



ERIE COUNTY WATER AUTHORITY

INTEROFFICE MEMORANDUM

August 30, 2022

To: Terrence D. McCracken, Secretary to the Authority

From: Michael Wymer, Senior Production Engineer *MW*

Subject: Corrosion Control Treatment Program
HS-002 Pipe Loop Equipment
ECWA Project No. 202100152

On Tuesday July 12, 2022, the Authority received one (1) bid for the above referenced contract. The bid was reviewed, a mathematical check has been performed and the apparent lowest acceptable bidder is Intuitech, Inc. Enclosed please find a copy of the bid tabulation sheet for your use and information.

During the design and bid phases, four firms expressed an interest in providing a bid for the pipe loop equipment. Hazen contacted the three non-bidders to inquire as to why they did not submit a bid. Responses included a lack of labor resources, inability to secure materials, and heavy backlog of work as reasoning for not submitting a bid.

Intuitech, Inc. is an established supplier of pilot-scale water treatment for the water industry, including pipe loop equipment identical to the equipment required for this study. Reference checks indicate Intuitech has provided equipment to other water utilities in a competent, reliable, and acceptable manner. They have demonstrated a good understanding of the scope and requirements for this contract.

The Engineer's estimate for the loop equipment contract was \$250,000.00. The total bid submitted by Intuitech includes a bid item of \$344,535.00 for the loop equipment (the balance of the \$422,939.00 total bid is dedicated to installation, training, and on-site support services). Although over the original estimate, Hazen believes this cost to be reasonable, considering the present bidding environment and the importance of the equipment and the associated study to the Authority's overall corrosion control program.

Intuitech has provided adequate insurance, approved by Claims Representative/Risk Manager. There is no apprenticeship program or WMBE participation requirements on this contract.

We, therefore, recommend award of the above referenced contract to Intuitech, Inc. in the amount of \$422,939.00.

To: Terrence D. McCracken
Secretary to the Authority

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August 30, 2022

Budget Information:

Unit: 1030 Water Quality Assurance
Item 101459 HS-002 Optimal Corrosion Control

The budget item dedicated to this project has a current balance of \$194,069.00. Adequate budget is available for payment of the portion of the work to be completed on this project in the 2022 budget year. Additional funds have been proposed for the 2023 budget year.

Attached please find the following documents:

1. ECWA Authorization Form.
2. ECWA Recommendation for Award of Contract form.
3. Bid Tabulation.

MWW:jmf
Attachments
cc: R.Stoll
L.Kowalski
L.Lester
S.Figler

CONT-HS-002-2101-X-12

ERIE COUNTY WATER AUTHORITY
AUTHORIZATION FORM
For Approval/Execution of Documents
(check which apply)

Contract: _____ **Project No.:** 202100152
Project Description: Contract HS-002 Corrosion Control Treatment Program – Pipe Loop Equipment

Item Description:

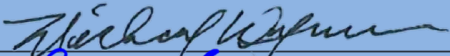






☐ Agreement ☐ Professional Service Contract ☐ Amendment ☐ Change Order
☐ BCD ☐ NYSDOT Agreement ☒ Contract Documents ☐ Addendum
☒ Recommendation for Award of Contract ☐ Recommendation to Reject Bids
☐ Request for Proposals
☐ Other _____

Action Requested:

☒ Board Authorization to Execute ☒ Legal Approval
☒ Board Authorization to Award ☒ Execution by the Chairman
☐ Board Authorization to Advertise for Bids ☐ Execution by the Secretary to the Authority
☐ Board Authorization to Solicit Request for Proposals
☐ Other _____

Approvals Needed:

APPROVED AS TO CONTENT:

<input checked="" type="checkbox"/> Sr. Production Engineer		Date: 9/1/2022
<input checked="" type="checkbox"/> Chief Operating Officer		Date: 9/1/2022
<input checked="" type="checkbox"/> Executive Engineer		Date: 09/02/2022
<input checked="" type="checkbox"/> Director of Administration		Date: 09/01/2022
<input checked="" type="checkbox"/> Risk Manager		Date: 09/01/2022
<input checked="" type="checkbox"/> Chief Financial Officer		Date: 09/01/2022
<input checked="" type="checkbox"/> Legal		Date: 9/1/2022

APPROVED FOR BOARD RESOLUTION:

☒ Secretary to the Authority  Date: 9/2/22

Remarks: Unit price contract.

Resolution Date: _____

Item No: _____



Hazen and Sawyer
498 Seventh Avenue, 11th Floor
New York, NY 10018 • 212.539.7000

August 31, 2022

Leonard Kowalski, PE
Executive Engineer
Erie County Water Authority
295 Main Street, Room 350
Buffalo, NY 14203-2494

**Re: Recommendation of Award
Corrosion Control Treatment Program Pipe Loop Equipment Bid
Project #202100152**

Dear Mr. Kowalski:

Erie County Water Authority received one bid for the above referenced project on July 12, 2022. The bid was submitted by Intuitech, Inc. of Salt Lake City, Utah in the amount of \$422,938. Hazen reviewed Intuitech's bid documents and found the bid to include the required elements to be considered responsive. Hazen found no irregularities, mathematical errors, omissions, or additional conditions in Intuitech's bid that would prohibit award.

A bid tabulation summarizing the bid items is enclosed. The total base bid presented on the bid form was \$422,938. The corrected total base bid, determined as the sum of individual bid items, is \$422,939.

Intuitech's registration with the New York State Department of State Division of Corporations is current.

Hazen contacted the project references listed in Intuitech's bid to check owner satisfaction with prior project performance. These project references provided favorable opinions of Intuitech's performance on prior similar projects.

Based on this information, we recommend that the Authority award the project to Intuitech in the total amount of \$422,939.

Sincerely,

A handwritten signature in black ink, appearing to read "R. B. Arnold", is written over a light blue circular background.

Roger B. Arnold
Senior Associate
Hazen and Sawyer

Enclosure: Bid Tabulation Form

cc: Michael Wymer, Sr. Production Engineer



Hazen and Sawyer
498 Seventh Ave, 11th Floor
New York, NY 10018

TABULATION OF BIDS

OWNER: Erie County Water Authority
Buffalo, New York

PROJECT: **Corrosion Control Treatment Program Pipe Loop Equipment Bid**
Project # 202100152

				Bidders' Name & Contact Info.	
				Intuitech, Inc. 2490 South 900 West Salt Lake City, UT 84119	
ITEM NUMBER	ITEM DESCRIPTION	ITEM QUANTITY	UNIT	UNIT PRICE	AMOUNT BID
1	Pipe Loop Equipment	1	LS	\$344,535.00	\$344,535.00
2	Pipe Loop Installation Services	1	LS	\$51,567.00	\$51,567.00
3	Training and Startup Services	1	LS	\$9,317.00	\$9,317.00
4	On-Site Support Services	3	Per Day	\$5,840.00	\$17,520.00
	TOTAL OF BASE BID ITEMS				\$422,939.00
	Rank				1
	BID BOND AMOUNT SURETY COMPANY			5% of Bid Amount Zions Bank	

**ERIE COUNTY WATER AUTHORITY
RECOMMENDATION FOR AWARD OF CONTRACT**

Contract: _____ Project No.: 202100152
Project Description: Contract HS-002 Corrosion Control Treatment Program – Pipe Loop Equipment

CONTRACT AWARD

Contractor/Supplier: Intuitech, Inc.
Award Amount: \$422,939.00

BID SUMMARY:

Date Advertised for Bids: <u>05/03/2022</u>	Date of Bid Opening <u>07/12/2022</u>
Bidder	Total Bid Amount
<u>Intuitech, Inc.</u>	<u>\$422,939.00</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Attachments: ☒ Bid Tabulation ☒ Consultant's Recommendation

APPROVALS (Select applicable)

WMBE APPROVAL

_____ No Waiver
_____ Full Waiver
_____ Partial Waiver
☐ Affirmative Action Officer _____ Date _____

INSURANCE APPROVAL

☒ Claims Rep/Risk Manager Molly Op Musana Date 08/31/2022

NYS CERTIFIED APPRENTICESHIP PROGRAM APPROVAL

☐ Coordinator of Employee Relations _____ Date _____

Remarks: Unit Price Contract.

Set No:

Project Manual - Short Form

**CORROSION CONTROL TREATMENT
PROGRAM**

PIPE LOOP EQUIPMENT

Project No. 202100152

Erie County Water Authority

3030 Union Road

Cheektowaga, New York 14227



Name of Person, Firm, or Corporation Submitting Bid:

**ADDENDUM NO. 1
DATED JUNE 24, 2022
to the CONTRACT DOCUMENTS
for the
ERIE COUNTY WATER AUTHORITY
CORROSION CONTROL
TREATMENT PROGRAM
PIPE LOOP EQUIPMENT
ECWA PROJECT NO. 202100152**

The attention of all Bidders is directed to the following changes to the Contract Documents:

A. INSTRUCTIONS TO BIDDERS:

1. **REVISE** the second paragraph on page 1 to read as follows: "Bids must be received by the Erie County Water Authority no later than 11:00 a.m. Eastern Prevailing Time on Tuesday, July 12, 2022 at the Service Center Front Desk, Erie County Water Authority, 3030 Union Road, Cheektowaga, New York 14227."
2. **REVISE** the email address in the first paragraph of page 2 to: rarnold@hazenandsawyer.com

B. AGREEMENT:

1. **REVISE** Part 3.01 of the Agreement to read: "The Supplier shall deliver the Pipe Loop Equipment Preliminary Design shop drawing submittal package within 14 days of receipt of an Authority Notice to Proceed. The Supplier shall deliver the Pipe Loop Equipment Detailed Design shop drawing submittal package within 21 days of receipt of comments on the preliminary design submittal. The Supplier shall deliver the Pipe Loop Equipment within 150 days of approved shop drawings."

C. SPECIFICATIONS:

1. **REVISE** Part 3 paragraph G.1 to read: “The Supplier shall fabricate segments of new 3/4” diameter copper pipe with leaded solder. Each copper pipe segment shall consist of five 1-foot pipe sections joined by four lead soldered joints with an overall length of 5 feet. Copper pipe sections shall be joined using copper slip couplings without internal stops”.
2. **REVISE** Part 6 paragraph C.5.c to read: “Measuring Range: 0.15 – 5.0 mg/L as PO₄, minimum.”

SPECIAL NOTICE: THIS ADDENDUM SHALL BE INSERTED IN THE CONTRACT DOCUMENTS SUBMITTED WITH THE BID AND SHALL BE SIGNED BY THE BIDDER IN THE SPACE PROVIDED.

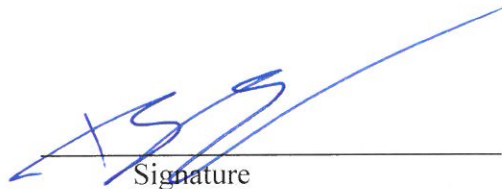
Erie County Water Authority



Terrence D. McCracken
Secretary to the Authority

SIGNATURE OF PERSON, FIRM OR CORPORATION SUBMITTING

BID:


Signature

CEO

Title

(seal if bid by corporation)

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK
CORROSION CONTROL TREATMENT PROGRAM
PIPE LOOP EQUIPMENT
PROJECT No: 202100152

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ERIE COUNTY WATER AUTHORITY
3030 UNION ROAD
CHEEKTOWAGA, NEW YORK 14227

CORROSION CONTROL TREATMENT PROGRAM
PIPE LOOP EQUIPMENT

PROJECT NO: 202100152

NOTICE TO BIDDERS

The Erie County Water Authority will receive separate, sealed bids for the furnishing of all labor, plant, tools, equipment and specified materials or services for the ERIE COUNTY WATER AUTHORITY, CORROSION CONTROL PROGRAM, PIPE LOOP EQUIPMENT. The Work consists of the furnishing of a custom pipe loop equipment for evaluation of corrosion control chemical alternatives, equipment delivery, on-site start-up assistance and training service, and warranty service of pipe loop pilot equipment.

Bids must be received by the Erie County Water Authority no later than 11:00 a.m. Eastern Prevailing Time, on Tuesday June 28, 2022, at the Service Center Front Desk, Erie County Water Authority, 3030 Union Road, Cheektowaga, New York 14227.

When permitted, members of the public may be present to observe the bid opening. All attendees must bring a government-issued photo identification (driver's license preferred) and check-in with the ECWA receptionist before being allowed entry to the bid opening.

Whenever the Erie County Water Authority is operating under a Declaration of Emergency due to a pandemic or other general state of emergencies, members of the public may be precluded from being present at such bid opening.

ANYONE ENTERING THE SERVICE CENTER OR OTHER AUTHORITY FACILITIES IS SUBJECT TO SUCH RESTRICTIONS OR LIMITATIONS IN PLACE AT THE TIME OF ENTRY.

All bids being mailed (including FedEx, UPS, Priority Mail, etc.) or delivered shall be directed to the "SERVICE CENTER FRONT DESK" at the address listed above in a sealed envelope and be clearly marked on the outside of the mailing or hand-delivered envelope "BID ENCLOSED-ECWA - CORROSION CONTROL PROGRAM, PIPE LOOP EQUIPMENT"

Beginning at 9:00 a.m. Eastern Prevailing Time, on Friday June 3, 2022, Project Manuals and accompanying drawings, if applicable, may be obtained by writing the Service Center Front Desk at the above address or calling 716-684-1510, between the hours of 9:00 a.m. and 4:00 p.m. Contract Documents will be mailed to prospective bidders wishing to obtain a set upon receipt of prospective bidder's charge number for UPS or FedEx. The mailing date will be considered the bidder's date of receipt. Partial sets of documents will not be available.

Each bid shall be accompanied by a certified check or bid bond in the amount of five percent (5%) of the amount of the bid.

In accordance with State Finance Law §§139-j and 139-k, all questions about meaning or intent of the bidding documents shall be submitted to the designated contact person in writing. The designated contact is Roger Arnold, P.E., Project Manager, Hazen & Sawyer, 1-804-366-5415, email rarnold@hazensawyer.com

The Erie County Water Authority reserves the right to reject any and all bids or to accept any bid deemed to be for the best interest of the Water Authority even though the proposal chosen may result in the award of the contract to a bidder whose bid is not mathematically lowest.

