

**Rock River Water Reclamation District
Rockford, Illinois**

Bidding Requirements and Contract Forms

for

**Equipment Procurement for
Cherry Valley Lift Station
Pump Replacement**

Capital Project No. 1911



**Rock River Water Reclamation District
Rockford, Illinois**

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

for

**Equipment Procurement for
Cherry Valley Lift Station
Pump Replacement**

Capital Project No. 1911

Board of Trustees

Donald Massier	.....	President
Elmer Jones	.....	Vice President
Richard Pollack	.....	Clerk/Treasurer
John Sweeney	.....	Trustee
Ben Bernsten	.....	Trustee

Officials

Timothy S. Hanson	.....	District Director
Christopher T. Baer, PE	.....	Engineering Manager

Not to be used for bidding purposes

Index

I. Bidding Requirements

Article 1 Notice to Bidders

Article 2 Instructions to Bidders

- 1 General
- 2 Legal Requirements
- 3 General Instructions

Article 3 Detailed Specifications

- 1 General Requirements
- 2 Raw Wastewater Pump and Motors

Article 4 Technical Specs

- Section 40 05 00 Equipment General Provisions
- Section 43 05 13 Common Motor Requirements for Liquid Pumps
- Section 43 21 00 Pumps, General
- Section 43 21 13 Centrifugal Liquid Pumps

II. Contract Forms

- Proposal
- Affidavit of Compliance
- Bid Bond
- Agreement
- Performance Bond
- Labor & Material Payment Bond

III. Pump Station Startup Procedures

IV. General Provisions and Technical Specifications for Sanitary Sewer Construction (separate document incorporated by reference)

Not to be used for bidding purposes

Section I

Bidding Requirements

Article 1 — Notice to Bidders

The Rock River Water Reclamation District (District) will receive sealed and signed bids for Equipment Procurement for Cherry Valley Lift Station Pump Replacement, Capital Project No. 1911, at the Rock River Water Reclamation District offices, 3501 Kishwaukee Street, Rockford, Illinois until 2:00 p.m. on January 18, 2019 at which time and place all responsive/ responsible bids will be publicly opened and read aloud.

The scope of this bid includes the supply and delivery of two (2) vertical centrifugal pumps, two (2) 400 hp motors and all other appurtenances, in accordance with the project specifications, for installation by a District Contractor under separate contract. The installation Contractor will provide all external systems and connections for the procured equipment, such as electrical wiring and power supply, concrete support pads, etc.

All equipment must be delivered by September 4, 2019. Liquidated damages shall be \$300.00 per calendar day.

Copies of the specifications may be obtained by depositing Fifty Dollars (\$50.00) with the Rock River Water Reclamation District. All deposits are non-refundable.

Each Proposal must be accompanied by the District Bid Bond form with an acceptable Bid Security attached, in the amount of five percent (5%) of the total bid price. This sum is a guarantee that, if the Proposal is accepted, a contract will be entered into.

A Mandatory Pre-Bid Meeting for this project will be held on January 3, 2019 at 10:00 a.m. at the Cherry Valley Pump Station, 4020 Barley Ridge Trail, in Cherry Valley Illinois. A representative from any pump manufacturer intending to bid on this project must attend the pre-bid meeting.

Bid documents may be obtained by contacting the Engineering Department at the Rock River Water Reclamation District, (815) 387-7660, 3501 Kishwaukee St. For more information, visit the District web site at www.rrwr.dst.il.us. Plans and specifications are also available for viewing at the Northern Illinois Building Contractors Association office, 1111 S. Alpine Rd, Rockford, IL.

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 the consent of the District for a period of 60 days after the scheduled time of receiving bids.

The Rock River Water Reclamation District 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 District.

Dated this 20th day of December, 2018.



BY: Chris Black, Business Manager

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 related to bidding and Contract execution.

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, Instructions to Bidders, Detailed Specifications. 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. 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 Rock River Water Reclamation District) to submit certified payroll records on a monthly basis, along with a statement affirming that such records are true and accurate, that the wages paid to each worker are not less than the required prevailing rate and that the Contractor is aware that filing false records is a Class B Misdemeanor.

The certified payroll records must include the name, address, telephone number, social security number, job classification, hourly wages paid in each pay period, the number of hours worked each day, and the starting and ending time of work each day, for every worker employed on the project. Any contractor who fails to submit a certified payroll or knowingly files a false certified payroll is guilty of a Class B Misdemeanor. Certified payroll reports shall be submitted on standard IDOT forms.

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.

4. Public Act 99-0933 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 the District.

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 the District 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 Rock River Water Reclamation District (District) 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.

3 General Instructions

3.1 Bidder's Responsibility

It shall be the responsibility of the bidder to make any and all investigations necessary to become thoroughly informed of what is required and specified in the bid document. No plea of ignorance by the bidder of conditions that exist or that may hereafter exist as a result of failure or omission on the part of the bidder to make necessary examinations and investigations will be accepted as a basis for varying the requirements of the District or the compensation of the bidder.

3.2 Addenda and Interpretations

No interpretation of the meaning of the Specifications, or other Contract Documents will be made to any bidder orally. Every request for such interpretation must be in writing addressed to the Rock River Water Reclamation District, 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 the District 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.

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 office of the District.

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.

The Contractor may opt to contact the District'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 the Rock River Water Reclamation District, 3501 Kishwaukee Street, Rockford, Illinois, 61109 and be sent preferably by certified mail. The District will not accept facsimile generated bids.

3.6 Bid Security

Each proposal must be accompanied by the District 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. The District'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 resources and expertise necessary to meet all contractual obligations. The bidder shall document no less than three (3) contracts for raw wastewater pumping systems within the past five (5) years having equal or greater value to the bid being submitted. The District 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. The Rock River Water Reclamation District 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 the Engineering Manager of the District 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 the District 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 the District 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 delivery schedule for the project;
- c. Have a satisfactory record of integrity, judgment, and performance, including, in particular, any prior performance on contracts from the District;
- d. Have an adequate financial management system and audit procedures, that provide efficient and effective accountability and control of all property, funds, and assets;
- 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) raw wastewater pumping system contracts within the past five (5) years of equal or greater value to the bid being submitted.

3.11 The Rejection of Bids

The District 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 the District 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. The District reserves the right to reject any and all bids and to accept the bid which they deem most favorable to the interest of the District 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 the District's issuance of an award letter, the Contractor shall provide documentation to prove that he has obtained all required insurance and bonds. The District 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 the District.

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 Equipment Procurement for Cherry Valley Lift Station Pump Replacement, Capital Project No. 1911.
3. The District 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.
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, the District, 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 the District, 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 the District, its officers, officials, employees, volunteers, and agents. Any insurance or self-insurance maintained by the District, 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 the District, 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 the District.

3.12.3 Best's Ratings

The District shall be the sole judge of whether or not said insurer's ratios are satisfactory. The District's decision shall be final and the District'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 the District.
2. **Financial Size Rating:** Provided an insurer's alphabetical rating is satisfactory, the District will examine said insurer's financial size rating.
 - a. If **Best** classifies the insurer XII or larger, said insurer shall be acceptable to the District.
 - b. If **Best** classifies the insurer as smaller than XII, but larger than VI, said insurer shall be submitted to the District's Business Manager and/or the District'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 the District. 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 the District determines that the Contractor's insurance or bond documentation does not conform to these specifications, the District 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 the District's deficiency notice, he shall be in default.

3.12.6 Indemnification Clause

Contractor shall protect, indemnify, hold and save harmless and defend the District, 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 District, 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 the District 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 the District.

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 the District, its employees, or agents shall be deemed a waiver by the District 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

The District 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. The District's tax exemption number is E9992-3696-06. The bidder shall include all applicable taxes in his bid price.

