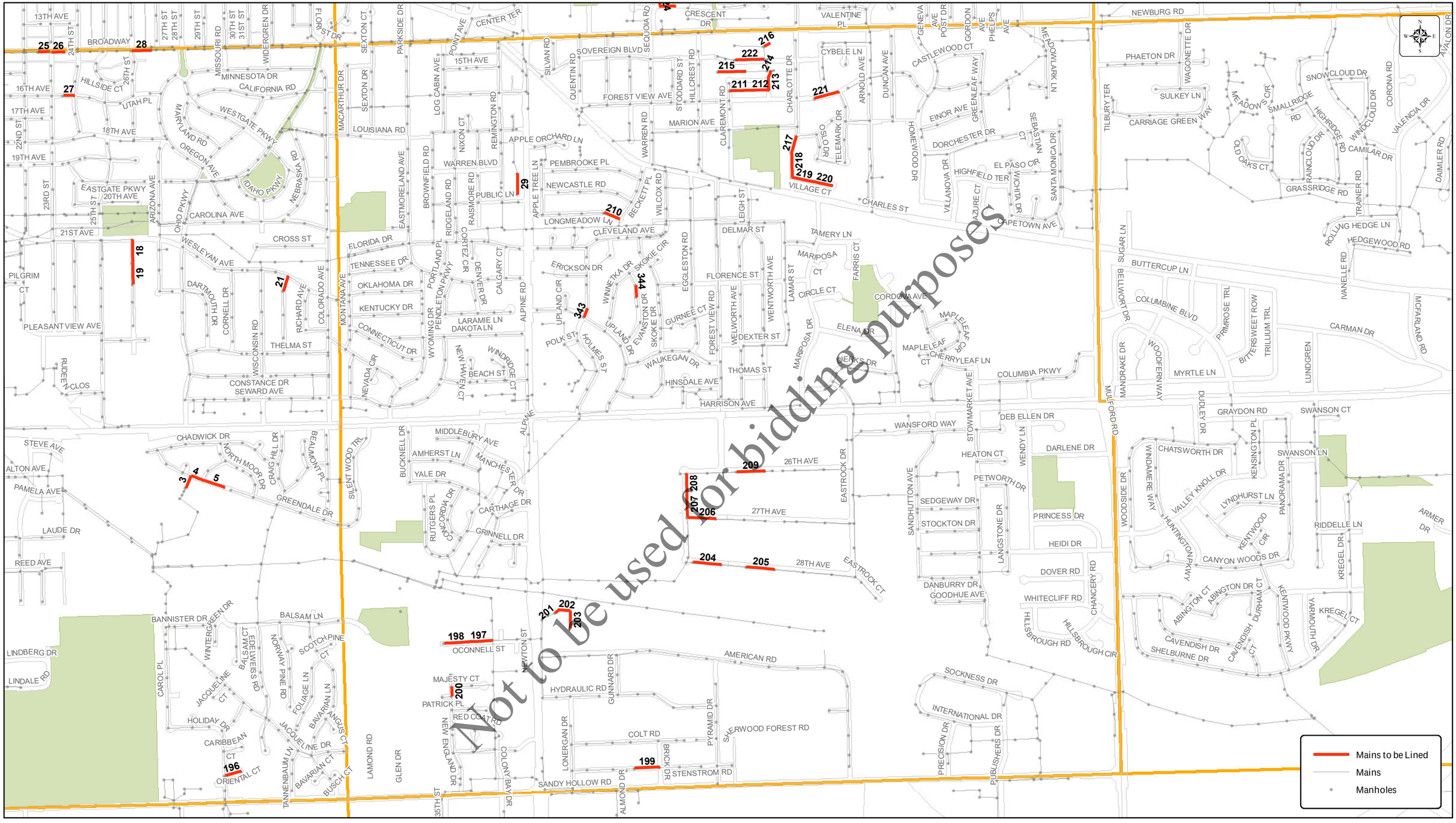
By: JK
Produced: 2/22/2022
FRSA Engineering Department