ERIE COUNTY WATER AUTHORITY

A handwritten signature in black ink, appearing to read 'T.D. McCracken', with a long horizontal flourish extending to the right.

TERRENCE D. McCRACKEN
Secretary to the Authority

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CORROSION CONTROL TREATMENT PROGRAM
PIPE LOOP EQUIPMENT

PROJECT NO: 202100152

INSTRUCTIONS TO BIDDERS

1. BID SHALL BE SUBMITTED ON THESE ERIE COUNTY WATER AUTHORITY (the "Authority") BID FORMS or bid will not be considered. Bid must be typed or printed in ink. Original autograph signatures in ink are required. Facsimile or rubber stamp signatures will not be accepted. ALL PAGES OF THIS BID DOCUMENT MUST BE RETURNED INTACT.
2. LATE PROPOSALS. Any bids received at the Authority after the date and time prescribed will not be considered for contract award.
3. ADDENDA. All questions about the meaning or intent of the Bidding Documents shall be submitted to the Authority in writing and received by the Authority at least ten (10) days prior to the date for the opening of Bids. Interpretations, clarifications, and/or supplemental instructions considered necessary by the Authority in response to such questions will be issued by Addenda. Addenda may also be issued to clarify, correct or change the Bidding Documents as deemed advisable by the Authority. All Addenda will be mailed by either Registered or Certified mail, with return receipt requested to all parties recorded by the Authority as having received the Bidding Documents, for receipt not later than three (3) days prior to the date for the opening of Bids. Failure of any Bidder to receive any such Addendum shall not relieve any bidder from any obligation of the bid submitted. All Addenda so issued shall become part of the Contract Documents. All Addenda must be submitted with the bid proposal and be properly signed by the Bidder. Only questions answered by Addenda will be binding. The Authority will not be responsible for any other explanations or interpretation of such documents which anyone presumes to make on behalf of the Authority before expiration of the time set for the receipt of Bids. No interpretation of the meaning of the plans, specifications or other Contract Documents will be made to any bidder orally. Oral and other interpretations or clarifications will be without legal effect.
4. BID GUARANTEE. Each bid must be accompanied by a certified check made payable to the Erie County Water Authority or a bid bond in the sum of five percent (5%) of the amount of the bid. Bid bonds must be in satisfactory form and payable to the order of the AUTHORITY. The bid bond must contain original signatures in ink. The bid bond shall be approved by the Authority's Attorney as to form, and by the Comptroller as to sufficiency of the bond. The amount of the certified check or bid bond shall be retained by the Authority as liquidated damages if the bidder whose bid is accepted shall fail to enter into a contract with the Authority.

5. EMERGENCY CLOSINGS. In the event of an emergency closing of certain Authority facilities and/or operations and/or services due to any flood, fire, fire drill, power failure, uncontrolled weather conditions or other cause beyond the Secretary to the Authority's control, only bids received prior to the date and time or postmarked as of the date prescribed will be considered for contract award.
6. ANY CHANGE IN WORDING OR INTERLINEATION OF THE ADVERTISEMENT AS PUBLISHED BY THE AUTHORITY shall be reason to reject the proposals in the event that such change in the Advertisement to Bid is not discovered prior to entering into a contract, to void any contract entered into pursuant to such bid. Proposals may be rejected if they show any omissions, alterations of form, additions not called for, conditional or alternate bids other than are provided for in the proposal form, escalation clauses or irregularities of any kind.
7. THE AUTHORITY, IN THE BEST INTERESTS OF THE PUBLIC, RESERVES THE RIGHT TO REJECT any and all bids, to accept either in whole or in part any one bid or combination of bids as may be provided in the bid specifications, and to waive any informalities in bids. The Authority does not obligate itself to accept the lowest or any other proposal and reserves the right to re-bid.
8. CONTRACT(S) OR PURCHASE ORDER(S) WILL BE AWARDED after due consideration of the suitability of goods and/or services bid to satisfy these specifications, the total cost of such goods and/or services including all cost elements, and the timeliness of the agreed upon delivery date.
9. An EXECUTORY CLAUSE shall be a part of any agreement entered into pursuant to this bid. See, § 7 of the Proposed Contract Documents.
10. FAILURE TO MEET DELIVERY SCHEDULE as per accepted bid may result in legal action by the Authority to recover damages.
11. PRICES SHALL BE QUOTED F.O.B. DESTINATION.
12. COLLECT TRANSPORTATION CHARGES WILL NOT BE PAID BY THE AUTHORITY. All freight, cartage, rigging, postage or other transportation charges shall be prepaid and included in the bid. There will be no additional charges for delivery.
13. NO TAXES ARE TO BE BILLED TO THE AUTHORITY. Bids shall not include any State or local excise, sales, transportation or other tax, unless State law specifically levies such tax on purchases made by a public benefit corporation created by the State of New York. The Authority Purchase Order is an exemption certificate. Any applicable taxes from which the Authority is not exempt shall be listed separately as cost elements and added into the total net bid.
14. THE SUCCESSFUL BIDDER shall comply with all laws, rules, regulations and ordinances of the Federal Government, the State of New York and any other political subdivision or regulatory body which may apply to Bidder's performance under this contract.

15. GRATUITIES, ILLEGAL OR IMPROPER SCHEMES. The Authority may terminate contracts or purchase orders, if it is determined that gratuities in the form of entertainment, gifts or otherwise were offered or given by a vendor, his agent or representative to any Authority official or employee with a view towards securing favorable treatment with respect to the awarding of this bid or the performance of the contract or purchase order. The Authority may also terminate a contract or purchase order if it is determined that the successful bidder engaged in any other illegal or improper scheme promotive of favoritism or unfairness incidental to the bidding process or the performance of the contract or purchase order. In the event that it is determined that said improper or illegal acts occurred, the Authority shall be entitled to terminate the contract or purchase order and/or exercise any other remedy available to it under existing law.
16. ANY CASH DISCOUNT which is part of a bid will be considered as a reduction in the bid prices in determining the award of the bid. Date of invoice must not precede date of delivery. The Authority policy is to pay all claims in a timely manner within the specified time. However, if for some reason payment is delayed, the Authority will take the discount when payment is made. The Authority will not pay any interest charges nor refund discount amounts taken after the discount period. If this procedure is unsatisfactory, please quote net.
17. ANY ADDITIONAL INFORMATION which bidder desires to add to the bid shall be written on a separate sheet of paper attached to and submitted with the formal sealed bid to be read at the formal opening. Bidder who elects to offer a price for Alternate Bid Item 1A shall include a sample lease agreement as a separate document to the formal sealed bid.
18. WARRANTY: Notwithstanding anything to the contrary herein contained, BIDDER agrees that the warranties as prescribed by the Laws of the State of New York are and will remain in effect; that this warranty and the time to exercise said warranty in effect at the time of the breach, if any, caused by any breach or by any hidden or latent defect will be as prescribed by the Laws of the State of New York. The obligations of BIDDER herein are independent of any other obligations.
19. THIS BID IS FIRM AND IRREVOCABLE for a period of 45 days from the date and time of the bid opening. If a contract is not awarded within the 45-day period, a bidder to whom the bid has not been awarded may withdraw his bid by serving written notice upon the Secretary to the Authority of his intention to do so.
20. PRICES CHARGED TO THE ERIE COUNTY WATER AUTHORITY are to be no higher than those offered to any other governmental or commercial consumer. If a bidder has a New York State or a Federal GSA contract for any of the items covered in this bid or any similar items, he shall so indicate that he has said contract on these bid papers and automatically supply a copy of this contract within five days after notification of award.
21. PRICE IS FIRM. The unit prices bid shall remain firm and any other charges bid shall also remain firm for delivery of the equipment, material, work, or services described in this bid. No cost increase shall be charged for any reason whatsoever.

22. **EXTENSION OF PRICE PROTECTION.** Any contract entered into pursuant to this bid to supply the Authority requirements of goods and/or services for a definite period of time as stated in the attached specifications may be extended for not more than two successive periods of equal length at the same bid price upon the mutual agreement of the successful bidder and the Authority. All extensions shall be submitted in writing and shall have prior approval by the Secretary to the Authority.
23. **IN EXECUTING THIS BID, THE BIDDER AFFIRMS** that all of the requirements of the specifications are understood and accepted by the bidder, and that the prices quoted include all required materials and services. The undersigned has checked all of the bid figures, and understands that the Authority will not be responsible for any errors or omissions on the part of the undersigned in preparing this bid. Mistakes or errors in the estimates, calculations or preparation of the bid shall not be grounds for the withdrawal or correction of the bid or bid security. In case of error in extension of prices in the bid, the unit price will govern.
24. **ACCOUNTABILITY.** The undersigned shall be fully accountable for his or its performance under this bid or any contract or purchase order entered into pursuant to this bid, and agrees that he or its officers will answer under oath all questions relevant to the performance thereof and to any transaction, act or omission done or omitted in connection therewith if called before any Judicial, County or State officer or agency empowered to investigate the contract or his performance.
25. **QUALIFICATIONS OF BIDDERS**

Bidders shall be experienced in the kind of Work to be performed, shall have the necessary equipment therefore, and shall possess sufficient capital to properly execute the Work within the time allowed. A Bid may be rejected if Bidder cannot show that Bidder has the necessary ability and equipment to commence the Work at the time prescribed and thereafter to prosecute and complete the Work at the rate or within the times specified. A Bid may be rejected if Bidder is already obligated for the performance of other work which would delay the commencement, prosecution, or completion of the Work. To demonstrate qualifications to perform the Work, Bidder shall complete and submit with its Bid the Bidder Qualifications Statement on page BID-5. Bidders may be asked to and shall furnish additional data to demonstrate Bidder's qualifications.

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CORROSION CONTROL TREATMENT PROGRAM
PIPE LOOP EQUIPMENT

PROJECT NO: 202100152

BID FORM AND BID FORM SUPPLEMENTS

OPENING DATE: Tuesday, June 28, 2022 TIME: 11:00 a.m. Eastern Prevailing Time

NAME OF BIDDER: Intuitech, Inc

PERSON AUTHORIZED TO ENTER INTO CONTRACT FOR BIDDER:

NAME: Brock Emerson, PE

TITLE CEO

SUBMISSION DATE: July 1, 2022

ADDRESS: 2490 South 900 West. Salt Lake City, UT 84119

PHONE: 801-487-9255 x 17

PERSON EMPLOYED BY THE BIDDER, WHO WILL BE RESPONSIBLE FOR OBTAINING
BONDS AND/OR INSURANCE COVERAGE

NAME: John Rasmussen

TITLE CFO

ADDRESS: 2490 South 900 West. Salt Lake City, UT 84119

PHONE: 801-487-9255 x 11

EMAIL: jrasmussen@intuitech.com

BID ITEMS & BID SHEET

BID DESCRIPTION: CORROSION CONTROL TREATMENT PROGRAM, PIPE LOOP EQUIPMENT

PROJECT No.: 202100152

Bid to: ERIE COUNTY WATER AUTHORITY
SERVICE CENTER – FRONT DESK
3030 UNION ROAD, CHEEKTOWAGA, NY 1414227

Ship to: VAN DE WATER WTP
3750 RIVER ROAD, TONAWANDA, NY 14150

Bidder will complete the Work in accordance with the Contract Documents for the amount as listed below. Total bid amount(s) shall be shown in words and numbers. In case of discrepancy, the bid amount shown in words will govern.

See Appendix A Specifications, Part 1 General Requirements, Paragraph D Measurement and Payment for a description of the work included under each bid item.

Item No.	Quantity	U/M	Catalog No./Description	Unit Price	Total Price
Base Bid Items					
1	1	LS	Pipe Loop Equipment	\$ \$344,535	\$ \$344,535
2	1	LS	Pipe Loop Installation Services	\$ \$51,567	\$ \$51,567
3	1	LS	Training and Startup Services	\$ \$9,317	\$ \$9,317
4	3	per day	On-Site Support Services	\$ \$5,840	\$ \$17,520
Total Base Bid					\$ 422,938

Item No.	Quantity	U/M	Catalog No./Description	Unit Price	Total Price
Alternate Bid Items					
1A	90	per week	Pipe Loop Lease	\$ N/A	\$ N/A

Bidder who elects to submit a price for Alternate Bid Item 1A shall include a sample agreement of the terms of the Pipe Loop Equipment lease with their bid. The Authority reserves its rights to negotiate the terms of any lease for the Pipe Loop Equipment if the Alternate Bid is selected at the method of procurement.

NOTE: Bid results are available on the Erie County Water Authority website, www.ecwa.org (under Doing Business tab, select option Business Opportunities). No bid results will be given over the telephone.

The Bidder agrees to supply all material/equipment/labor above-described at the above-quoted price and in accordance with all applicable Bid Specifications.

NAME OF BIDDER: Intuitech, INC

AUTHORIZED SIGNATURE:  DATE: 7/1/2022

INFORMATION REQUIRED FROM BIDDERS
AT TIME OF CANVASS OF BIDS

To facilitate correct drawing and execution of contract, bidder shall supply full information concerning legal status:

FIRM NAME Intuitech, INC

ADDRESS OF PRINCIPAL OFFICE: STREET 2490 South 900 West

CITY Salt Lake City

AREA CODE 801 PHONE 485-9255 STATE UT ZIP 84119

Check one: CORPORATION X PARTNERSHIP _____ INDIVIDUAL _____

INCORPORATED UNDER THE LAWS OF THE STATE OF Utah

If foreign corporation, state if authorized to do business in the State of New York:

YES X NO _____

TRADE NAMES: N/A

ADDRESS OF LOCAL OFFICE: STREET N/A

CITY N/A

AREA CODE N/A PHONE N/A STATE N/A ZIP N/A

NAMES AND ADDRESSES OF PARTNERS:

N/A

IDENTIFICATION #: (COMPLETE ONE):

Federal Employer Identification Number: 87-0550069

Social Security Number: N/A

QUALIFICATION STATEMENT REQUIRED FROM BIDDERS
AT TIME OF CANVASS OF BIDS

The vendor shall provide the minimum information requested below as an attachment to the bid:

- A. Project information for a minimum of two (2) similar completed pipe loop projects for water utilities within the last ten (10) years including:
 - 1. Project utility name and reference contact information
 - 2. Project engineer/consultant name and reference contact information
 - 3. Full description of the project including materials, equipment, instruments, etc.
 - 4. Project start date and if applicable, completion date.
 - 5. Form of contract (purchase, lease, etc.)