3.14 Terms

3.14.1 Payments to the Successful Bidder

If the District receives an acceptable invoice for confirming service or material prior to the fifth day of the month, the District shall issue payment before the fifth day of the succeeding month. If received on or after the fifth day of the month, payment will be issued the following month.

3.14.2 Default

In case of default, the District will procure the service or material described in this Invitation to Bid from other sources. The District shall hold the defaulting successful bidder responsible for any excess cost incurred. The defaulting successful bidder shall make such payment no more than sixty (60) calendar days after the District notifies him, in writing, of such an occurrence.

3.14.3 Brand Substitutions

Bids will be considered for items complying substantially with specifications, provided deviations to the specifications are stated and items are described in detail. When offering alternate products, it is the responsibility of the bidder to outline alternatives and provide performance and technical data for evaluation. The District will be the sole judge of whether such alternates are equivalent to the items specified. The District reserves the right to waive immaterial variations in the specifications.

Article 3 – Detailed Specifications

1 General Requirements

1.1 General

This article 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. In addition, work shall conform to the following Technical Specifications: *Standard Specifications for Water and Sewer Main Construction in Illinois*, current edition, and *Rock River Water Reclamation District General Provisions and Technical Specifications for Sanitary Sewer Construction*.

Throughout these specifications, the term “Owner”, “District”, and “Engineer” shall be synonymous, and the terms “Contractor”, “Vendor”, “Supplier”, and “Manufacturer” shall be synonymous.

In case of apparent contradictions between *Article 3 - Detailed Specifications* and the *General Provisions and Technical Specifications for Sanitary Sewer Construction*, these *Detailed Specifications* shall govern.

Suppliers shall implicitly warrant that all products or product components provided are suitable and appropriate for the intended use and that they are free from all material, design, or workmanship defects. Said warranty shall inure to the benefit of the District. The foregoing shall apply to all products or product components, whether fabricated or constructed per contract documents or by an outside source.

After the award of the Contract and prior to starting work, the Contractor shall submit to the Engineer a satisfactory delivery schedule or critical path schedule which will show how the Contractor proposes to complete the various items of work by the completion date specified in this Contract.

1.2 Submittals

The Contractor shall submit to the Engineer the items under ‘Required Submittals’ of each special provision prior to beginning any work. The Contractor shall perform the following:

1. Review each submittal.
2. Verify field dimensions.
3. Verify compliance with Contract documents.
4. Stamp submittals to certify the Contractor’s review/approval.
5. Transmit reviewed submittals to the Engineer for approval.

The Contractor shall submit a list of all materials requiring the Engineer’s color selection. The list shall include the manufacturer name and model number/name for each item. The Engineer may require additional color samples.

The Contractor shall allow a minimum of two (2) weeks for submittal review by the Engineer. It shall be the Engineer’s prerogative to delay review of inter-related submittals until all components

are received. No Contract extension will be approved due to the Contractor's failure to provide submittals with sufficient time for Engineer to perform a thorough review.

The Engineer's approval of a submittal shall not be construed as an order for additional, extra, or differing work nor as guarantee of the accuracy of information or the effectiveness of the products provided in the submittal.

No manufacturing or fabrication by order of the Contractor shall occur until all submittals have been reviewed and approved by the Engineer.

When the Contract Documents call for operations to be performed in accordance with the manufactures' instructions, the manufacturers' instructions shall also be considered required submittals.

1.3 Pre-Bid Meeting (Mandatory)

A Mandatory Pre-Bid Meeting will be held at the Cherry Valley Pump Station, 4020 Barley Ridge Trail, Cherry Valley IL on January 3, 2019 at 10:00 a.m. Bids will not be accepted from Equipment Manufacturers who are not in attendance or do not have a designated representative in attendance.

2 Raw Wastewater Pump and Motors

2.1 General

Equipment manufacturer shall provide two (2) pumps, motors, and appurtenances as specified in Sections 40 05 13 – Equipment General Provisions, 43 05 13 – Common Motor Requirements for Liquid Pumps, 43 21 00 - Pumps General, and 43 21 13 – Centrifugal Liquid Pumps. See Section III.

The proposed pump model must be indicated on the Proposal form and a pump curve for the proposed pump must be included with the bid. Failure to submit this information will be grounds for rejection of the bid.

2.2 Required Submittals

1. Three (3) paper copies and one (1) electronic version of shop drawing information shall be submitted within ninety (90) days of contract award.
2. Four (4) paper copies and one (1) electronic version of operation and maintenance data including all installation instructions, assembly views, lubrication instructions, and replacement parts lists shall be submitted prior to equipment delivery.
3. One (1) electronic AutoCAD drawing of the proposed equipment.

2.3 Delivery, Storage, and Handling

1. Deliver materials to the site in such a manner as to protect the materials from shipping and handling damage. Provide materials on factory provided shipping skids and lifting lugs if required for handling. Materials capable of sustaining damage by the elements should be

packaged in such a manner that they can withstand short-term exposure to the elements during transportation.

2. Bid shall include costs for delivery of equipment to the Rock River Water Reclamation District. The Manufacturer will coordinate equipment delivery with Installation Contractor (to be determined). Based on delivery date, the equipment will either be delivered to 3333 Kishwaukee Street, Rockford, IL 61109 or 4020 Barley Ridge Trail, Cherry Valley IL 61016. If the equipment is delivered to the Rockford, IL address, then the Installing Contractor shall be responsible for delivery of the equipment to the installation site.
3. Delivery shall be coordinated with Plant Operations staff and shall be between the hours of 7:30 AM and 2:00 PM, unless prior arrangements have been made with Plant Operations staff.
4. All deliveries shall include unloading at the required location.

Warranty

Provide a minimum two (2) year warranty on all materials. Warranty period shall start upon equipment installation and start-up.

Start-Up and Training

Provide start-up assistance and reports outlining factory provided start-up and equipment performance testing. Manufacturer's representative shall instruct the maintenance personnel in the care of the equipment, prepare a training report, and submit three (3) copies of the report to the District.

Measurement and Payment

There is no measurement associated with this item. Payment will be based on the following schedule: 5% upon satisfactory review and approval of all shop drawings, 70% upon delivery of equipment, and 25% upon successful testing, start-up, and acceptance of equipment installed, complete in place.

Article 4 – Technical Specifications

Section 40 05 00

Equipment General Provisions

Part 1 General

1.1 The Requirement

- A. The requirements of this section apply to all equipment specified.
- B. The Contractor shall provide all tools, supplies, materials, equipment, and all labor necessary for the furnishing, construction, testing, and operation of all equipment and appurtenant work, all in accordance with the requirements of the Contract Documents.
- C. The provisions of this Section shall apply to all equipment specified and where referred to, except where otherwise specified or shown.

1.2 Reference Specifications, Codes, and Standards

- A. Commercial Standards: All equipment, products, and their installation shall be in accordance with the following standards, as applicable, and as specified in each Section of these specifications:
 - 1. American Society for Testing and Materials (ASTM).
 - 2. American Public Health Association (APHA).
 - 3. American National Standards Institute (ANSI)
 - 4. American Society of Mechanical Engineers (ASME).
 - 5. American Water Works Association (AWWA).
 - 6. American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE).
 - 7. American Welding Society (AWS).
 - 8. National Fire Protection Association (NFPA).
 - 9. Federal Specifications (FS).
 - 10. National Electrical Manufacturers Association (NEMA).
 - 11. Manufacturer's published recommendations and specifications.
 - 12. General Industry Safety Orders (OSHA).