Four Rivers
Sanitation Authority

Map #13

Capital Project #2337

By: JK
Produced: 2/22/2022
FRSA Engineering Department

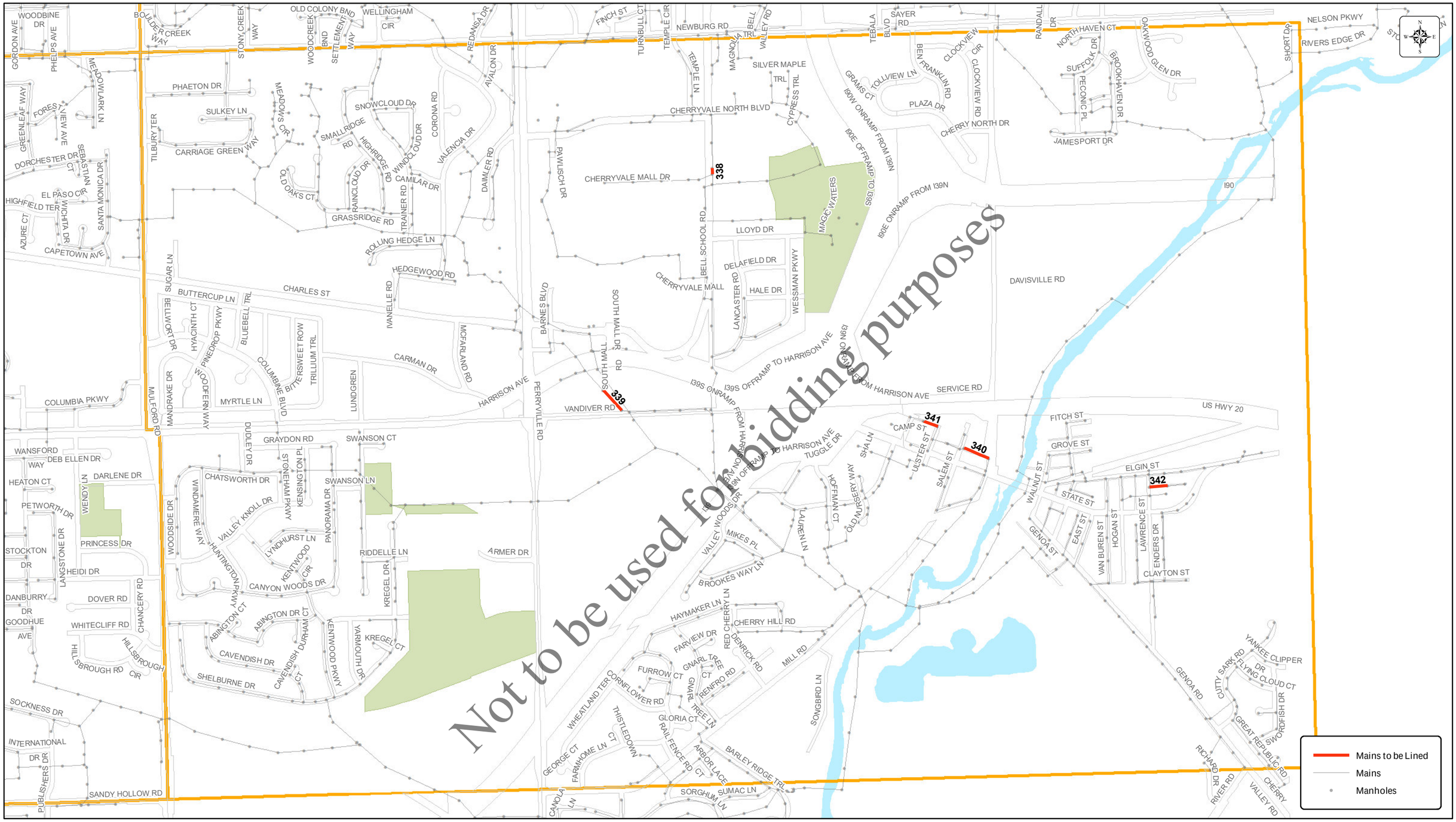


Four Rivers
Sanitation Authority

Map #14

Capital Project #2337

By: JK
Produced: 2/22/2022
FRSA Engineering Department



Four Rivers
Sanitation Authority

Map #15

Capital Project #2337

By: JK
Produced: 2/22/2022
FRSA Engineering Department

Four Rivers Sanitation Authority

Map #16

Capital Project #2337

By: JK
Produced: 2/22/2022
FRSA Engineering Department

Four Rivers Sanitation Authority

Map #17

Capital Project #2337

By: JK
Produced: 2/22/2022
FRSA Engineering Department

Section V:

Individual Lining Maps, TV Inspection Reports and Supporting Information.

(Separate files incorporated by reference)
Electronic files will be provided to plan holders on record.

Not to be used for bidding purposes

Section VI

General Provisions & Technical Specifications for Sanitary Sewer Construction

(Separate document incorporated by reference)

Not to be used for bidding purposes