- B. Project information for a minimum of three (3) additional water treatment related pilot projects for water utilities within the last ten (10) years including:
 - 1. Project utility name and reference contact information
 - 2. Project engineer/consultant name and reference contact information
 - 3. Full description of the project including materials, equipment, instruments, etc.
 - 4. Project start date and if applicable, completion date.
 - 5. Form of contract (purchase, lease, etc.)

Qualification Statement Requirement from Bidders at Time of Canvass of Bids

Project Information for a two similar completed pipe loop projects for water utilities within the last 10 Years.

Project Number 1

Project Utility name and reference contact information:

New York American Water (NYAW) Plant 5
End of Starfire Ct
Hempstead, NY 11557
Richard Kern
516-632-2218 (Office)

Project engineer/ consultant name and reference contact information

Russell Ford, PhD, PE, BCEE
Jacobs
862.242.7040 (direct)
Russell.Ford@jacobs.com

Full Description of project Including Materials, Equipment, Instruments etc

Scope of Work

Provided by Intuitech

1. Provide one corrosion pilot module with the following major components
 - A. One powder-coated stainless steel skid with polyethylene deck
 - B. Two 4 gallon chemical feed tanks
 - C. Two 50... 1000 s⁻¹ variable speed chemical tank mixers
 - D. Four 0.02... 16.5 mL/min chemical feed pumps
 - E. Four 10mL chemical calibration columns
 - F. Four chemical injectors with check valves
 - G. Two 2-position chemical pump containment cabinets
 - H. Two 2-position chemical feed tank containment trays
 - I. Four 1 inch PVC static mixers
 - J. Two 1 inch bronze backflow preventers
 - K. Two 1 inch PVC pressure regulators
 - L. Two 1 inch PVC electric-actuated flow control valves
 - M. Five 1 inch PVC diaphragm check valves
 - N. Twenty-one 1 inch PVC diaphragm check valves
 - O. Seven ¼ inch polypropylene sample valves

- P. Nine 2½ inch stainless steel liquid-filled pressure gauges
 - Q. Five 0.1...1 GPM acrylic/316SS rotameters with integral needle valve
 - R. Five 0.5...5 GPM acrylic/316SS rotameters with integral needle valve
 - S. Five 0.06...13.2 GPM electro-magnetic flow transmitters
 - T. Two capacitance chemical leak detectors
 - U. Two ultrasonic chemical tank level transmitters
 - V. Schedule 80 PVC piping
 - W. One PLC/HMI-based control system
 - X. One multi-function alarm beacon
2. Program PLC and HMI for proper operation
 3. Provide QA/QC testing of system at Intuitech shop prior to shipment
 4. Provide two hard copies of drawings and O&M manuals
 5. Provide two soft copies of drawings, O&M manuals, and component manuals in PDF format on USB drive
 6. Arrange and pay for shipping to the Lynbrook Iron Removal Plant

Project Start Date/ Completion Date

Contracted: 12/2019

Fabrication Complete: 9/2020

Form of Contract

Purchase

Project Number 2

Project Utility name and reference contact information:

Susan A. Andrews, PhD, Professor
 Department of Civil & Mineral Engineering
 University of Toronto
 35 St. George St.
 Toronto, ON M5S 1A4
 (416) 946-0908
 sandrews@civ.utoronto.ca

Project engineer/ consultant name and reference contact information

None

Full Description of project Including Materials, Equipment, Instruments etc

Scope of Work

Provided by Intuitech

1. Provide one pipe loop corrosion testing system with the following major components

- A. One welded 304SS skid
- B. Four 0.02... 16.5 mL/min variable speed peristaltic pumps
- C. Four 300 L/min stainless steel variable speed centrifugal pumps
- D. Four 5... 300 L/min stainless steel magnetic flow transmitters
- E. One 0... 14 pH / temperature transmitter
- F. One -2100... 2100 mV ORP transmitter
- G. One 0... 5000 μ S/cm conductivity transmitter
- H. One 0... 10 mg/L amperometric chlorine residual transmitter
- I. Four 6mm stainless steel 3-way solenoid-actuated valves for sampling
- J. Sample tubing and fittings (316SS)
- K. Circulation loop piping and fittings (PVC)
- L. One control system with the following major components
 - 1. One 30 inch high by 30 inch wide by 12 inch deep NEMA 4 wall-mount enclosure
 - 2. One cooling fan and intake filter assembly
 - 3. One 7.5KVA single phase transformer with 120X240V primary and 120/240V secondary windings
 - 4. One 40A rotary disconnect switch with door interlock and defeat mechanism
 - 5. One white LED light for "POWER" indication
 - 6. One latching mushroom button for "EMERGENCY STOP" control
 - 7. One multi-function alarm beacon
 - 8. One power surge suppressor
 - 9. Two 240/120V 1-pole circuit breakers
 - 10. Two 240/120V 2-pole circuit breakers
 - 11. Four 240/120V 3-pole circuit breakers
 - 12. One 10A 24VDC power supply
 - 13. Eight electronic circuit breakers for 24VDC loads
 - 14. Four ½ HP variable frequency drives
 - 15. One 8-port unmanaged Ethernet switch
 - 16. One 5-port unmanaged Ethernet switches with 4 POE ports
 - 17. One 7 inch operator interface
 - 18. One programmable logic controller
 - 19. Two IO-Link modules with 4 ports each
 - 20. One analog output module with 4 ports
- 2. Engineer and design mechanical and electrical systems
- 3. Program PLC and operator interface for proper operation
- 4. Provide QA/QC testing of system at Intuitech shop prior to shipment
- 5. Provide two hard copies of drawings
- 6. Provide two soft copies of drawings and component manuals in PDF format on USB drive

Project Start Date/ Completion Date

Contracted: 6/2020

Fabrication Complete: 10/2020

Form of Contract

Purchase

Project Information for a three additional related water treatment pilots for water utilities within the last 10 Years.

Project Number 1

Project Utility name and reference contact information:

Jeff Bickel
700 W Sproul Road
Rear Build Road- 2ND Floor
Springfield, PA 19064

Project engineer/ consultant name and reference contact information

Jonathan Reuther, P.E
Senior Project Engineer - Water/Wastewater
D +1 215 399 1159
jonathan.reuther@mottmac.com

Full Description of project Including Materials, Equipment, Instruments etc

Scope of Work

Provided by Intuitech

1. Provide one granular media filtration module in accordance with Part Number F40610-PAR-41PC-4TU-2CF and with the following major components
 - A. Four 0.40...4.1 GPM variable speed progressive cavity feed pumps and associated flow meters
 - B. Four 6 inch diameter by 116 inch high PVC filter columns, suitable for filtration with a max media depth of 72 inches
 - C. One parallel piping system with two raw water feed connections
 - D. One backwash system
 - E. One air scour system
 - F. Four Hach TU5300 Turbidimeter
 - G. Two chemical feed system
 1. 0.07...16.5 mL/min chemical feed pumps
 2. 20 mL chemical calibration columns
 3. 3.7 gallon chemical feed tanks
 4. 2...20 inch ultrasonic chemical level transmitters
 - H. One compressed air system
 - I. One PLC/HMI control system
 - J. One multi-function alarm beacon
 - K. One wireless remote access system
2. Program PLC(s) and HMI(s) for proper operation
3. Provide QA/QC testing of system at Intuitech shop prior to shipment
4. Provide two copies of drawings
5. Provide two hard copies of drawings and O&M manuals
6. Provide two soft copies of drawings, O&M manuals, and component manuals in PDF format on USB drive
7. Arrange and pay for shipping to
1050 Valley Forge Road
Phoenixville, Pa 19460

8. Provide one day (8 hours) of onsite labor for commissioning and training

Project Start Date/ Completion Date

Contracted: 10/2021

Fabrication Complete: 12/2021

Form of Contract

Purchase

Project Number 2**Project Utility name and reference contact information:**

Paul Lacey
C/O Polk County Florida
Vogel Bros. Building Co.
2720 Drane Field Road
Lakeland, FL 33811

Project engineer/ consultant name and reference contact information

Jeremy O'Neal, PE
Senior Engineer
200 E. Robinson Suite 1400 | Orlando, FL 32801
M (321) 394-5826
carollo.com

Full Description of project Including Materials, Equipment, Instruments etc

Scope of Work

Provided by Intuitech

1. Provide one flocculation and sedimentation module in accordance with Attachment A and with the following major components
 - A. One 1.00...12.1 GPM variable speed centrifugal feed pumps with outlet pressure indication gauge and associated flow meter
 - B. One 800-micron feed strainer with associated by-pass valves
 - C. One feed pump suction pressure transmitter
 - D. One temperature transmitter
 - E. Three rapid mix basins with the following major components
 1. 2.5 gallon basin
Variable speed, DC powered, mixer and impeller designed for 50-1050 G.
 2. Four chemical injection points per basin
 3. pH probe location
 - F. Three flocculation basins with the following major components
 1. 95 gallon basin
 2. Variable speed, DC powered, mixer and impeller designed for 15-175 G.
 3. Floc inspection window and DC powered illumination light per basin
 4. Two chemical injection points per basin

5. pH probe location
 6. Associated valving to allow for 1-stage, 2-stage, or 3-stage flocculation
 - G. One sedimentation basin with the following major components
 1. 210 gallon sedimentation basin
 2. 22 gallon settled water basin
 3. Two floc inspection windows with two DC powered illumination lights
 4. One sludge removal system with the following major components
 - a. One sludge removable drive
 - b. One modulating sludge removal valve with withdraw rates of 0.5 ... 3.0 gpm and associated flow meter
 - H. Two Lovibond PTV 1000 Turbidimeters
 - I. Two pH probes (Thermo Scientific CA27R3A/ DS21-WA/ PH21A1A2)
 - J. Three chemical feed systems
 - K. One moveable chemical tank mixer
 - L. One PLC/HMI control system with Plant SCADA Connection
 - M. One multi-function alarm beacon
 - N. One wireless remote access system
2. Provide one ozonation module in accordance with Attachment A and with the following major components
- A. One 2.00...12.1 GPM variable speed progressive cavity feed pumps and associated flow meter
 - B. One 6 foot high, 130 gallon, serpentine contactor with 25 sample ports
 - C. One Oxygen Generation system including
 1. One inlet pressure transmitter
 2. Three compressors sized to deliver a combined flow of 150 LPM at 80 psi
 3. One compressed air heat exchanger
 4. One air prep assembly including
 - a. One air prep inlet pressure transmitter
 - b. One 0.3 micron separator
 - c. One 0.01 micron separator
 - d. One air prep intermediate pressure transmitter
 - e. One air prep air flow meter
 - f. One air prep air temperature sensor
 - g. One liquid gas separator with integral leak detection sensor
 - h. One air dryer
 - i. One relative humidity sensor
 - j. One air prep outlet pressure transmitter
 5. One PSA oxygen concentrator
 6. One oxygen concentration sensor
 7. Provisions for feeding from client provided O2 canisters and by-passing PSA system
 - D. One Ozone Generation system including
 1. One oxygen 0.01 micron particulate filter with inlet and outlet pressure transmitters
 2. One 50 gm/hr ozone generator
 3. One ozone 0.01 micron particulate filter with inlet and outlet pressure transmitters
 4. One 0...3.5 SLPM ozone mass flow control valve
 5. One ozone feed gas pressure transmitter
 6. One ozone feed gas isolation valve
 7. One 0...200 G/NM3 ozone gas analyzer and associated appurtenances including
 - a. Coordinated solenoid valves for zero gas, feed gas, and off gas analysis
 - b. One off gas sampling pump with off gas liquid gas separator with integral leak detection sensor
 - c. One membrane sample dryer
 - d. One integral ozone destruct unit
 - E. One ambient ozone transmitter with interlocks

- F. Two moveable dissolved ozone sensors, 0...10 mg/L range (Thermo Scientific CA27R3A/ DS21-WA/ OZ31B)
 - G. One PLC/HMI control system with Plant SCADA Connection
 - H. One multi-function alarm beacon
 - I. One wireless remote access system
3. Provide one granular media filtration module in accordance with Attachment A and with the following major components
- A. Four 0.40...4.1 GPM variable speed progressive cavity feed pumps and associated flow meters
 - B. Four 12 inch diameter by 116 inch high PVC filter columns with opaque lower sections and clear upper sections
 - C. One parallel piping system with two raw water feed connections
 - D. One backwash system
 - E. One air scour system
 - F. Four Lovibond PTV 1000 Turbidimeter
 - G. One chemical feed system
 - H. One compressed air system
 - I. One PLC/HMI control system with Plant SCADA Connection
 - J. One multi-function alarm beacon
 - K. One wireless remote access system
 - L. One pH probe (Thermo Scientific CA27R3A/ DS21-WA/ PH21A1A2)
4. Program PLC(s) and HMI(s) for proper operation
5. Provide QA/QC testing of system at Intuitech shop prior to shipment
6. Provide two copies of drawings
7. Provide two hard copies of drawings and O&M manuals
8. Provide two soft copies of drawings, O&M manuals, and component manuals in PDF format on USB drive
9. Arrange and pay for shipping to
8950 N Campbell Rd
Lakeland, FL 33810
10. Provide four day (32 hours) of onsite labor for commissioning and training

Project Start Date/ Completion Date

Contracted: 9/2021

Fabrication Complete: 3/2022

Form of Contract

Purchase

Project Number 3

Project Utility name and reference contact information:

Bethany Yaffe, PE, ENV SP
Civil Engineer
8101 Ralston Road
Arvada, CO 80002

Project engineer/ consultant name and reference contact information

Kerry Meyer
Jacobs
720-323-0998
Kerry.Meyer3@jacobs.com

Full Description of project Including Materials, Equipment, Instruments etc

Scope of Work

Provided by Intuitech

1. Provide one granular media filtration module in accordance with Attachment A and with the following major components
 - A. Four 0.40...4.1 GPM variable speed progressive cavity feed pumps and associated flow meters
 - B. Four 6 inch diameter by 116 inch high PVC filter columns, suitable for filtration with a max media depth of 72 inches
 - C. One parallel piping system with two raw water feed connections
 - D. One backwash system
 - E. One air scour system
 - F. Four Lovibond PTV 1000 Turbidimeter
 - G. Four chemical feed system
 1. 0.07...16.5 mL/min chemical feed pumps
 2. 20 mL chemical calibration columns
 3. 3.7 gallon chemical feed tanks
 4. 2...20 inch ultrasonic chemical level transmitters
 - H. Series and Parallel Operation
 - I. One compressed air system
 - J. One PLC/HMI control system
 - K. One multi-function alarm beacon
 - L. One wireless remote access system
2. Provide additional influent water quality instrumentation
 - A. One Lovibond PTV 1000 Turbidimeter
 - B. One Endress+Hauser pH probe (CPF81D-7LH1C) and transmitter (CM442R-AAM2CEF06)
3. Program PLC(s) and HMI(s) for proper operation
4. Provide QA/QC testing of system at Intuitech shop prior to shipment
5. Provide two copies of drawings
6. Provide two hard copies of drawings and O&M manuals
7. Provide two soft copies of drawings, O&M manuals, and component manuals in PDF format on USB drive
8. Arrange and pay for shipping to
Ralston Water Treatment Plant
18975 W 66th Ave
Arvada, CO 80007
9. Provide one day (8 hours) of onsite labor for commissioning and training

Project Start Date/ Completion Date

Contracted: 6/2021

Fabrication Complete: 8/2021

Form of Contract

Purchase

INFORMATION REQUIRED FROM BIDDERS
REGARDING PROPOSED CONTRACT DOCUMENTS

Question 1:

The BIDDER represents that it has reviewed the Proposed Contract Documents beginning at page AGT-1.