B. The following standards have been referred to in this Section of the specifications:

1. ASME B1 6.1 Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250 and 800
2. ASME B1 6.5 Pipe Flanges and Flanged Fittings: NPS 1/2 through 24 – Metric/Inch Standard
3. ANSI B46.1 Surface Texture (Surface Roughness, Waviness, and Lay)
4. ANSI/ASA S12.6 Method of Measuring the Real-Ear Attenuation of Hearing Protectors
5. ANSI/ASME B1.20.1 Pipe Threads, General Purpose (Inch)
6. ANSI/ASME B31.1 Power Piping
7. ANSI/AWWA D100 Welded Carbon Steel Tanks for Water Storage
8. AWWA C206 Field Welding of Steel Water Pipe
9. ASTM A 48 Specification for Gray Iron Castings
10. ASTM A 108 Specification for Steel Bar, Carbon and Alloy, Cold-Finished

1.3 Quality Assurance

A. Inspection, Startup, and Field Adjustment: The Contractor shall demonstrate that all equipment meets the specified performance requirements. Contractor shall provide the services of an experienced, competent, and authorized service representative of the Manufacturer of each item of major equipment who shall visit the site of Work to perform the following tasks:

1. Assist the Contractor in the installation of the equipment.
2. To inspect, check, adjust if necessary and approved the equipment installation.
3. To start-up and field-test the equipment for proper operation, efficiency, and capacity.
4. To perform necessary field adjustments during the test period until the equipment installation and operation are satisfactory to the District.
5. To instruct the District's personnel in the operation and maintenance of the equipment. Instruction shall include step-by-step trouble shooting procedures with all necessary test equipment.

- B. Costs: The costs of all inspection, startup, testing, adjustment, and instruction work performed by said factory-trained representatives shall be borne by the Contractor. When available, the District's operating personnel may provide assistance in the field testing.
- C. Tolerances: Tolerances and clearances shall be as shown on the shop drawings and shall be closely adhered to. Machine work shall in all cases be of high-grade workmanship and finish, with due consideration to the special nature or function of the parts. Members without milled ends and which are to be framed to other steel parts of the structure may have a variation in the detailed length of not greater than 1/16-inch for members 30 feet or less in length, and not greater than 1/8-inch for members over 30 feet in length.
- D. Machine Finish: The type of finish shall be the most suitable for the application and shall be shown in micro-inches in accordance with ANSI B46.L. The following finishes shall be used:
1. Surface roughness not greater than 63 micro-inches shall be required for all surfaces in sliding contact.
 2. Surface roughness not greater than 250 micro-inches shall be required for surfaces in contact where a tight joint is not required.
 3. Rough finish not greater than 500 micro-inches shall be required for other machined surfaces.
 4. Contact surfaces of shafts and stems which pass through stuffing boxes and contact surfaces of bearings shall be finished to not greater than 32 micro-inches.
- E. Manufacturer's Experience: Unless otherwise directed by the District, all equipment furnished shall have a record of at least five (5) years of successful, trouble-free operation in similar applications, from the same Manufacturer.

Part 2 Products

2.1 General Requirements

- A. High Noise Level Location: The Contractor shall provide personal hearing protection, as specified herein, at each high noise level location. Said locations are defined as follows:
1. Indoor Location
 - (a) Any single equipment item, or any group of equipment items, located within a single room not normally occupied, that produces noise exceeding OSHA noise level requirements for a 2-hour exposure.
 - (b) Any single equipment item, or any group of equipment items, located within a single room normally occupied by workers, that produces noise exceeding OSHA noise level requirements for an 8-hour exposure.
- B. Personal Hearing Protection: The Contractor shall supply, in their original unopened packaging, three (3) pairs of high attenuation hearing protectors. The ear protectors shall be capable of meeting the requirements of ANSI S12.6 and shall produce a noise level reduction of 25 dBA at a frequency of 500 Hz. The hearing protectors shall have fluid

filled ear cushions and an adjustable, padded headband. The protectors shall be stored in a weatherproof, labeled, steel cabinet, furnished by Contractor and mounted in an approved location near the noise producing equipment.

- C. Service Factors: Service factors shall be applied in the selection or design of mechanical power transmission components. Unless otherwise specified, the following load classifications shall apply in determining service factors:

<u>Type of Equipment</u>	<u>Load Classification</u>
Centrifugal Pump	Uniform

- D. For service factors of electric motors, see Section 43 05 13. Where load classifications are not specified, best modern practice shall be used.

- E. Welding: Unless otherwise specified or shown, all welding shall conform to the following:

1. Latest revision of ANSVAWWA D100
2. Latest revision of AWWA C206
3. All composite fabricated steel assemblies which are to be erected or installed inside a hydraulic structure, including any fixed or movable structural components of mechanical equipment, shall have continuous seal welds to prevent entrance of air or moisture.
4. All welding shall be by the metal-arc method or gas-shielded arc method as described in the American Welding Society's "welding Handbook" as supplemented by other pertinent standards of the AWS. Qualification of welders shall be in accordance with the AWS Standard governing same.
5. In assembly and during welding, the component parts shall be adequately clamped, supported, and restrained to minimize distortion and for control of dimensions. Weld reinforcement shall be as specified by the AWS code. Upon completion of welding, all weld splatter, flux, slag, and burrs left by attachments shall be removed. Welds shall be repaired to produce a workmanlike appearance, with uniform weld contours and dimensions. All sharp corners of material which is to be painted or coated shall be ground to a minimum of 1/32-inch on the flat.

- F. Protective Coating: All equipment shall be painted or coated in accordance with the Manufacturer's specifications, unless otherwise indicated. Color shall be ANSI 70 Grey. Non-ferrous metal and corrosion-resisting steel surfaces shall be coated with grease or lubricating oil. Coated surfaces shall be protected from abrasion or other damage during handling, testing, storing, assembly, and shipping.

- G. Protection of Equipment: All equipment shall be boxed, crated, or otherwise protected from damage and moisture during shipment, handling, and storage. All equipment shall be protected from exposure to corrosive fumes and shall be kept thoroughly dry at all times. Pumps, motors, drives, electrical equipment, and other equipment having anti-friction or sleeve bearings shall be stored in weather-tight storage facilities prior to

installation. For extended storage periods, plastic equipment wrappers should be avoided, to prevent accumulation of condensate in gears and bearings. While in storage, Contractor shall rotate the drive shaft to ensure proper lubrication of bearings or other practice recommended by the Manufacturer.

- H. Identification of Equipment Items: Each item of equipment shipped shall have a legible identifying mark corresponding to the equipment number shown or specified for the particular item.
- I. Vibration Level: All equipment subject to vibration shall be provided with restrained spring-type vibration isolators or pads per Manufacturer's written recommendations.
- J. Shop Fabrication: Shop fabrication shall be performed in accordance with the Contract Documents and the District-approved shop drawings.

2.2 Flanges and Pipe Threads

- A. All flanges on equipment and appurtenances provided under this Section shall conform to ANSI B16.1, Class 125; or B16.5, Class 150, unless otherwise shown. All pipe threads shall be in accordance with ANSI/ASME B1.20.1, and with requirements of Section 40 05 13.

2.3 Bearings

- A. General: Bearings shall conform to the standards of the Anti-Friction Bearing Manufacturers Association, Inc (AFBMA).
- B. To assure satisfactory bearing application, fitting practice, mounting, lubrication, sealing, static rating, housing strength, and other important factors shall be considered in bearing selection.
- C. All re-lubricatable type bearings shall be equipped with a hydraulic grease fitting in an accessible location and shall have sufficient grease capacity in the bearing chamber.
- D. All lubricated-for-life bearings shall be factory-lubricated with the Manufacturer's recommended grease to insure maximum bearing life and best performance.
- E. Bearing housings shall be of cast iron or steel and bearing mounting arrangement shall be as specified or shown, or as recommended in the published standards of the Manufacturer. Split-type housings may be used to facilitate installation, inspection, and disassembly.

2.4 Insulating Connections

- A. General: Insulating bushings, couplings, or flanges, as appropriate, shall be used in accordance with the requirements of the Section 40 05 13.

2.5 Gaskets and Packings

- A. Gaskets shall be in accordance with the requirements of Section 40 05 13.
- B. Seals around rotating shafts (other than valve stems) shall be mechanical seals, as recommended by the Manufacturer and approved by the District, in accordance with Section 43 21 00.