CHECK ONE:

- ☒ YES, BIDDER has reviewed the Proposed Contract Documents.
- ☐ NO, BIDDER has not reviewed the Proposed Contract Documents.

Failure to review the Proposed Contract Documents will result in the BIDDER being deemed NONRESPONSIVE by the Authority and therefore, ineligible to be awarded the Contract.

Question 2:

The BIDDER accepts the terms of the Proposed Contract Documents as drafted and agrees to execute the Contract as drafted if awarded the Bid.

CHECK ONE:

- ☐ YES, BIDDER accepts the Proposed Contract Documents.
- ☒ NO, BIDDER proposes the following amendment(s) to the Proposed Contract Documents:

~~Request that the standard terms and conditions presented on the following page be used/~~
~~incorporated.~~

**Insert Additional Page(s) if necessary.*

Terms and Conditions

Intuitech, Inc. (hereinafter referred to as "Intuitech") intends the present Proposal to be an offer to enter into a binding contract with ERIE COUNTY WATER AUTHORITY (hereinafter referred to as "Buyer"). The Buyer's Purchase Order or another document requesting Intuitech to proceed with the work discussed in the present Proposal shall be considered as the Buyer's acceptance of Intuitech's offer to enter into a binding contract and the following terms and conditions. This Proposal and Purchase Order or other responsive document shall constitute the contract between the parties, which is hereinafter referred to as the "Agreement."

Attorney's Fees: In the event that a suit or action arises from the terms of the Agreement, the losing party agrees to pay the prevailing party's reasonable attorney fees. The trial court shall determine the amount of reasonable attorney fees incurred by the prevailing party through the completion of trial court litigation and the appellate court shall determine the amount of reasonable attorney fees during any appeal.

Copyright Ownership: All software programming, drawings, documentation or any other form of original authorship of Intuitech is copyrighted material owned by Intuitech and may not be reproduced, modified or distributed, in whole or in part, without the prior written permission or license from Intuitech.

Delay in or Failure to Enforce: No delay or omission in the exercise of any right or remedy of Intuitech on any default by the Buyer shall impair such right or remedy or be construed as a waiver.

Entire Agreement: The Agreement contains the entire agreement between the parties and shall not be modified in any manner except by a written instrument executed by the party to be charged therewith.

Expiration: This Proposal is valid for 30 days from the date printed hereon.

Governing Law: The terms of the Agreement shall be governed by and construed in accordance with the laws of the State of Utah.

Limitation of Liability: In no event shall Intuitech be liable for any incidental, consequential, general, direct, or special damages, including damages to third parties, resulting from Intuitech's performance or failure to perform the scope of work outlined in this Proposal.

Force Majeure: Neither Party shall be liable for any failure or delay in the performance of its obligations due to fire, flood, earthquake, elements of nature, acts of God, acts of war, terrorism, riots, civil disorder, rebellions, or other similar cause beyond the reasonable control of the Party affected, provided that such default or delay could not have been prevented by reasonable precautions and cannot reasonably be circumvented, and, provided further, that the Party hindered or delayed immediately notifies the other Party describing the circumstances causing the delay. This provision shall not act to delay or defer the payment of any sums which may be due and owing.

Paragraph Headings: The paragraph headings are inserted only as a matter of convenience and in no way, define, limit or prescribe the scope or intent of the Agreement or in any way bear upon the interpretation thereof.

Payments: Twenty-five percent of the cost will be invoiced after delivery of conceptual drawings. Twenty-five percent of the cost will be invoiced after delivery of shop drawings. Forty-five percent will be invoiced after completion of fabrication. The remaining five percent will be invoiced after factory testing by Intuitech, or on-site commissioning by Intuitech, or sixty days after completion of fabrication, whichever is first. Payment terms are net 30 days from the invoice date. On any amounts not paid within terms, Buyer agrees to pay interest at a rate of 1 ½% per month (18% per year). Buyer also agrees that Intuitech will provide an operation enabling code only after all payments, including interest, have been received in full, and understands that the equipment will become inoperable sixty days after shipment unless the enabling code is applied.

Relationship of the Parties: Nothing contained in the Agreement shall be deemed or construed to create the relationship of principal and agent, or of partnership, or of joint venture, or of any other association between the parties.

Successors and Assigns: The terms of the Agreement shall be binding upon the parties, their personal representatives, successors and assigns.

Taxes: For goods and taxable services shipped or provided within the United States the Buyer shall pay all applicable taxes. If the Buyer is tax exempt in the origin or destination jurisdiction then the Buyer shall provide appropriate exemption documentation to Intuitech. For goods and taxable services shipped outside of the United States, the buyer or their assigned agent/broker is, by definition, the importer of record responsible for payment of all duties, taxes, and fees as a result of the importation.

Termination: The Buyer shall pay Intuitech in full for all of Intuitech's expenses as of the date of termination, including costs incurred in the performance of services to the date of termination.

Waiver in Writing: Any waiver by Intuitech of any default must be in writing. One or more waivers by Intuitech of a breach by the Buyer of any term or condition of the Agreement shall not be construed as a waiver by Intuitech of a subsequent breach by the Buyer of the same term or condition.

Warranties: Equipment manufactured by Intuitech is warranted to be free from defects in materials and workmanship for a period of (15) months from the date of manufacture, unless otherwise agreed upon in writing. In the event of any defect in materials or workmanship, Intuitech will repair or replace, at its option, part(s), which are proven to have been defective, provided the Buyer provides written notice of the defect during the warranty period. The Buyer shall notify Intuitech of the preferred method of repair stated below.

Part Replacement by Buyer at Buyer's Site

If the defective part(s) are to be replaced by the Buyer at the Buyer's site, the Buyer shall be liable for all costs associated with removal and re-installation of the part(s), and Intuitech shall be liable for the shipping of the part(s). The Buyer must return defective part(s) within 7 days after receipt of the replacement part(s) or be liable for the cost of the replacement part(s).

Equipment Repair by Intuitech at Buyer's Site

If the defective equipment is to be repaired by Intuitech at the Buyer's site, the Buyer shall be liable for travel costs, including, but not limited to, airfare, auto rental, hotel, meal per diem, and transit time to and from the site charged at a rate of \$160 per hour. The Buyer must provide a purchase order to Intuitech for the amount of the estimated charges before travel arrangements will be made.

Equipment Repair by Intuitech at Intuitech's Manufacturing Facility

If the defective equipment is to be repaired at Intuitech's manufacturing facility, the Buyer shall be liable for all costs associated with removal, shipping, and re-installation of the equipment. The Buyer must obtain authorization from Intuitech prior to return of the equipment.

If the defect has resulted from improper storage, installation, operation or maintenance of the equipment, Intuitech reserves the right to reject the warranty claim. Intuitech makes no warranty, express or implied, other than the foregoing express warranties, which apply only for the warranty period.

Question 3:

Is the proposed Amendment a Condition of the Bid Proposal? If the Authority rejects the proposed Amendment would the Bidder withdraw its Bid?

CHECK ONE:

☐ NOT APPLICABLE, BIDDER did not propose any amendment in response to Question 2.

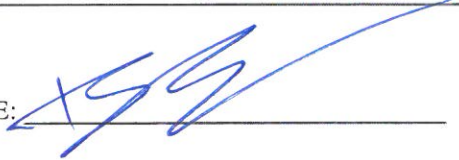
☐ YES, the Amendment is a Condition of the Bid Proposal.

IF the Amendment is a Condition of the Bid Proposal and the Authority rejects the Amendment, the Authority will deem the Bid withdrawn and will proceed to award the Bid to the next lowest, responsible bidder.

☒ NO, the BIDDER would like to negotiate the terms of the Amendment prior to the execution of the Contract.

Please Answer Question 3 for each proposed Amendment to the Proposed Contract Documents and insert additional pages if necessary to provide such answers.

NAME OF BIDDER: Intuitech, Inc

AUTHORIZED SIGNATURE:  DATE: 7/1/2022

BID SECURITY FORM

BIDDER (Name and Address):

Intuitech, Inc

2490 South 900 West

Salt Lake City, UT 84119

SURETY (Name and Address of Principal Place of Business):

Intuitech, Inc

2490 South 900 West

Salt Lake City, UT 84119

OWNER:

Erie County Water Authority

295 Main Street, Room 350

Buffalo, New York 14203

BID

BID DUE DATE: July 12, 2022

PROJECT: **CORROSION CONTROL TREATMENT PROGRAM – PIPE LOOP EQUIPMENT**

Project No: 202100152

BID GUARANTEE by a Certified Check made payable to Erie County Water Authority for 5% of the amount of bid

BOND

BOND NUMBER: N/A

DATE: (Not later than Bid due date): N/A

PENAL SUM: N/A

(Words)

N/A

(Figures)

IN WITNESS WHEREOF, Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

N/A

(Seal)

Bidder's Name and Corporate Seal

By: N/A

Signature and Title

Attest: N/A

Signature and Title

SURETY

N/A

(Seal)

Surety's Name and Corporate Seal

By: N/A

Signature and Title

(Attach Power of Attorney)

Attest: N/A

ZIONS BANK

Salt Lake City, Utah 84101

A division of Zions Bancorporation, N.A. Member FDIC
PURCHASER'S COPY OF CASHIER'S CHECK

31-5/1240

8665475

INTUITECH INC

Remitter

Date

JUL 01, 2022

Pay

\$

21,146.90

TWENTY ONE THOUSAND ONE HUNDRED FORTY SIX and 90/100 US Dollars

To
The Order
Of

ERIE COUNTY WATER AUTHORITY

NOTICE TO CUSTOMER: The purchase of a Surety Bond and/or execution of an Indemnity Agreement may be required before the check may be replaced or refunded in the event it is lost, misplaced or stolen.

NON NEGOTIABLE
CUSTOMER COPY

007

03

1823

HARLAND CLARKE M17944 20042131

THIS DOCUMENT CONTAINS A TRUE WATERMARK - HOLD TO LIGHT TO VIEW

ZIONS BANK

Salt Lake City, Utah 84101

CASHIER'S CHECK

A division of Zions Bancorporation, N.A. Member FDIC

31-5/1240

8665475

INTUITECH INC

Remitter

Date

JUL 01, 2022

Pay

\$

21,146.90

TWENTY ONE THOUSAND ONE HUNDRED FORTY SIX and 90/100 US Dollars

To
The Order
Of

ERIE COUNTY WATER AUTHORITY

Authorized Signature

007

03

1823

⑈8665475⑈ ⑆124000054⑆ 002 25563 6⑈

NON-COLLUSIVE BIDDING CERTIFICATION

as mandated by Public Authority Law § 2878

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his knowledge and belief:

(1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and

(3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

NOTICE

(Penal Law § 210.45)

IT IS A CRIME, PUNISHABLE AS A CLASS A MISDEMEANOR UNDER THE LAWS OF THE STATE OF NEW YORK, FOR A PERSON, IN AND BY A WRITTEN INSTRUMENT, TO KNOWINGLY MAKE A FALSE STATEMENT, OR TO MAKE A FALSE STATEMENT, OR TO MAKE A STATEMENT WHICH SUCH PERSON DOES NOT BELIEVE TO BE TRUE.

BID NOT ACCEPTABLE WITHOUT FOLLOWING CERTIFICATION:


Affirmed under penalty of perjury this 30th day June, 2022

PROJECTED DELIVERY 30 WEEKS AFTER NOTICE TO PROCEED

FIRM NAME Intuitech, Inc

ADDRESS 2490 South 900 West

Salt Lake City, UT ZIP 84119

AUTHORIZED SIGNATURE 

TYPED NAME OF AUTHORIZED SIGNATURE Brock Emerson

TITLE CEO TELEPHONE No. 801-487-9255 x17

SECTION 2875 OF THE PUBLIC AUTHORITIES LAW

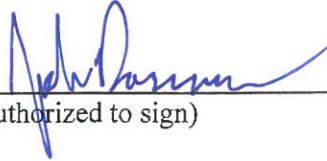
§2875. GROUND FOR CANCELLATION OF CONTRACT BY PUBLIC AUTHORITY.

A clause shall be inserted in all specifications or contracts hereafter made or awarded by any public authority or by any official of any public authority created by the state or any political subdivision, for work or services performed or to be performed or goods sold or to be sold, to provide that upon the refusal of a person, when called before a grand jury, head of a state department, temporary state commission, or other state agency, the organized crime task force in the department of law, head of a city department, or other city agency, which is empowered to compel the attendance of witnesses and examine them under oath, to testify in an investigation concerning any transaction or contract had with the state, any political subdivision thereof or of a public authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning such transaction or contract.