2.6 Safety Requirements

- A. Where work areas are located within a flammable or toxic gas environment, suitable gas detection, ventilating, and oxygen deficiency equipment shall be provided. Workers shall be equipped with approved breathing apparatus.

Part 3 Execution

3.1 Couplings

- A. The equipment Manufacturer shall select or recommend the size and type of coupling required to suit each specific application.

End of Section

Section 43 05 13

Common Motor Requirements for Liquid Pumps

Part 1 General

1.1 Summary

A. Section includes three-phase motors for application on equipment provided under other sections and for motors furnished loose to Project.

B. Related Sections:

1. Section 40 05 00 – Equipment General Provisions
2. Section 43 21 00 – Pumps General
3. Section 43 21 13 – Centrifugal Liquid Pumps

1.2 References

A. American Bearing Manufacturers Association

1. ABMA 9 - Load Ratings and Fatigue Life for Ball Bearings

B. National Electrical Manufacturers Association

2. NEMA MG 1 – Motors and Generators

C. International Electrical Testing Association

3. NETA ATS – Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems

1.3 Qualifications

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

B. Testing Agency: Company member of International Electrical Testing Association and specializing in testing products specified in this section with minimum three years documented experience.

Part 2 Products

2.1 Product Requirements for Motors Furnished with Equipment

A. Three-Phase Motors: NEMA MG 1, Design B, energy-efficient squirrel-cage induction motor, with copper windings to accomplish starting methods and number of speeds as indicated on Drawings. Motors shall be vertical for standard duty. Motor design shall be in compliance with load application. Starting requirements for all motors shall be across-the-line, unless specifically noted otherwise.

1. Voltage: 480 volts, three phase, 60 Hz

2. Motor speed: Shall be as specified for the equipment
3. Service Factor: unless otherwise specified, motors shall have a service factor of 1.15. No motor shall have a shaft loading exceeding 90% of full load rating under worst condition of load, unless specifically permitted by equipment specifications.
4. Torque: Breakdown torque shall be 200% or more of the maximum torque load placed on the motor shaft. Provide special motors where load requirements exceed standard design.
5. Motor Efficiencies: Motors shall be premium efficiency type with the following minimum efficiencies at full load:

<u>HP</u>	<u>Efficiency</u>
400	85

6. Enclosure: As listed below unless otherwise indicated on Drawings.
 - a. Standard duty indoor motors shall be open, fan cooled, and dripproof.
 7. Design for continuous operation in 40C environment, with temperature rise in accordance with NEMA MG 1 limits for insulation class, service factor, and motor enclosure type.
 8. Insulation System: NEMA Class F
 9. Motor Frames: NEMA Standard T-Frames of steel, aluminum, or cast iron with end brackets of cast iron or aluminum with steel inserts. Provide slide rails and sole plates as required for the application. Motor frame and supports shall be designed to accommodate the specified 400 hp motors as well as future upgrades to 700 hp motors.
 10. Thermistor System (Motor Frame Sizes 254T and Larger): PTC thermistors, sufficient to monitor bearing and stator temperature, embedded in motor windings and epoxy encapsulated solid state control relay with wiring to terminal box.
 11. Electronic vibraswitches shall be provided and factory installed on both the motor and pump.
 12. Bearings: Oil lubricated anti-friction ball bearings, rated for minimum ABMA 9, L-10 life of 200,000 hours. Calculate bearing load with NEMA minimum V-belt pulley with belt center line at end of NEMA standard shaft extension. Stamp bearing sizes on nameplate.
 13. Sound Power Levels: Conform to NEMA MG 1
 14. Motors fed from Variable Frequency Drives shall comply with NEMA MG 1, Part 31, Definite Purpose Inverter-Fed motors
- B. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated.
1. Provide oversize conduit boxes as required for field terminations.

2.2 Source Quality Control

- A. Test motors in accordance with NEMA MG 1, including winding resistance, no-load speed and current, locked rotor current, insulation high-potential test, and mechanical alignment tests.

Part 3 Execution

3.1 Field Quality Control

- A. Inspect and test in accordance with NETA ATS, except Section 4.
- B. Perform inspections and tests listed in NETA ALS, Section 7.15.
- C. The authorized service representative shall submit three (3) copies of the start-up service report directly to the Owner. The authorized service representative shall certify in writing that the motor has been fully checked, installation is complete and satisfactory, and that motor has been started and operated under his supervision.

End of Section

Not to be used for bidding purposes

Section 43 21 00

Pumps – General

Part 1 General

1.1 The Requirement

- A. The Contractor shall provide all pumps and pumping appurtenances, complete and operable, in accordance with Contract Documents.
- B. The provisions of this Section shall apply to all pumps and pumping equipment except where otherwise indicated in the Contract Documents.
- C. Unit Responsibility: A single Manufacturer shall be made responsible for furnishing the Work and for coordination of design, assembly, testing, and installation of the Work of each pump Section. The Manufacturer shall be responsible to the District for compliance with the requirements of each pump section. Unless otherwise indicated, the single Manufacturer shall be the Manufacturer of the pump.

Part 2 Products

2.1 General

- A. Compliance with the requirements of the individual pump Sections may necessitate modifications to the Manufacturer's standard equipment.
- B. Performance Curves: All centrifugal pumps shall have a continuously rising curve. In no case shall the required horsepower at any point on the performance curve exceed the rated horsepower of the motor or engine, or encroach on the service factor within the operating conditions specified.
- C. All components of each pump system provided under the pump Sections shall be entirely compatible. Each unit of pumping equipment shall incorporate all basic mechanisms, couplings, electric motors or engine drives, variable speed controls, necessary mountings, and appurtenances.

2.2 Materials

- A. All materials shall be suitable for the intended application; materials not specified shall be high-grade, standard commercial quality, free from all defects and imperfections that might affect the serviceability of the product for the purpose for which it was intended, and shall conform to the following requirements:
 - 1. Cast iron pump casings and bowls shall be close-grained gray cast iron.
 - 2. All anchor bolts, nuts, and washers that are not buried or submerged shall be hot-dip galvanized, unless otherwise specified in individual pump Sections.

Buried or submerged bolts, nuts, and washers shall be stainless steel in accordance with the Manufacturer's recommendation.

2.3 Pump Components – General

- A. Flanges: Suction and discharge flanges shall conform to ANSVASME B16.1 – Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250, and 800 or B1 6.5 – Pipe Flanges and Flanged Fittings dimensions.
- B. Handholes: Handholes on pump casings shall be shaped to follow the contours of the casing to avoid any obstructions in the water passage.
- C. Mechanical Seals:
 - 1. No flushing water is available at the proposed pump location.
 - 2. Seals shall not require proprietary parts for maintenance.
 - 3. Where indicated, a buffer fluid must be circulation a minimum 20 psi above discharge pressure, or as required by the Manufacturer, in order to maintain reliable seal performance.
 - 4. Mechanical seals for all services other than chemicals and corrosives shall be equipped with nonclogging, single coil springs and nonsliding, internal, secondary elastomers.

2.4 Pump Appurtenances

- A. Nameplates: Each pump shall be equipped with a stainless steel nameplate indicating serial numbers, rated head and flow, impeller size, pump speed, and Manufacturer's name and model number.
- B. Electronic vibraswitches shall be provided and factory installed on both the motor and pump.

Part 3 Execution

3.1 Protective Coating

- A. Materials and equipment shall be coated as required per Manufacturer's recommendation. Colors shall be ANSI 70 Grey.

End of Section

Section 43 21 13

Centrifugal Liquid Pumps

Part 1 General

1.1 Section Includes

- A. Furnish two (2) dry pit, vertical, direct coupled centrifugal pumps specifically designed to pump raw sewage containing solids and/or rags and other fibrous materials without clogging.
- B. The pumps shall be constructed to operate with variable frequency drives (VFD) that will be similar to the existing VFD's. The existing VFD's are 200 hp Danfoss VLT AQUA Drive FC202. New VFD's will be provided by others under a separate contract.