- (a) Such person, and any firm, partnership, or corporation of which he is a member, partner, director, or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any public authority or official thereof, for goods, work or services, for a period of five years after such refusal, and to provide also that
- (b) any and all contracts made with any public authority or official thereof, since the effective date of this law, by such person and by any firm, partnership, or corporation of which he is a member, partner, director or officer may be canceled or terminated by the public authority without incurring any penalty or damages on account of such cancellation or termination, but any monies owing by the public authority for goods delivered or work done prior to the cancellation termination shall be paid.

This is to CERTIFY that neither the undersigned nor any member, partner, director, or officer of the firm has refused to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning a transaction or contract with the state, any political subdivision thereof, a public authority or with a public department, agency or official of the state or of any political subdivision thereof or of a public authority, when called before a grand jury, head of a state department, temporary state commission, or other state agency, the organized crime task force in the department of law, head of a city department, or other city agency, which is empowered to compel the attendance of witnesses and examine them under oath.

Intvitech, Inc.
(Name of Individual, Partnership or Corporation)

By 
(Person authorized to sign)

(SEAL)

SECTION 2876 OF THE PUBLIC AUTHORITIES LAW

§2876. DISQUALIFICATION TO CONTRACT WITH PUBLIC AUTHORITY

Any person who, when called before a grand jury, head of a state department, temporary state commission or other state agency, the organized crime task force in the department of law, head of a city department or other city agency, which is empowered to compel the attendance of witnesses and examine them under oath to testify in an investigation concerning any transaction or contract had with the state, any political subdivision thereof, a public authority or with a public department, agency or official of the state or of any political subdivision thereof or of a public authority, refuses to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant questions concerning such transaction or contract, and any firm, partnership or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any public authority or any official of any public authority created by the state or any political subdivision, for goods, work or services, for a period of five years after such refusal or until a disqualification shall be removed pursuant to the provisions of section twenty-six hundred three of this article.

It shall be the duty of the officer conducting the investigation before the grand jury, the head of a state department, the chairman of the temporary state commission or other state agency, the organized crime task force in the department of law, the head of a city department or other city agency before which the refusal occurs to send notice of such refusal, together with the names of any firm, partnership or corporation of which the person so refusing is known to be a member, partner, officer or director, to the commissioner of transportation of the state of New York, or the commissioner of general services as the case may be, and the appropriate departments, agencies and officials of the state, political subdivisions thereof or public authorities with whom the persons so refusing and any firm, partnership or corporation of which he is a member, partner, director or officer, is known to have a contract. However, when such refusal occurs before a body other than a grand jury, notice of refusal shall not be sent for a period of ten days after such refusal occurs. Prior to the expiration of this ten day period, any person, firm, partnership or corporation which has become liable to the cancellation or termination of a contract or disqualification to contract on account of such refusal may commence a special proceeding at a special term of the supreme court, held within the judicial district in which the refusal occurred, for an order determining whether the questions in response to which the refusal occurred were relevant and material to the inquiry. Upon the commencement of such proceeding, the sending of such notice of refusal to answer shall be subject to order of the court in which the proceeding was brought in a manner and on such terms as the court may deem just. If a proceeding is not brought within ten days, notice of refusal shall thereupon be sent as provided herein.

This is to CERTIFY that neither the undersigned nor any member, partner, director, or officer of the firm has refused to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning a transaction or contract with the state, any political subdivision thereof, a public authority or with a public department, agency or official of the state or of any political subdivision thereof or of a public authority, when called before a grand jury, head of a state department, temporary state commission, or other state agency, the organized crime task force in the department of law, head of a city department, or other city agency, which is empowered to compel the attendance of witnesses and examine them under oath.

Intuitive, Inc.
(Name of Individual, Partnership or Corporation)

By [Signature]
(Person authorized to sign)

(SEAL)

FORMS A, B, and C

STATE FINANCE LAW REQUIREMENTS

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). When the Authority seeks to procure goods or services by means of an Invitation or Notice to Bid, or a Request for Proposals, the State Finance Law imposes certain restrictions on anyone who may wish to offer goods or services to the Authority as an Offerer, as that term is defined in §§ 139-j(1)(h) and 139-k(1)(h).

During the Restricted Period, as defined in §§ 139-j(1)(f) and 139-k(1)(f), when bids or proposals are being solicited, the Authority will designate a contact person with whom the Offerer may contact for information and other authorized purposes as set forth in §139-j of the State Finance Law. The designated contact is identified in the Notice to Bidders, or in the Request for Proposal. An Offerer is authorized to contact the Authority's designated contact for such purposes set forth in § 139-j(3).

Pursuant to the State Finance Law, the Authority is also required to make certain findings before making any determinations as to the qualifications and eligibility of those seeking a procurement contract, as that term is defined in State Finance Law §§ 139-j(1)(g) and 139-k(1)(g). Certain findings of non-responsibility can result in rejection for contract award and in the event of two findings of non-responsibility occurring within a 4-year period, the Offerer will be debarred from obtaining procurement contracts with the Authority. Further information about these requirements can be found in §§139-j and 139-k of the New York State Finance Law and the Erie County Water Authority's Procurement Disclosure Policy.

The following forms will be used by the Authority to make such findings:

Form A - Offerer's Affirmation of Understanding of, and Agreement to Comply with, the Authority's Permissible Contact Requirement During the Restricted Period.

Form B - Offerer's Certification of Compliance with State Finance Law.

Form C - Offerer's Disclosure of Prior Non-Responsibility Determinations.

FORM A

**Offerer's Affirmation of Understanding of, and Agreement to Comply
with, the Permissible Contact Requirements During the Restricted Period**

Instructions:

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). The Authority must obtain a written affirmation of understanding and agreement to comply with procedures regarding permissible contacts with the Authority in the restricted period for a procurement contract in accordance with State Finance Law §139-j and §139-k. It is required that this affirmation be obtained as early as possible in the procurement process, but no later than when the Offerer submits its proposal.

Offerer affirms that it understands and agrees to comply with the procedures of the Authority relative to permissible contacts as required by State Finance Law §139-j(3) and §139-j(6)(b).

By: Intuitech, Inc Date: June 30, 2022

Name: John Rasmussen

Title: CFO

Supplier Name: Intuitech, INC

Address: 2490 South 900 West

Salt Lake City, Utah 84119

FORM B

**Offerer's Certification of Compliance
With State Finance Law §139-k(5)**

Instructions:

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). The Authority must obtain a Certification that the information submitted for a procurement contract is complete, true, and accurate regarding any prior findings of non-responsibility, such as non-responsibility pursuant to State Finance Law §139-j. The Offerer must agree to sign the Certification, under penalty of perjury, and to provide the Certification to the Authority. The Certification should be obtained as early as possible in the process, but no later than when an Offerer submits its proposal.

Offerer Certification:

I certify that all information provided to the Authority relating to the awarding of a procurement contract is complete, true, and accurate.

By: Intuitech, Inc Date: June, 30 2022

Name: John Rasmussen

Title: CFO

Supplier Name: Intuitech Inc

Supplier Address: 2490 South 900 West

Salt Lake City, UT 84119

FORM C**Offerer's Disclosure of Prior
Non-Responsibility Determinations****Background:**

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). New York State Finance Law §139-k(2) obligates the Authority to obtain specific information regarding prior non-responsibility determinations with respect to State Finance Law §139-j. In accordance with State Finance Law §139-k, an Offerer must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any Governmental Entity due to: (a) a violation of State Finance Law §139-j; or (b) the intentional provision of false or incomplete information to a Government Entity.

The terms "Offerer" and "Governmental Entity" are defined in State Finance Law §§139-j(1) and §139-k(1). These sections also set forth detailed requirements about the restrictions on contacts during the procurement process. A violation of State Finance Law §139-j includes, but is not limited to, an impermissible contact during the restricted period (for example, contacting a person or entity other than the designated contact person, when such contact does not fall within one of the exemptions).

As part of its responsibility determination, State Finance Law §139-k(3) mandates consideration of whether an Offerer fails to timely disclose accurate or complete information regarding the above non-responsibility determination. In accordance with law, no Procurement Contract shall be awarded to any Offerer that fails to timely disclose accurate or complete information under this section, unless a finding is made that the award of the Procurement Contract to the Offerer is necessary to protect public property or public health safety, and the Offerer is the only source capable of supplying the required Article of Procurement, as that term is defined in State Finance Law §§ 139-j(1)(b) and 139-k(1)(b), within the necessary timeframe. See State Finance Law §139-j(10)(b) and §139-k(3).

Instructions:

The Authority must include a disclosure request regarding prior non-responsibility determinations in accordance with State Finance Law §139-k in its solicitation of proposals or bid documents or specifications or contract documents, as applicable, for procurement contracts. The attached form is to be completed and submitted by the individual or entity seeking to enter into a Procurement Contract. It shall be submitted to the Authority no later than when the Offerer submits its proposal.

FORM C (Continued)**Offerer's Disclosure of Prior Non-Responsibility Determinations**

Name of Individual or Entity Seeking to Enter into the Procurement Contract:

Intuitech Inc

Address: 2490 South 900 West

Salt Lake City, UT 84119

Name and Title of Person Submitting this Form: John Rasmussen, CFO

Contract Procurement Number: 801-487-9255 x11 jrasmussen@intuitech.com

Date: June 30, 2022

1. Has any Governmental Entity made a finding of non-responsibility regarding the individual or entity seeking to enter into the Procurement Contract in the previous four years? (Please circle):
- ☒ No ☐ Yes

If yes, please answer the next questions:

2. Was the basis for the finding of non-responsibility due to a violation of State Finance Law §139-j (Please circle): ☐ No ☐ Yes
3. Was the basis for the finding of non-responsibility due to the intentional provision of false or incomplete information to a Governmental Entity? (Please circle) ☐ No ☐ Yes
4. If you answered yes to any of the above questions, please provide details regarding the finding of non-responsibility below.

Governmental Entity: _____

Date of Finding of Non-Responsibility: _____

Basis of Finding of Non-Responsibility: _____

(Add additional pages as necessary)

FORM C (Continued)

5. Has any Governmental Entity or other governmental agency terminated or withheld a Procurement Contract with the above-named individual or entity due to the intentional provision of false or incomplete information? (Please circle): No Yes

6. If yes, please provide details below.

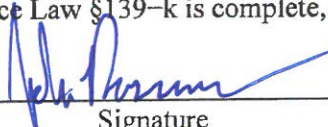
Governmental Entity: _____

Date of Termination or Withholding of Contract: _____

Basis of Termination or Withholding:

(Add additional pages as necessary)

Offerer certifies that all information provided to the Erie County Water Authority with respect to State Finance Law §139-k is complete, true, and accurate.

By: 
Signature

Date: June 30, 2022

Name: John Rasmussen

Title: CFO

Contract Termination Provision

Instructions:

A Contract Termination Provision will be included in each procurement contract governed by State Finance Law §139-k. New York State Finance Law §139-k(5) provides that every procurement contract award subject to the provisions of State Finance Law §§139-k and 139-j shall contain a provision authorizing the governmental entity to terminate the contract in the event that the certification is found to be intentionally false or intentionally incomplete. This statutory contract language authorizes, but does not mandate, termination. "Government Entity" and "procurement contract" are defined in State Finance Law §§ 139 j(1) and 139-k(l).

This required clause will be included in a covered procurement contract.

A sample of the Termination Provision is included below. If a contract is terminated in accordance with State Finance Law §139-k(5), the Erie County Water Authority (the "Authority"), as a governmental entity, is required to include a statement in the procurement record describing the basis for any action taken under the termination provision.

Sample Contract Termination Provision

The Erie County Water Authority (the "Authority"), as a governmental entity, reserves the right to terminate this contract in the event it is found that the certification filed by the Offerer in accordance with New York State Finance Law §139-k was intentionally false or intentionally incomplete. Upon such finding, the Authority may exercise its termination right by providing written notification to the Offerer in accordance with the written notification terms of this contract.

**OFFERER'S STATEMENT REGARDING PREVENTION OF
UNLAWFUL DISCRIMINATORY PRACTICES**

The Erie County Water Authority (the "Authority"), as an employer in New York State, is subject to the Human Rights Law, codified as Executive Law §290, *et. seq.*, and Labor Law §201-g. The Authority seeks to provide a work environment that is free from unlawful discriminatory practices as they are defined in Executive Law §296, as well as from inappropriate harassing conduct even if not deemed unlawful, to its employees, contractors, subcontractors, vendors, consultants, and any other person providing services on Authority premises. Pursuant to the Human Rights Law, it shall be unlawful to discriminate against an individual, or to subject an individual to harassment, due to age, race, creed, color, national origin, sexual orientation, gender identity or expression, military status, sex, disability, predisposing genetic characteristics, familial status, marital status, or status as a victim of domestic violence. Accordingly, the Authority requires that any Offeror of a proposal or bid, agree to sign the following statement regarding unlawful discriminatory practices, including, but not limited to sexual harassment, under penalty of perjury. This statement should be provided to the Authority as early as possible in the procurement process, but not later than at the time of execution of a contract with the Authority. Failure to agree to sign the statement may result in the Authority deeming the bid or proposal withdrawn by the Offeror.

Offerer Statement:

I certify, under penalty of perjury, that the following statements are accurate:

- *Offerer is aware of its obligations under the Human Rights Law (Executive Law §290, et. seq.)*
- *Offerer complies with the provisions of Executive Law §290, et. seq., including Executive Law §296, and does not permit unlawful discriminatory practices or harassment based on an individual's age, race, creed, color, national origin, sexual orientation, gender identity or expression, military status, sex, disability, predisposing genetic characteristics, familial status, marital status, or status as a victim of domestic violence in its workplace.*
- *Offerer complies with the provisions of Labor Law §201-g, has implemented a written policy addressing sexual harassment in the workplace which meets the minimum standards of Labor Law §201-g, and provides annual sexual harassment prevention training to all of its employees.*

By: Intuitech, Inc Date: June 30, 2022

Name: Brock Emerson

Title: CEO

Offerer Name: Intuitech, Inc

Offerer Address: 2490 South 900 West

Salt Lake City, UT 84119

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CORROSION CONTROL TREATMENT PROGRAM
PIPE LOOP EQUIPMENT

PROJECT NO: 202100152

AGREEMENT

FOR FURNISHING AND DELIVERING PIPE LOOP EQUIPMENT AND RELATED SERVICES

This Agreement, effective August 18, 2022 (“Effective Date”), is by and between

ERIE COUNTY WATER AUTHORITY
295 Main Street, Room 350
Buffalo, New York 14203

hereinafter referred to as the “Authority,” and

INTUTECH, INC.
2490 South 900 West
Salt Lake City, Utah 84119

hereinafter referred to as the “Supplier.”