1.2 Related Sections

- A. Section 40 05 00 Equipment General Provisions
- B. Section 43 05 13 Common Motor Requirements for Liquid Pumps
- C. Section 43 21 00 Pumps, General

1.3 Quality Assurance

- A. All pumping equipment furnished under this section shall be of a design and manufacture that has been used in similar applications, and it shall be demonstrated to the satisfaction of the Owner that the quality is equal to equipment made by that Manufacturer specifically named herein. Manufacturers shall provide evidence of at least five (5) installations in which similar sized equipment has provided satisfactory performance for a minimum of five (5) years in a similar application. No consideration will be given to an individually sized pump that has not been commercially available for five (5) years.
- B. To insure a consistent high standard of quality, the Manufacturer of this pumping equipment shall comply with the requirements of the ISO 9001 quality system, and such compliance shall be verified by an independent certification agency approved by the international organization for standardization. Documentation shall be submitted for approval showing compliance with this requirement, and the equipment will not be released for shipment until approved.
- C. Centrifugal pump, complete with motor, coupling, baseplate, necessary guards, and all other specified accessories and appurtenances shall be furnished by the pump Manufacturer to insure compatibility and integrity of the individual components, and

provide the specified warranty for all components. The pump Manufacturer shall accept unit responsibility for each pump complete assembly.

- D. The centrifugal pumps specified in this Section shall be furnished by and be the product of one Manufacturer.
- E. Manufacturers: The equipment specified in this Section shall be manufactured by Morris Pump or District-approved equal.

1.4 Reference Standards

- A. The work in this Section is subject to the requirements of applicable portions of the following standards:
 - 1. Hydraulic Institute Standards
 - 2. IEEE Standards
 - 3. NEMA Standards
 - 4. OSHA Rules and Regulations

1.5 Submittals

- A. Shop Drawings and Product Data: The Contractor shall furnish complete shop drawings for all equipment specified in the various Sections, together with piping valves and controls for review by the Engineer, including the following information:
 - 1. Pump name and identification number
 - 2. Pump performance curve, pump outline dimension drawing indicating support frame, elbow and anchor bolt locations, electric motor data, parts list, warranty, installation guide, certified factory performance tests witnessed by Owner, quality assurance record, and Manufacturer's start-up report form. Pump performance curves shall indicated head, capacity, horsepower demand, NPSH required, and pump efficiency over the entire operating range of the pump. The equipment Manufacturer shall indicate separately the head, capacity, horsepower demand, overall efficiency, and minimum submergence required at the design flow conditions and the maximum and minimum flow conditions. A family of performance curves at intervals of 100 rpm from minimum speed to maximum speed shall be provided.
 - 3. The Manufacturer shall indicated the limits of the performance curves recommended for stable operation without surge, cavitation, or excessive vibration. The stable operating range shall be as wide as possible based on actual hydraulic and mechanical tests.
 - 4. Provide certification that the motor is inverter duty rated and meets the requirements of NEMA MG-1, Part 31. The submittal information shall also include bearing calculations at the duty point as well as at the maximum and

minimum operating heads shown in the specification. These calculations shall verify the specified minimum bearing life shown elsewhere in this specification.

5. The supplier shall also demonstrate that they have a service facility located within one hundred (100) miles of the facility that has a minimum of three (3) trained service technicians certified to work on these pumps as well as the hoisting capabilities in the shop to work on the specified pumps.
6. Data, in accordance with Section 43 05 13 for the electric motor proposed for each pump.
7. Assembly and installation drawings include seal, coupling, bearings, anchor bolt plan, part nomenclature, material list, outline dimensions, and shipping weights.

B. Electrical Shop Drawing and Product Data:

1. The pump Manufacturer shall submit a motor chart for the motors to be supplied. The motor chart shall include amp draw, power consumed, and output power versus speed for induction motor.
 2. Submit catalog data for each motor furnished. Indicate nameplate data, standard compliance, electrical ratings and characteristics, and physical dimensions, weights, mechanical performance data, and support points.
 3. Indicate procedures and results for specified factory and field testing and inspection.
- C. Operating Instructions: Three (3) copies of an operating and maintenance manual for the pump and motor shall be furnished as per the specifications. The manuals shall be prepared specifically for this installation and shall include all required cuts, drawings, equipment lists, descriptions, etc., that are required to instruct operating and maintenance personnel unfamiliar with such equipment.
- D. The submittal data shall be prepared, in its entirety, by the equipment Manufacturer. Shop drawings prepared by the Manufacturer's sales representative, fabrication shop, and other than the listed Manufacturer shall not be acceptable. No additions or modifications to the Manufacturer's submittal shall be accepted, with the sole exception of a cover letter provided by the Manufacturer's local Representative.
- E. A service representative who has complete knowledge of proper operation and maintenance shall be provided to instruct representatives of the Owner on proper operation and maintenance. If there are difficulties in operation of the equipment, due to the Manufacturer's design or fabrication, additional service shall be provided at no cost to the Owner.
- F. Spare Parts List: A Spare Parts List shall contain the required information for each piece of equipment. Contractor shall also furnish the name, address, and telephone number of the nearest distributor for each piece of equipment.

- G. Tools: The Contractor shall supply one (1) complete set of proprietary wrenches and other proprietary tools necessary for the assembly, adjustment, and dismantling of the equipment. All tools shall be of best quality hardened steel forgings with bright, finish wrench heads shall have work faces dressed to fit nuts. All tools shall be suitable for professional work and manufactured by a recognized supplier of professional tools such as Snap On, Crescent, Stanley, or equal. The set of tools shall be neatly mounted in a labeled tool box of suitable design provided with a hinged cover.
- H. Vibration Analysis: In his bid price, the Contractor shall include at least two (2) site visits of the service representative, during construction and testing of the equipment, to analyze and measure the amount of equipment vibration and make his written recommendation for keeping the vibration at a safe limit.
- I. Certifications:
1. Manufacturer's certification of proper installation. (Field Services/Start-up)
 2. Manufacturer's certification of factory tests. (Factory Witnessed)
 3. Manufacturer's certification of satisfactory field testing. (Field Services/Start-up)
 4. Manufacturer's certification of vibration analysis indicating vibration is within acceptable limits. (Field Services/Start-up)

Part 2 Products

2.1 Performance

- A. The pumps shall be designed for continuous operation and will be operated continuously under normal service. To minimize operation power costs, the hydraulic efficiencies listed for each pump are the minimum acceptable, and must be guaranteed by the Manufacturer.

2.2 Design

- A. The overall pump design shall combine high efficiency, low required NPSH, a large solid passage, clog-free, and the ability to handle rags or other fibrous material without plugging.
1. Minimum non-compressible solids passage shall be 5-inch diameter.
- B. Suction and discharge flanges shall be drilled to meet ANSI 125 lb. bolting.

2.3 Operating Conditions

A. The following are the operating conditions for the lift station pump and motor:

	<u>Design Conditions</u>
1. Design Flow, per pump (GPM)	7,500
2. Design Head (FT)	151
3. Minimum Flow (GPM)	1,588 @ 121 ft
4. Operating Range (FT)	7.5 – 13.5
5. Horsepower	400
6. Efficiency, minimum (%)	85
7. Maximum NPSH required (FT)	18.8
8. Speed, maximum (RPM)	1200
9. Discharge Size (IN)	12
10. Suction Size (IN)	12

2.4 Materials of Construction

- A. Pump Component Standard Material
Casing Cast Iron (ASTM A48, Class 35)
Impeller Cast Iron (ASTM A48, Class 35)
Wear Rings 420SS Castings (ASTM A743, CA-40, 12 Min. 450 Brinell)
Suction / Stuffing Cast Iron (ASTM A48, Class 35) Box Covers
Shaft SAE 1045 Steel (AISI 1045 H.R.)
Shaft Sleeve 420SS Castings (ASTM A743, CA-40, 9, 10 Min. 450 Brinell)
Bearing Frame Cast Iron (ASTM A48, Class 25)
Gland Bronze - 40 (ASTM B854 C83600)
Lantern Ring Bronze – 40 (ASTM B85 C83600)

B. Casing Construction

The pump casing shall be designed for the type service herein specified and shall be of sufficient strength and metal thickness to insure long life, accurate alignment and reliable operation. The volute of the pump casing shall have smooth fluid passages large enough at all points to pass any size solid which can pass through the impeller and provide smooth unobstructed flow. The casing shall have a separate and removable suction cover and seal chamber cover.

The casing shall be designed to permit rear pump rotating assembly removal without disturbing either the suction or discharge piping. The casing shall have connections for vents and drains, and gauges.

A handhole shall be provided in the casing to give convenient access to the impeller and interior parts of the pump. The inner contours of the handhole cover shall match the contours of the casing.

The discharge flange shall conform to ANSI B 16.1, Class 125 lb., flat face, of standard size with drilled holes. The discharge flange shall be drilled and tapped for gauge connections.

No stationary guides will be permitted on either the suction or discharge sides of the casing.

C. Impeller Construction

The pump impeller shall be of the single suction enclosed type of the non-clogging design. The impeller shall be designed with smooth water passages to prevent clogging by large chunks, splinters or fibrous material and shall be capable of passing solids having a maximum sphere size as specified herein.

The impeller shall be dynamically balanced to ISO standards G6.2 to insure that the specified vibration limits are met.

The impeller shall be taper bored and keyed and securely held in place to the shaft by a locking plate and secured to the shaft by no less than three (3) high-strength socket head cap screws threaded into the pump shaft. This arrangement shall provide positive locking of the impeller to the shaft, so that the impeller cannot be loosened by torque from either forward or reverse rotation.

D. Wear Rings

A replaceable suction cover wear ring providing 1/8" minimum wear shall be installed with its wear surface parallel to the suction end of the pump impeller. The wear ring shall be installed with recessed stainless steel screws for attachment to the suction cover.

A replaceable impeller wear ring providing 1/8" minimum wear shall be mounted on the impeller to provide a renewable surface opposite the suction cover wear ring. The wear ring shall be secured to the impeller with recessed stainless steel screws.

E. Suction/Seal Chamber Covers

The pump casing shall be provided with suction and seal chamber covers of the same material as the material used in the casing, cast separately from the casing and shall be built to allow for complete removal of the pump rotating assembly by unbolting the seal chamber cover. The suction cover and the seal chamber back plate shall be machined register fit to the casing to assure accurate alignment.

The suction cover flange shall conform to ANSI B16.1, Class 125 lb., flat face, of standard size with drilled holes and shall be designed to assure equal distribution of

the liquid to all parts of the impeller suction eye. Drilled gauge connection shall be provided.

F. Bearing Frame

The pump bearing frame shall be a one-piece rigid cast iron construction, providing a self-centering and self-indexing fit with the seal chamber cover of the pump to assure proper alignment. The bearing frame shall be provided with retainer covers for the outboard and inboard ends of the housing. Both of the retainer covers shall be equipped with lip-type grease seals and deflectors to prevent the entrance of contaminants. The bearing assembly shall be designed to allow the removal of the complete rotating assembly from the casing without disconnecting suction or discharge piping.

The pump bearing frame shall be equipped with a three (3) bearing system designed to provide a separate bearing for the thrust load imposed by the pump impeller and two (2) separate bearings to accept the radial load. The radial bearing shall be of the roller or spherical roller type suitable for all loads encountered in the specified service conditions. The thrust bearings shall be angular contact ball or spherical roller type suitable for all thrust loads. All bearings shall be designed for a minimum of 100,000 hours B-10 life for any point within the pump operating range specified. Certified calculations shall be provided to demonstrate compliance.

All bearings shall be able to be relubricated while the pump is in operation. The bearings shall be grease lubricated. Greased bearings shall be provided with a pressure relief system so that excessive temperature and/or pressure will not damage the bearings. Oil lubricated bearings on vertical pumps shall be provided with an electrically driven oil pump and interconnected flow/pressure switch to insure positive flow of oil to the bearings.

The bearing frame assembly shall be designed to withstand the loads from frequent running against a closed control valve on the pump discharge for minimum periods of three (3) minutes during pump start-up and stop cycles.

The bearing frame shall have provisions for adjustment of the axial clearance between the impeller wear ring and the suction cover wear ring. This adjustment shall be accomplished through the use of metal shims placed between the mounting flange of the bearing frame and the mounting flange on the seal chamber cover. A cylindrical sliding fit between the bearing frame and seal chamber cover shall assure positive bearing alignment.

Grease lubricated bearings shall be properly hand packed at the factory prior to shipment.

G. Seal Chamber

The seal chamber shall be an integral part of the seal chamber cover and shall be designed to collect the leakage from the seal chamber. It shall have a minimum (3/4" – 14 NPT) drain connection at its lowest point.

The seal chamber shall be designed to allow for installation of a split mechanical seal produced by John Crane model 3710 or 3740. The mechanical seal faces shall be a combination of carbon, tungsten carbide or silicon carbide as appropriate for the application.

The gland follower bolts and nuts shall be of stainless steel construction. A conveniently located sealing water connection to the seal chamber shall be drilled and tapped to feed water directly to the seal cage.

H. Suction Elbow

Each pump shall be provided with a clean-out type reducing, long radius type, cast iron suction elbow bolted directly to the pump suction flange. A handhole clean-out shall be provided with a cover of the largest possible size. The inner surface of each handhole cover shall conform to the curvature and radius of the suction elbow. A tapped hole shall be provided at the low point for drainage.

I. Coupling

The coupling between the pump and the drive system shall be a vertical type unit providing a flexible connection between the pump and the drive.

The selection of the size of the coupling required shall be on the basis of the maximum horsepower of the drive system including the service factor and any other special conditions outlined in this hydraulic specification.

In addition to the torque requirements of the drive system, the selection of the coupling size shall be verified through the pump Manufacturer calculating and submitting to the Engineer for approval the torsional analysis of the complete pump/driver system. There shall be no torsional critical speed within 15% above or below the specified speed range. The number of vanes times the RPM are part of the speed range.

J. Pump and Drive Support System

The pump shall be supported by rigid reinforced concrete piers. The piers shall be of adequate size to provide suitable clearance between pump suction elbow and the mounting floor and of sufficient strength to accept all forces imposed by the pump.

Anchor bolts shall be supplied and positioned by the installing Contractor prior to concrete placement for pump support, drive support, and bearing support.

The drive system shall be supported by a high ring base of sufficient height to provide access for mounting and servicing of the connecting shaft. The drive system support base and anchor bolts shall be supplied by the pump Manufacturer.

K. Painting, Coating, and Surface Preparation

1. Surface Preparation

- (a) Solvent Cleaning: Remove all oil, grease, dirt, and other contaminants by solvent cleaning with Varsol, Acetone, or equivalent.
- (b) Hand and Power Tool Cleaning: Remove all loose rust, scale, metal chips, weld splatter, and other foreign material by one or more of the following methods:
 - (1) Power tools
 - (2) Hand chipping
 - (3) Scraping
 - (4) Wire brushing
 - (5) Blast cleaning to SSPC-SP6
 - (6) Surface Irregularities: Small surface pits or irregularities are smoothed using Devcon A plastic steel or equivalent.

2. Paint Application

- (a) Paint shall be applied using standard spraying equipment or brushing as necessary.
- (b) Air temperature and equipment temperature shall be at least 50° F prior to paint application.
- (c) Color shall be ANSI 70 Grey.