The Authority seeks to enter into a contract with the Supplier to furnish and deliver pipe loop equipment and related services upon the terms and conditions stated in this Agreement.

In consideration of the mutual promises set forth in this Agreement, the Authority and the Supplier agrees as follows:

ARTICLE 1 – THE PROCUREMENT

1.01 The Supplier agrees to furnish custom pipe loop equipment for evaluation of corrosion control chemical alternatives, equipment delivery, on-site start-up assistance and training service, and warranty service of pipe loop pilot equipment (collectively, “Pipe Loop Equipment”) at the pricing set forth in Article 4 of this Agreement.

1.02 The Supplier shall furnish and deliver the Pipe Loop Equipment upon the following terms and conditions:

- A. The Pipe Loop Equipment shall meet the specifications which are attached to, and incorporated in this Agreement as Appendix A.

- B. The Pipe Loop Equipment shall be delivered to the Authority's Van de Water WTP located at 3750 River Road, Tonawanda, NY 14150 ("Van de Water").

1.03 In response to the Authority's Invitation to Bid, the Supplier submitted and signed Bid Documents and a Proposal, a copy of which is attached to, and incorporated in, this Agreement as BID-1 through BID-21.

ARTICLE 2 – COMPLIANCE

2.01 The Authority and the Supplier shall comply with all applicable federal, state, or local laws and regulations and all applicable Authority policies and procedures.

2.02 The Supplier shall comply with the provisions set forth in Public Authorities Law §§ 2875, 2876, and 2878 of the laws of the State of New York. In response to the Authority's Invitation to Bid, the Supplier submitted and signed the Public Authorities Law forms, a copy of which are attached to and incorporated in, this Agreement as BID-10 through BID-13.

2.03 The Supplier shall comply with the provisions set forth in State Finance Law §§ 139-j and 139-k. In response to the Authority's Invitation to Bid, the Supplier signed and submitted, in accordance with the provisions set forth in the State Finance Law, Forms A, B, and C, a copy of which is attached to, and incorporated in, this Agreement as BID-14 through BID-20.

2.04 By executing this Agreement, the Supplier affirms under the penalties of perjury that there was no collusion in the bid submitted to the Authority, upon which forms the basis of this Agreement.

2.05 The Supplier shall comply with the provisions of the Human Rights Law (Executive Law § 290, *et. seq.*) and Labor Law § 201-g of the laws of the State of New York. In response to the Authority's Invitation for Bids, the Supplier submitted and signed the Statement Regarding Prevention of Unlawful Discriminatory Practices, a copy of which is attached to, and incorporated in, this Agreement, as BID-21.

2.06 The Supplier shall comply with the provisions of the Shield Act, codified at General Business Law § 899-aa of the laws of the State of New York.

2.07 If the Supplier, its employees, agents and subcontractors wish to access any Authority property, they must notify the Authority's Security Officer and provide the following information: (a) government-issued photo identification for all site visitors; (b) a detailed statement indicating the purpose for the site visit; (c) the proposed date and time for the site visit; (d) the estimated start and finish time for the site visit; and (e) any additional information reasonably requested by the Authority's Security Officer. No person may visit any Authority property without the authorization of the Authority and/or its Security Officer. While on Authority property, the Supplier's employees and representatives shall comply with the specific applicable security and access rules established by the Authority's Security Officer.

2.08 Whenever the Authority is operating under a Declaration of Emergency due to a pandemic, the Supplier, its employees, and agents shall comply with all health and safety rules and regulations adopted by the State of New York, the County of Erie, or the Authority including, but not limited to, completing a health screening questionnaire, using personal protective face masks, or complying with any testing or vaccination requirements before entering any Authority property.

ARTICLE 3 – PRICING & DELIVERY SCHEDULE

3.01 The Supplier shall deliver the Pipe Loop Equipment Preliminary Design shop drawing submittal package within 14 days of receipt of an Authority Notice to Proceed. The Supplier shall deliver the Pipe Loop Equipment Detailed Design shop drawing submittal within 21 days of receipt of comments on the preliminary design submittal. The Supplier shall deliver the Pipe Loop Equipment within 150 days of approved shop drawings.

3.02 The parties agree the prices on which this Agreement is based shall be F.O.B. to the point of equipment delivery and subsequent equipment removal. The Authority requires and the Supplier agrees all freight, cartage, rigging, postage or other transportation charges shall be paid by the Supplier and not charged to the Authority.

3.03 The Supplier agrees the unit price for materials, supplies, and labor under this Agreement shall remain firm through the term of the project. The Supplier understands no cost increase shall be charged for any reason whatsoever.

3.04 The Supplier guarantees to the Authority the price offered for materials and supplies will be no higher than those offered to any other governmental or commercial consumer.

- A. If the Supplier has a New York State or a Federal GSA contract for any of the items covered under this Agreement or any similar items, the Supplier shall supply such items, if acceptable to the Authority, when the price for such item is no higher than the quoted price in this Agreement.
- B. If the Supplier offers any CASH discount, the Suppliers agree to invoice the Authority for a price not higher than offered under the CASH discount.

3.05 The Supplier's failure to timely delivery shall constitute a material breach of this Agreement for which the Authority may seek and recover damages, including attorney fees and other expenses.

3.06 The Authority is exempt from taxation. The Supplier shall not invoice the Authority for any state or local excise, sales, use, freight or transport or any other form of tax unless the laws of the State of New York specifically levies such tax on a public benefit corporation.

ARTICLE 4 – PAYMENT

4.01 The Supplier agrees to supply, furnish, and deliver the Pipe Loop Equipment, to the Authority's Van de Water WTP at the unit prices set forth below:

Item No.	Quantity	U/M	Catalog No./Description	Unit Price	Total Price
Base Bid Items					
1	1	LS	Pipe Loop Equipment	\$344,535.00	\$344,535.00
2	1	LS	Pipe Loop Installation Services	\$51,567.00	\$51,567.00
3	1	LS	Training and Startup Services	\$9,317.00	\$9,317.00
4	3	per day	On-Site Support Services	\$5,840.00	\$17,520.00

4.02 The Supplier shall be responsible for the payment of all freight, cartage, rigging, postage, or other transportation charges relating to furnishing all necessary materials. In its Bid Proposal, the Supplier submitted a proposed unit price payment for the items outlined in § 4.01 of the Article and included all freight, cartage, rigging, postage, and other transportation charges in the proposed unit price payment pursuant to the Bid Instructions. Under no circumstances will the Authority be responsible for any freight, cartage, rigging, postage, or other transportation charges related to furnishing all necessary materials to the Erie County Water Authority Van de Water WTP.

4.03 The Supplier agrees and understands that the Authority will not pay interest or late charges, or refund discount amounts taken after the discount period. All materials and supplies shall be priced as of the date of invoice or delivery, whichever is lower.

ARTICLE 5 – GENERAL PROVISIONS

5.01 Subcontract and Assignments: The Supplier may not subcontract or delegate any of the obligations of the Supplier without the express written consent of the Authority’s Executive Staff. The Authority and the Supplier bind themselves and their successors, administrators and assigns to the terms of this Agreement. The Supplier shall not assign, sublet or transfer its interest in the Agreement without the written consent of the Authority.

5.02 Amendments: The parties agree any modifications or variations from the terms of this Agreement must be in writing, authorized by a resolution of the Board of Commissioners of the Authority, and signed by all parties to be effective.

5.03 Right to Terminate: The Authority reserves the right to terminate the Supplier's procurement at any time, without cause, based on seven (7) days' written notice. The Supplier shall not be entitled to lost profit and shall furnish and deliver only such materials and supplies, after notification of termination, as the Authority directs.

5.04 Indemnification:

- A. To the fullest extent permitted by law, the Supplier agrees to indemnify and hold the Authority harmless from all third party claims, liabilities, damages and costs (including all reasonable attorney's fees, and cost of defense) to which the Authority, its officers, directors and employees may be subject to, arising out of the death or bodily injury to any person or the destruction or damage to any property to the extent caused by the negligent acts, errors or omissions, or willful misconduct of the Supplier's performance under this Agreement and those of its subcontractors or anyone for whom the Supplier is legally liable.
- B. To the fullest extent permitted by law, the Authority agrees to indemnify and hold the Supplier harmless from all third-party claims, liabilities, damages and costs (including all reasonable attorney's fees and cost of defense) to the extent caused by the negligent acts, errors or omissions of the Authority, its contractors, engineers, or anyone for whom the Authority is legally liable.

5.05 Insurance:

- A. The Supplier agrees to secure and maintain such insurance as will protect itself from claims under the Workers' Compensation Act; claims for damages because of bodily injury, including personal injury, sickness or disease, or death of any of its employees or of any person other than its employees; and from claims for damages because of injury to or destruction of property including loss of use resulting therefrom in the amounts indicated on Appendix B.
- B. The Supplier agrees to provide and maintain insurance that will provide coverage for claims arising out of the negligent performance of this Agreement.
- C. The Supplier agrees to provide Certificates of Insurance certifying the coverage required by this provision.
- D. The Supplier agrees to provide the name of an employee who will be responsible for providing the Authority with current and updated Certificates of Insurance. The Authority will require the name of the employee, the employee's phone number and email address.

5.06 Warranty: Unless otherwise stated in this Agreement, the Supplier agrees that the warranties as prescribed by the laws of the State of New York are and will remain in effect; that

this warranty and the time to exercise said warranty in effect at the time of the breach, if any, caused by any breach or by any hidden or latent defect will be as prescribed by the laws of the State of New York. The Supplier's obligation under this section is independent of any other obligations stated in this Agreement.

5.07 New York Law and Jurisdiction: Notwithstanding any other provision of this Agreement, any dispute concerning any question of fact or law arising under this Agreement which is not disposed of by agreement between the Supplier and the Authority shall be governed, interpreted and decided by a court of competent jurisdiction of the State of New York in accordance with the laws of the State of New York.

5.08 Conflicts of Interest: The Supplier represents that it has advised the Authority in writing prior to the date of signing this Agreement of any relationships with third parties, including competitors of the Authority, which would present a conflict of interest with the rendering of the services, or which would prevent the Supplier from carrying out the terms of this Agreement or which would present a significant opportunity for the disclosure of confidential information. The Supplier will advise the Authority of any such relationships that arise during the term of this Agreement. The Authority shall then have the option to terminate the Agreement without being subject to further obligations under its terms, except for the payment for material and supplies already furnished by the Supplier. So long as the Supplier reports such a conflict as required by this section, the Supplier will have no further obligations under the terms of this Agreement.

5.09 Additional Conditions: The Supplier and the Authority acknowledge that there may be additional conditions, terms and provisions which shall apply specifically to the delivery of materials and supplies to be furnished. The parties agree to negotiate in good faith to agree upon such additional terms.

5.10 Entire Agreement: This Agreement constitutes the entire understanding of the parties and no representations or agreements, oral or written, made prior to its execution shall vary or modify the terms herein. This Agreement supersedes all prior contemporaneous communications, representations, or agreements, whether oral or written with respect to the subject matter hereof and has been induced by no representations, statements or agreements other than those herein expressed. No subsequent agreement made between the parties shall be binding on either party unless reduced to writing and signed by an authorized officer of the party sought to be bound by such agreement.

5.11 Independent Status: Nothing contained in the Agreement shall be construed to render either the Authority or the Supplier, an owner, member, officer, partner, employee or agent of the other, nor shall either party have authority to bind the other in any manner, other than as set forth in this Agreement, it being intended that the Supplier shall remain an independent contractor responsible for its own actions. The Supplier is retained by the Authority only for the purpose and to the extent set forth in this Agreement.

5.12 Doing Business Status: The Supplier represents it is qualified to do business in the State of New York and has registered with the New York Secretary of State.

5.13 Removed

5.14 Gratuities, Illegal or Improper Schemes:

- A. The Supplier shall prohibit its agents, employees and consultants from using their positions for personal financial gain, or from accepting any personal advantage from anyone under circumstances which might reasonably be interpreted as an attempt to influence the recipients in the conduct of their official duties.
- B. The Supplier or its employees shall not, under circumstances which might be reasonably interpreted as an attempt to influence the recipients in the conduct of their duties, extend any gratuity or special favor to employees of the Authority.
- C. The Authority may terminate this Agreement or any purchase order, if it is determined that gratuities in the form of entertainment, gifts or otherwise were offered or given by a Supplier, the Supplier's agent or representative to any Authority official or employee with a view towards securing favorable treatment with respect to the awarding of this Agreement or the performance of the Agreement or purchase order.
- D. The Authority may also terminate this Agreement or purchase order if it is determined that the Supplier engaged in any other illegal or improper scheme promotive of favoritism or unfairness incidental to the bidding process or the performance of the Agreement or purchase order. If it is determined that said improper or illegal acts occurred, the Authority shall be entitled to terminate the Agreement or purchase order and/or exercise any other remedy available to it under existing law.

5.15 Notice: Any notices required by this Agreement or otherwise shall be delivered by United States Postal mail or personal delivery upon the addresses hereinbefore stated. Any change in such addresses shall be required to be in writing to the other party and acknowledged as such.

ARTICLE 6 – SEVERABILITY

6.01 Any provision or part of the Agreement held to be void or unenforceable by a court of competent jurisdiction shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon the parties, which agrees that the Agreement shall be reformed to replace such stricken provisions or part thereof with a valid enforceable provision that comes as close as possible to expressing the intent of the stricken provision. The validity and enforceability of all other provisions of this Agreement shall not otherwise be affected.

ARTICLE 7 – EXECUTORY CLAUSE

7.01 The parties agree and understand that this Agreement shall be executory to the extent of funds have been budgeted and appropriated by the Authority. The Authority shall not submit any purchase order without first determining whether funds have been budgeted and appropriated to pay for such procurement. If the Authority's Comptroller rejects or holds an invoice submitted by the Supplier due to a lack of funds in the appropriate budget line, the Supplier's only remedy would be (1) to await for a budget transfer to be approved, or (2) to accept a return of the materials and

supplies F.O.B. to the point of delivery to the Supplier. The Authority shall not be subject to any further liability.