3. Procedures

- (a) Primer coat using medium oil alkyd red oxide primer dry film thickness 1.5 to 2.0 mils per coat. The finish coat shall be a synthetic alkyd enamel, ANSI 70 Grey, dry film thickness will be 1.5 to 2.0 mils per coat. Allow a minimum of two (2) hours drying time prior to handling.

- L. The pump Manufacturer shall specially handle all painted components and complete assembled pumps to insure that the applied surfaces are not damaged prior to shipment. The preparation for shipment of all applied surfaces shall be taken into consideration when units are skidded for shipping, making all efforts to protect the surfaces from damage.

Part 3 Execution

3.1 Services of Manufacturer

- A. Inspection, Start up, and Field Adjustment: Where required by the individual pump Sections, an authorized service representative of the Manufacturer shall visit the site for the number of days indicated in those Sections to witness the following and to certify in writing that the equipment and controls have been properly installed, aligned, lubricated, adjusted, and readied for operation. Any additional time required to correct Manufacturer-related deficiencies shall not be included in the days indicated.
1. Installation of the equipment
 2. Inspection, checking, and adjusting the equipment
 3. Startup and field testing for proper operation
 4. Performing field adjustments to ensure that the equipment installation and operation comply with the specified requirements.

3.2 Start-up Service

- A. Pump start-up will be organized by the installing Contractor. The pump Manufacturer may be required to assist in pump startup services. A typical startup checklist and typical startup procedure will be required of the installing Contractor. See Project Specification Section III. The equipment Manufacturer is responsible to assist the installing Contractor in performing these checklists and startup procedures for the pump start up services.
- B. The Manufacturer shall furnish the services of a qualified factory trained field service Engineering for three (3) 8-hour working days at the site to inspect and certify in writing that the equipment has been properly installed, aligned, lubricated, adjusted and readied for operation. After the pumps have been completely installed and wired, the Manufacturer shall do the following:
1. Measure stator and power cables
 2. Check seal lubrication
 3. Check for proper rotation
 4. Check power supply voltage
 5. Measure motor operating load and no load current
 6. Field test to demonstrate satisfactory pump performance. Obtain flow rate and head for individual pumps and pumps in combination at full and reduced speeds.

3.3 Field Tests

- A. Each pump system shall be field tested after installation to demonstrated satisfactory operation without excessive noise, vibration, cavitation, or overheating of bearings.
- B. The following field tests shall be conducted:
 - 1. Startup, check, and operate the pump system over its entire speed range. Vibration shall be within the amplitude limits recommended by the Hydraulic Institute Standards at a minimum of four (4) pumping conditions defined by the Engineer.
 - 2. Obtain concurrent readings of motor voltage, amperage, pump suction head, and pump discharge head for at least four (4) pumping conditions at each pump rotational speed. Check each power lead to the motor for proper current balance.
 - 3. Determine bearing temperatures by infrared thermometer. A run time of at least twenty (20) minutes shall precede this test, unless insufficient liquid volume is available.
 - 4. Electrical and instrumentation tests shall conform to the requirements of the Sections under which the equipment is specified.
- C. Field testing will be witnessed by the Engineer. The installing Contractor shall furnish seven (7) days advance notice of field testing.
- D. In the event any pumping system fails to meet the test requirements, it shall be modified and retested as above until it satisfies the requirements.
- E. After each pumping system has satisfied the requirements, the Contractor shall certify in writing that it has been satisfactorily tested and that all final adjustments have been made. Certification shall include the date of the field tests, a listing of all persons present during the tests, and the test data.
- F. The Contractor shall bear all costs of field tests, except for power and water which the Owner will bear. If available, the Owner's operating personnel may provide assistance in field testing.

3.4 Instruction of Owner's Personnel

- A. During the initial start-up inspection, the Manufacturer's service representative shall also provide one (1) 8-hour working day to review recommended operation and maintenance procedures specific to the models of equipment provided including step-by-step troubleshooting with necessary test equipment with the Owner's personnel. The representative shall have a minimum of two (2) years of experience in training.
- B. A resume for the representative shall be submitted.

- C. Training shall be scheduled a minimum of three (3) weeks in advance of the first session.
- D. Proposed training material and a detailed outline of each lesson shall be submitted for review. Comments shall be incorporated into the material.
- E. The training materials shall remain with the trainees.
- F. The Owner may videotape the training for later use with Owner's personnel.

3.5 Factory Testing

- A. Testing performed upon each pump shall include the following inspections:
 - 1. Impeller, motor rating, and electrical connections shall be checked for compliance with this specification.
 - 2. Prior to operating, each pump shall be run dry to establish correct rotation.
 - 3. Motor and cable insulation shall be tested for moisture content or insulation defects.
 - 4. All motors shall be assembled, test, and certified at the motor factory and the working clearances checked to insure that all parts are properly fitted. The tests shall be in accordance with ANSI/IEEE 112 – Test Procedures for Polyphase Induction Motors and Generators, and ANSI/IEEE 115 – Test Procedures for Synchronous Machines, including heat run and efficiency tests. All computations shall be recorded, certified, dated, and submitted to the District.
- B. A written quality assurance record confirming the above testing/inspections shall be supplied with each pump at the time of shipment.
- C. Motors: All motors of sizes 100 hp and larger shall be assembled, tested, and certified at the motor factory and the working clearances checked to insure that all parts are properly fitted. The tests shall be in accordance with ANSI/IEEE 112 - Test Procedures for Polyphase Induction Motors and Generators, and ANSI/IEEE 115 – Test Procedures for Synchronous Machines, including heat run and efficiency tests. All computations shall be recorded and certified and dated copies of the test results shall be furnished.

- D. Pump Systems: All centrifugal pump systems 10 hp and larger shall be successfully tested under simulated field conditions at the pump factory in accordance with the Test Code for Centrifugal Pumps of the Standards of the Hydraulic Institute, Inc. Tests shall be performed using the complete pump system to be furnished, including the motor. Testing of prototype models will not be acceptable. The following minimum test data shall be submitted:
1. Hydrostatic test data
 2. A minimum of five (5) hydraulic test readings between shutoff head and 25" beyond the maximum indicated capacity, recorded on data sheets as defined by the Hydraulic Institute.
 3. Pump curves showing head, flow, bhp, efficiency, and NPSH requirements.
 4. Certification that the pump horsepower demand did not exceed the rated motor hp beyond the 1.15 service rating at any point on the curve.
- E. Factory Witnessed Tests: All pumps, variable speed drives, and motors, 150 hp and larger shall be factory-tested as complete assembled systems with Owner motor and shall be witnessed by the Owner. The Contractor shall give the Owner a minimum of two (2) weeks notification prior to the test. The Manufacturer shall pay the travel expenses, including airfare, lodging, and meals, for one (1) person from the Owner if the testing facility is more than 300 miles from the Owner. Test results shall be submitted to the Engineer and no equipment shall be shipped until the test data has been approved by the Engineer.
- F. Acceptance: In the event of failure of any pump to meet any of the specified requirements, the Contractor shall make all necessary modifications, repairs, or replacements to conform to the requirements of the Contract Documents and the pump shall be re-tested at no additional cost to the Owner until found satisfactory.

3.6 Equipment Supplier

- A. The equipment shall be supplied by a local representative of the Manufacturer. The local representative must offer in-house service capabilities as a normal scope of his business. As a minimum, the representative must have at his local facility a complete equipment service shop arranged and equipped to provide in-house factory authorized service for any equipment supplied. The representative must offer twenty-four (24) hour emergency field service capabilities year round by factory trained and authorized technicians.

End of Section

Not to be used for bidding purposes

Section II
Contract Forms

Proposal

Project: Equipment Procurement for Cherry Valley Lift Station Pump Replacement, Capital Project No. 1911

Location: Cherry Valley Pump Station, 4020 Barley Ridge Trail, Cherry Valley IL

Delivery Date: September 4, 2019

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

To: Board of Trustees
Rock River Water Reclamation District
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 Rock River Water Reclamation District all in accordance with the plans and specifications, provided by the Rock River Water Reclamation District. 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 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 Rock River Water Reclamation District, which it is agreed, shall be retained as liquidated damages by said Rock River Water Reclamation District 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 Rock River Water Reclamation District, upon debt or contract, and is not a defaulter, as surety or otherwise, upon any obligation to the Rock River Water Reclamation District.
7. No officer or employee or person whose salary is payable in whole or in part by the District is, shall be or become interested, directly or indirectly as a contracting party, partner, stockholder, surety or 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 District and the District'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 99-093 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 the Rock River Water Reclamation District) to submit certified payroll records on a monthly basis, along with a statement affirming that such records are true and accurate, that the wages paid to each worker are not less than the required prevailing rate and that the contractor is aware that filing false records is a Class B Misdemeanor. The successful Bidder shall be responsible for verifying the prevailing wages each month and notifying all subcontractors of the appropriate monthly rates. Prevailing wage rates may be found on the Illinois Department of Labor website at <http://www.illinois.gov/idol/Laws-Rules/CONMED/Pages/Rates.aspx>.

The certified payroll records must include the name, address, telephone number, social security number, job classification, hourly wages paid in each pay period, the number of hours worked each day, and the starting and ending time of work each day, for every worker employed on the project. Any contractor who fails to submit a certified payroll or knowingly files a false certified payroll is guilty of a Class B Misdemeanor. Certified payroll reports shall be submitted on industry standard forms such as IDOT Statement of Compliance (SBE 348) or other approved equal.

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".
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 Rock River Water Reclamation District 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.

Not to be used for bidding purposes

Item No.	Quantity	Unit	Description	Unit Price (In Writing)	Unit Price (In Figures)	Total Price (In Figures)
1	2	EA	Raw Wastewater Pumps and Motors, Complete			
TOTAL BID PRICE:						
				(In Writing)		(In Figures)

Proposed Pump Model: _____ **(Pump curve attached)**

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

By: _____

Name: _____ Title: _____ Date: _____

Not to be used for bidding purposes

Fair Employment Practices Affidavit of Compliance

Project: Equipment Procurement for Cherry Valley Lift Station Pump Replacement, Capital Project No. 1911

NOTE: THE BIDDER MUST EXECUTE THIS AFFIDAVIT AND SUBMIT IT WITH ITS SIGNED BID. THE ROCK RIVER WATER RECLAMATION DISTRICT 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 contracts 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

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 Rock River Water Reclamation District of Winnebago County, Illinois (District), 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 District, 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 the District, 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 the District, and execute a sufficient and satisfactory Contract Performance Bond payable to said District in an amount of one hundred percent (100%) of the Contract price (including alternates) in form and with security satisfactory to said District, 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 District, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

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: _____

Not to be used for bidding purposes

Agreement

1. General

THIS AGREEMENT, made and concluded this _____ day of _____, 2019, between the Rock River Water Reclamation District, Rockford, Illinois (District), 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 the District and according to the terms expressed in the Bond referring to these presents, the Contractor agrees with the District 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 the District 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

The District 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 the District 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 District, 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 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 the District, the District 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 the District 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 the District from all suits, claims, and actions brought against it, and all cost, and damages which the District 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 the District or its representative, or who shall be deemed by the District 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 the District.

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

The District 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 the District receives an acceptable invoice prior to the tenth day of the month and receives approval of the work by the District Engineering Manager, the District shall issue payment before the fifth day of the succeeding month. If the District receives an acceptable invoice on or after the tenth day of the month, the District shall issue payment before the fifth day of the second succeeding month.

The District 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 the District, 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.

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 the District 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. Certified payroll reports shall be submitted on industry standard forms such as IDOT Statement of Compliance (Form SBE 348).

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 the District 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 99-0933, 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;
- (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 District award of a contract, the District will be provided this information described no more than ten working days after the District issues its award notification.

The Contractor shall comply with Article 2 of Public Act 83-1472 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. All equipment must be delivered by September 4, 2019.

11. Liquidated Damages

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

Not to be used for bidding purposes

12. 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.

**Rock River Water Reclamation District
Winnebago County, Illinois**

(Seal)

By _____
President, Board of Trustees

ATTEST: _____
Clerk of the Board

Contractor

(Corporate Seal)

By _____
Contractor's Officer

Name: _____

Title: _____

Date: _____

ATTEST: _____

Not to be used for bidding purposes

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 Rock River Water Reclamation District, 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 Rock River Water Reclamation District 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 partnership the names and residences of each of the partners, the name of the Contractor for the Oblige, 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 Oblige 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 Oblige 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 Oblige relative to claims made against this Bond.

Signed and Sealed this _____ day of _____, 2018.

CONTRACTOR SURETY
Contractor Firm Name

By: _____
Signature

By: _____
Attorney-in-Fact

Title Resident Agent

ATTEST:

Corporate Secretary (Corporations only)

Performance Bond

KNOW ALL MEN BY THESE PRESENTS, that WHEREAS, the Rock River Water Reclamation District has awarded to: _____ hereinafter designated as the “Principal”, a contract, dated, _____, for the Rock River Water Reclamation District.

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 Rock River Water Reclamation District 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 Rock River Water Reclamation District, 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 Rock River Water Reclamation District shall be named as beneficiary on this Performance Bond.

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

SURETY

Contractor Firm Name:

By: _____

By: _____ Signature

Attorney-in-Fact

Title

Resident Agent

ATTEST:

Corporate Secretary (Corporations only)

Not to be used for bidding purposes

Section III
Pump Station Startup Procedures

Not to be used for bidding purposes

**Equipment Procurement for Cherry Valley Lift Station Pump Replacement
Capital Project No. 1911**

The following checklist is designed to assist the Contractor in the pre-startup process.

I. Pre-Startup Checklist

A. Prior to the day of the official Engineer-witnessed startup, the Contractor shall verify that all of the following items have been completed:

1.	The pump is connected to the force main and not to another temporary discharge.	
2.	All valves in the lift station are functioning properly and set correctly for the start of testing.	
3.	Force main is full; all air has been bled out.	
4.	Pressure pipe has been tested for leaks.	
5.	Pump vendor has checked and approved the pumps for all items listed under 43 21 13, Section 3.	
6.	Contractor has confirmed that the pump vendor will be present again at the Engineer-witnessed startup to provide technical support as needed.	
7.	Control system representative has fully programmed systems and performed troubleshooting.	
8.	All equipment that requires startup testing shall be installed, programmed, and operating as specified.	

Notes:

B. The Engineer-witnessed startup will only be performed once the Contractor is confident that the pump is fully installed, programmed, and operating. The Engineer will not operate the system, coordinate start-up problems or troubleshoot with the Contractor.

**Equipment Procurement for Cherry Valley Lift Station Pump Replacement
Capital Project No. 1911**

II. Start-up Procedure

- A. The Engineer-witnessed start-up will only be performed once all items in the Pre-Startup Checklist have been completed.
- B. The following functions should be witnessed during start-up:

1.	Obtain flow rate, head (discharge pressure and wet well level) for the pumps at full and reduced speeds. Compare results to certified factory performance curves.
2.	Pump motor running currents at VFD.
3.	Pump motor voltages.
4.	Pump Sequence:
	a. Normal pump control (transducer)
	b. Redundant pump control, if applicable
5.	Alarm Notifications:
	a. High level
	b. Pump Seal Fail
	c. Pump over Temp
	d. Transducer Failure
6.	Check for proper operation of check valves.

Notes:

Not to be used for bidding purposes

Section IV

General Provisions & Technical Specifications for Sanitary Sewer Construction

(Separate document incorporated by reference)