ARTICLE 8 – TERMINATION

8.01 The Authority reserves the right to terminate this Agreement in the event it is found that the Certification filed by the Supplier in accordance with New York State Finance Law §139-k was intentionally false or intentionally incomplete. Upon such finding, the Authority may exercise its termination right by providing written notification to the Supplier in accordance with the written notification terms of this Agreement.

ERIE COUNTY WATER AUTHORITY

By _____
Jerome D. Schad, Chair

INTUTECH, INC.

By _____
Brock Emerson, Chief Executive Officer

STATE OF NEW YORK)
COUNTY OF ERIE) ss:

On the _____ day of _____, in the year 2022, before me personally came Jerome D. Schad, to me known, who, being by me duly sworn, did depose and say that he resides in Amherst, New York, that he is the Chair of the Board of Commissioners for the Erie County Water Authority described in the above instrument; and that he signed his name thereto by order of the Board of Commissioners.

Notary Public

STATE OF _____)
COUNTY OF _____) ss:

On the _____ day of _____, in the year 2022, before me personally came Brock Emerson, to me known, who, being by me duly sworn, did depose and say that he resides in _____, _____ that he is the Chief Executive Officer of the Corporation described in the above instrument; and that he signed his name thereto by order of the Board of Directors of said Corporation.

Notary Public

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APPENDIX A

Bid Specifications

PART 1 - GENERAL REQUIREMENTS

PART 1 – GENERAL REQUIREMENTS

A. PURPOSE

1. The Erie County Water Authority (Authority) is implementing a pipe loop study to evaluate optimal corrosion control treatment for its drinking water system.
2. These specifications describe the technical requirements and performance criteria for purchase of a custom, modular, pilot-scale pipe loop system.

B. DEFINITIONS

1. Owner – Erie County Water Authority
2. Engineer – Hazen and Sawyer
3. Supplier – The Supplier is the company responsible for design, fabrication, delivery, training, and warranty service for a Pipe Loop.
4. Pipe Loop – The Pipe Loop is a modular pilot-scale flow-through apparatus used for monitoring of metals release from new and harvested pipe segments.
5. Train – Each train contains the chemical feed system, flow control system, and pipe rack components needed to test one treatment condition.
6. Module – Each module consists of an individually-fabricated rack containing Pipe Loop components designed for ease of delivery and transportation.
7. Pipe Segment – The pipe segment is a section of new or harvested pipe installed into the Pipe Loop for purposes of monitoring metals release.
8. Site – Van de Water Water Treatment Plant, 3750 River Road, Tonawanda, NY.
9. Project Term – The designated Project Term is the duration over which the Pipe Loop will be operated by the Owner and Engineer. The Pipe Loop shall be covered by manufacturer's warranty and service and remote monitoring service throughout the Project Term. The Project Term begins on the date of the on the date of the acceptance certification letter, following startup, training, and performance period.

C. SUMMARY OF WORK

1. Summary of Work by Supplier
 - a. Fabricate a modular, automated Pipe Loop according to the performance requirements specified herein.

- b. Transport and deliver the Pipe Loop to the project Site. Assemble individual components in-place as required.
 - c. Provide cellular connectivity and cloud-based platform for monitoring historical and real-time instrument signals.
 - d. Provide assistance with on-site startup and training of Pipe Loop operation
 - e. Provide warranty service for the Pipe Loop throughout the Project Term.
2. Work by Owner and Engineer
- a. The Owner will provide the following for the Pipe Loop:
 - 1) Physical space for setup and installation of the Pipe Loop
 - 2) Piping to supply pressurized water to the Pipe Loop and drain from the Pipe Loop.
 - 3) Electrical service needed to operate the Pipe Loop.
 - b. The Engineer will provide the following services for the Pipe Loop:
 - 1) Review of Pipe Loop shop drawings and submittals provided by the Supplier
 - 2) Inspection of Pipe Loop after delivery by the Supplier
 - 3) Attendance during initial startup and training by the Supplier
 - 4) Monitoring of Pipe Loop operation and notification of the Supplier of any operational issues

D. MEASUREMENT AND PAYMENT

- 1. Bid Item 1 – Pipe Loop Equipment:
 - a. Description: This bid item shall include furnishing and delivery of a complete Pipe Loop system, including all equipment, electrical systems, controls, and remote monitoring platform as needed for a fully functional system. This bid item shall include freight and delivery of the Pipe Loop at the Site. This bid item shall include warranty replacement of Pipe Loop components as required throughout the Project Term. This bid item shall include cellular service for remote monitoring throughout the Project Term.
 - b. Payment: Lump sum unit of measure and payment. The Supplier may invoice up to 10% of the value of Item 1 after delivery of the detailed design submittal package. The Supplier may invoice up to an additional 30% of the value of

Item 1 (40% cumulative) after Owner approval of the detailed design submittal package. The Supplier may invoice up to an additional 55% (95% cumulative) after delivery of the Pipe Loop. The Supplier shall invoice the remaining 5% of the value of Item 1 (100% cumulative) after receipt of the Owner acceptance certification letter.

2. Bid Item 2 – Pipe Loop Installation Services

- a. Description: This bid item shall include on-site unpackaging, transportation, assembly, and installation of the Pipe Loop by the Supplier. The Supplier shall transport the equipment into the facility and assemble the Modules in place to provide a complete Pipe Loop installation. The Supplier shall be responsible for making all interconnections of piping, wire, and conduit between Pipe Loop Modules. The Supplier shall connect the Pipe Loop water supply to an existing pipe within 10 feet of the Pipe Loop inlet. The Supplier shall extend the Pipe Loop drain pipe to an existing drain within 20 feet of the Pipe Loop outlet. The Supplier shall connect the Pipe Loop to an existing electrical receptacle.
- b. Payment: Lump sum unit of measure and payment. The Supplier may invoice the full value of Item 2 after the acceptance certification letter.

3. Bid Item 3 – Training and Startup Services:

- a. Description: This bid item shall include on-site training and support services during Pipe Loop startup as specified herein. This bid item shall include all labor and expenses (e.g. travel, lodging, incidentals, materials, tools, etc.).
- b. Payment: Lump sum unit of measure and payment. The Supplier may invoice the full value of Item 3 after the acceptance certification letter.

4. Bid Item 4 – On-Site Support Services

- a. Description: This bid item shall include on-site service for the Pipe Loop during the Project Term. This bid item shall include all labor and expenses (e.g. travel, lodging, incidentals, materials, tools, etc.) necessary for on-site service. The Supplier shall assume that a separate trip shall be required for each day of on-site service. The Owner or Engineer will notify the Supplier when on-site support service is required according to the process specified herein.
- b. Payment: The unit price item shall be full compensation for each full 8-hour day of additional on-site support service. This unit price item shall only be used if directed by the Owner in writing.

5. Bid Item 1A – Pipe Loop Lease

- a. Description: As an alternative to purchase of the Pipe Loop under Bid Item 1, this bid item shall include lease of the Pipe Loop on a weekly basis, including

remote monitoring access and warranty service as specified. This bid item shall include all costs associated with furnishing the Pipe Loop for lease and removing the Pipe Loop at the end of the lease.

- b. Payment: The unit price item shall be full compensation for each week of Pipe Loop lease. The duration of Pipe Loop lease shall be at the sole discretion of the Owner.

E. PERFORMANCE SPECIFICATIONS

1. It is the intent of these specifications to establish the performance criteria and minimum requirements for the Pipe Loop, including but not limited to: flow rates, physical size, chemical feed rates, connectivity of components, operations, instrumentation, electrical supply, etc.
2. The Supplier shall be responsible for design, layout, and fabrication of the Pipe Loop to meet the performance criteria specified herein.
3. It is the intent of these specifications to construct a complete and working Pipe Loop. Items of equipment or materials that may reasonably be assumed as necessary to accomplish this end shall be supplied whether or not they are specifically stated herein.

F. SUPPLIER QUALIFICATIONS

1. The Supplier shall be regularly engaged in the fabrication of water treatment pilot equipment for the municipal water utility market with a minimum of 5 years of experience.
2. The Supplier shall have experience with fabrication of pipe loop equipment for similar projects.
3. Submit a Qualification Statement with the bid as indicated in the Bid Form and Bid Form Supplements section.

G. CONTRACT TIME

1. Contract time shall be in accordance with Article 3 of the Agreement.
2. The Supplier shall perform the work within the following milestone durations:
 - a. Pipe Loop Preliminary Design Submittal – 14 calendar days from notice to proceed
 - b. Pipe Loop Detailed Design Submittal – 21 calendar days from receipt of comments on the preliminary design submittal
 - c. Pipe Loop fabrication and delivery – 150 days from approved shop drawings

- d. Startup and training services – 14 days from Pipe Loop delivery
- e. Performance period – 7 days after startup
- f. Project Term – 90 weeks

H. SUBMITTALS

- 1. The Supplier shall be responsible for the detailed design of the Pipe Loop to meet the performance requirements of these Specifications.
- 2. Following award of the contract and notice to proceed, the Supplier shall provide submittal packages containing detailed shop drawings of the Pipe Loop, including but not limited to the following items:
 - a. Preliminary Design Submittal:
 - 1) Overall dimensions of each Supplier when delivered to the Site.
 - 2) Dimension of each train when fully assembled on-site.
 - 3) Materials of construction for Module support racks
 - 4) Schematic drawing of chemical storage and feed systems
 - 5) P&IDs
 - 6) Materials datasheets for new copper pipe, soldering flux, and leaded solder
 - 7) Materials datasheets for water quality instruments
 - b. Detailed Design Submittal:
 - 1) Dimensional plan and section drawings, to scale, of the Pipe Loop.
 - 2) Materials datasheets for pipe, valves, pumps, tanks, and other equipment and appurtenances, indicating materials of construction, sizing, capacity (as applicable), and other information needed to demonstrate compliance with the specifications.
 - 3) Mass of leaded solder applied to each copper pipe joint
 - 4) Plumbing and drain requirements
 - 5) Electrical power supply requirements
 - 6) Pipe loop control system datasheet

- 7) List of signals monitored in control system
 - 8) Fabrication plan for leaded solder applied to each copper pipe joint
- c. Controls Package:
 - 1) OIT and remote monitoring screens
 - 2) Process control narrative
- d. Closeout Submittals
 - 1) Mass of leaded solder applied to each copper pipe joint
 - 2) Factory test results
 - 3) Operation and maintenance (O&M) manual for components, as applicable
- 3. Supplier shall submit electronic copies of submittals for Engineer's review via email, unless otherwise directed. Submittals shall be furnished in PDF format.
- 4. Submittal shall be accompanied by a letter of transmittal containing date, project title, Supplier's name, number of submittals, list of any deviations from the specifications, and other material required for Engineer's review.

I. MATERIALS

- 1. Provide new products that have not been previously incorporated into another project or facility.
- 2. Provide products complete with accessories, trim, finish, fasteners, and other items shown, indicated, or required for a complete installation for the indicated use and performance.
- 3. When available, and unless custom or nonstandard options are specified or indicated, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- 4. Whenever possible, factory-assemble materials and equipment within Modules.
- 5. All components shall be compatible for the service specified herein and indicated on the drawings. Components used for chemical feed service shall be compatible with the chemicals identified without degradation, wear, or failure.
- 6. Provide all consumables and spare parts for components specified herein as would reasonably be required for the Project Term. A full list of consumables and spare parts with quantities shall be provided within the submittal for approval.

7. Engineer will have the authority to reject work which Engineer believes to be defective or that Engineer believes will not produce a complete Pipe Loop according to the specifications.

J. DELIVERY

1. The Supplier shall deliver the Pipe Loop to the location indicated **Figure 1-1**. The Supplier shall be responsible for transporting the Pipe Loop modules inside the facility to the installation location. The Supplier shall unpackage the Pipe Loop modules and remove all packaging components from the Site.
2. Package materials and equipment to facilitate handling, and protect materials and equipment from damage during shipping, handling, and storage. Mark or tag outside of each package or crate to indicate the contents, Owner's contract name and number, and approximate weight.
3. Do not ship materials and equipment until shop drawings submittals have been approved by Engineer and the Owner has confirmed the delivery date.
4. Coordinate deliveries to accommodate the following:
 - a. Owner's operations and maintenance.
 - b. Storage space limitations.
 - c. Availability of equipment and personnel for handling materials and equipment.
 - d. Owner's use of premises.
5. Deliver materials and equipment to the Site between 8AM to 2PM Monday through Thursday.
6. Provide equipment and personnel necessary to handle materials and equipment by methods that prevent soiling or damaging materials and equipment and packaging.
7. Provide additional protection during handling as necessary to prevent scraping, marring, and otherwise damaging materials and equipment and surrounding surfaces.
8. Handle materials and equipment in safe manner and to prevent damage. Do not drop, roll, or skid materials and equipment off delivery vehicles or at other times during handling.
9. The Supplier shall be responsible for transporting the Pipe Loop from the delivery area to the installation location. The bridge crane will need to be used to transport Modules from the entrance door at the delivery area to the lower level of the WTP. Pipe Loop modules shall be packaged to facilitate hoisting by the bridge crane.

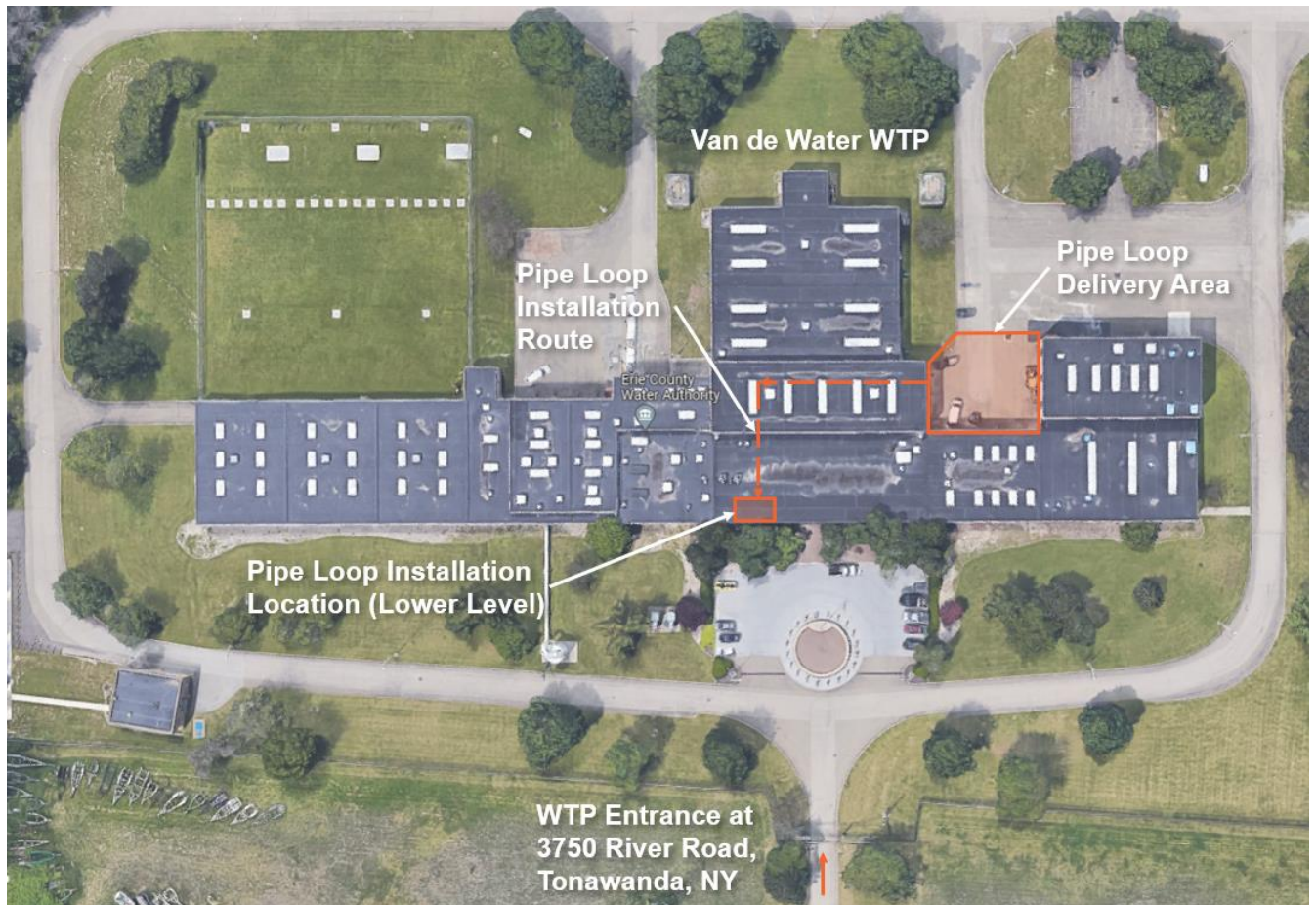


Figure 1-1. Project Site and Delivery Area

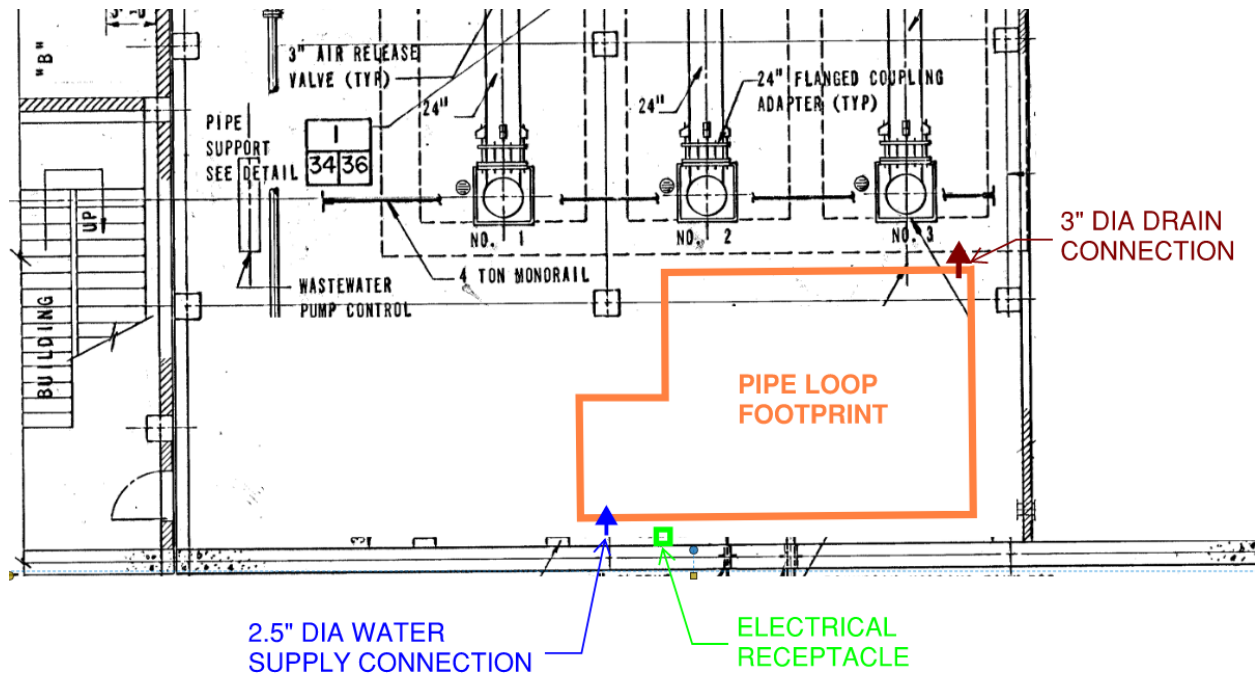


Figure 1-2. Diagram of Pipe Loop Location

10. Delivery Coordination with Owner

- a. Notify the Owner at least 14 days prior to Pipe Loop delivery to schedule a date for delivery.
- b. The Pipe Loop delivery date shall be subject to approval by the Owner. The Pipe Loop delivery date shall be rescheduled as needed and directed by the Owner.
- c. Confirm the delivery arrival time approximately 24 hours prior to arrival at the Site.
- d. Perform the delivery such that Owner's facility remains in continuous satisfactory operation. Schedule and conduct the work such that the Work does not impede Owner's production or processes or create potential hazards to operating equipment and personnel.
- e. The Owner's personnel will operate Owner's bridge crane equipment for the delivery of the Pipe Loop.

K. WARRANTY

1. The Supplier shall provide a warranty on the Pipe Loop, including all components used to construct the modules, as needed to maintain the Pipe Loop in full operation throughout the Project Term.

2. The Supplier shall warrant and guarantee to Owner that the Pipe Loop will be in accordance with the specifications, will meet the performance requirements herein, and will not be defective. The Supplier warranty shall exclude damages caused by the abuse, improper modification, improper maintenance, or improper operation by persons other than the Supplier. Engineer shall be entitled to rely on representation of Supplier's warranty and guarantee.
3. The Supplier shall provide full warranty service during the Project Term, including but not limited to the following:
 - a. The Engineer or Owner will provide written notice to the Supplier when any defects or operational concerns are observed.
 - b. The Supplier shall respond promptly to resolve Pipe Loop defects and maintain continuous operation of the Pipe Loop through repair or replacement of the defects during the Project Term.
 - c. The Supplier shall respond to the Engineer within 24 hours (Monday through Friday) to assist the Engineer with resolving issues, if possible.
 - d. If the Engineer cannot readily resolve the issue within 24 hours of Supplier's response, the Supplier shall, within 3 working days:
 - 1) If acceptable to the Engineer, the Owner or Engineer shall remove the defective parts and ship to the Supplier. The Supplier shall ship replacement components to the Site for re-installation by the Owner or Engineer. All costs for replacement components, materials, Supplier labor, and shipping cost shall be by the Supplier, or
 - 2) If acceptable to the Engineer, the Owner or Engineer shall remove the defective parts and ship to the Supplier. The Supplier shall repair the defective components and ship to the Site for re-installation by the Owner or Engineer. All costs for materials, Supplier labor, and shipping cost shall be by the Supplier, or
 - 3) If directed by the Owner under Bid Item 4, send a qualified representative to the Site to resolve the issue and replace components as needed.

L. STARTUP AND TRAINING

1. The Supplier shall furnish services of pilot equipment specialists to instruct Owner's and Engineer's personnel in recommended operation and maintenance procedures.
2. The Supplier shall provide training of Owner and Engineer personnel in the operation of the Pipe Loop control system, instrument calibration, and operation.

3. The Supplier shall provide a minimum of three (3) days on Site to assist with training, field testing, and startup of the Pipe Loop, and as needed to ensure a fully functional Pipe Loop meeting performance requirements.
4. The Supplier shall coordinate training services with start-up of the Pipe Loop.
5. Training shall cover the following topics at minimum:
 - a. Pipe Loop's mechanical, electrical, and electronic components.
 - b. Startup procedures
 - c. Alarm conditions and responses
 - d. Adjustment of Pipe Loop controls, including flow regimes, flow schedule, chemical feed rates, and operator-adjustable setpoints
 - e. Calibration and maintenance of all instruments
 - f. Connectivity, remote access, and monitoring of Pipe Loop via cloud-based platform
 - g. Safety precautions and potential hazards
 - h. Maintenance procedures including routine maintenance activities, preventative maintenance measures, troubleshooting, and diagnostic procedures, all with hands-on demonstrations.
6. Supplier shall furnish tools, appurtenances, and consumables required for training and maintenance demonstrations.
7. Owner reserves the right to record training sessions on video for Owner's and Engineer's later use in instructing Owner's and Engineer's personnel.
8. Pipe Loop field testing shall include, but is not limited to, the following activities, performed jointly by the Supplier, Owner, and Engineer:
 - a. Supplier shall verify functionality of the control panel and connectivity to the cellular network for remote monitoring.
 - b. Individually for each train, fully open the drain valve, and then open the influent isolation valve to admit water into the pipe loop. Close the drain valve and assess the Pipe Loop for any leaks.
 - c. Adjust the common influent pressure reducing valve to provide the target downstream pressure. Adjust the pressure reducing valve in subsequent steps if needed to achieve target flow rates.

- d. Adjust the flow rate to each test condition to the target value.
- e. The Supplier shall review the functionality and calibration of each online instrument and confirm remote monitoring of Pipe Loop operational data.
- f. The Supplier shall set the pilot-scale chemical feed systems to achieve the target doses.
- g. The Engineer will collect water quality samples to verify chemical feed system operation.
- h. Verify that flow cycles initiate automatically according to the target schedule.

M. PERFORMANCE PERIOD

- 1. Following startup and training, a 7-day performance period will begin.
- 2. During the performance period, the Owner and Engineer will monitor the Pipe Loop and develop a list of any defects.
- 3. Pipe Loop defects may include, but are not limited to, leaks, chemical feed failure, inability to feed sufficient chemical dose, errors in flow and stagnation cycles, valve inoperability, and instrument error or inaccuracy.
- 4. If defects are identified during the performance period, the 7-day performance period may be repeated at the Owner's discretion.
- 5. Within 7 days after successful completion of the performance period, the Engineer will provide certification letter to the Supplier indicating that the Pipe Loop has been accepted. The Project Term will begin on the date of the acceptance certification letter.

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PART 2 – PIPE LOOP OVERVIEW AND LAYOUT

PART 2 – PIPE LOOP OVERVIEW AND LAYOUT

A. PIPE LOOP DESCRIPTION

1. The Pipe Loop will be used by the Owner and Engineer for pilot testing of three treatment alternatives. The Pipe Loop shall consist of three similar trains to examine these three treatment alternatives.
2. The Pipe Loop shall be a flow-through design and will be supplied with water from the Owner's system to a single inlet connection.
3. The Pipe Loop shall operate with daily flow and stagnation cycles. The Pipe Loop shall provide automated control of daily flow and stagnation cycles according to a pre-programmed and adjustable schedule.
4. The Pipe Loop shall include pilot-scale chemical feed systems to add sodium hydroxide and a corrosion inhibitor at varying doses for each treatment alternative. Chemical feed systems shall operate automatically during flow cycles and shall not operate during stagnation. The Pipe Loop shall provide automated control of chemical feed systems to achieve target chemical treatment strategies.
5. Downstream of chemical injection, the Pipe Loop shall evenly distribute the flow to all pipe segments. The Pipe Loop shall provide the capability to control the flow rate as specified herein. After passing through the pipe segments, water flow will be to a common drain.
6. To monitor the effectiveness of treatment alternatives, the Engineer will collect water samples from designated Pipe Loop sample taps during the Project Term.

B. PHYSICAL CONFIGURATION

1. The Pipe Loop shall have modular construction to facilitate transportation of the equipment. The Supplier shall be responsible for design, layout, and fabrication of a modular rack support system for all required components.
2. The Pipe Loop shall be designed and fabricated to be as compact as possible while providing access to functional components and pipe segments.
3. The Pipe Loop shall consist of three trains. Each train shall consist of no more than two Modules, as follows:

- a. Chemical Feed Module – The chemical feed Module consists of chemical storage, metering pumps, static mixers, instruments, and accessories to feed chemical into the Pipe Loop.
 - b. Flow Control System and Pipe Rack Module – The flow control system consists of valves and rotameters to adjust flow through each pipe segment. The pipe rack provides pipe supports for installation of harvested pipe segments (by Owner) using flexible connectors and includes sample taps, drain piping, and flushing valves to control the flow cycles.
4. The Pipe Loop may include one additional Water Supply Module, if necessary, common valves, fittings, and instruments on the main water supply.
5. The maximum dimensions of each Module shall be as follows, or as required for transportation and delivery of the equipment by the Supplier:
 - a. Maximum Module Length = 11 feet
 - b. Maximum Module Width = 3.0 feet
 - c. Maximum Module Height = 6.5 feet
6. Modules may be transported individually and shall be designed for ease of connection on site without specialized tools or additional components. The Supplier shall provide all interconnecting piping between modules, ready-to-assemble at the Site with PVC unions.
7. Modules shall be constructed on a rigid structural frame designed to accommodate Pipe Loop components. All exposed surfaces of metallic structural supports shall be coated.
8. Modules shall be constructed upon heavy-duty locking casters for ease of transportation at the Site. When locked, casters shall hold the Pipe Loop at a fixed location on a concrete floor.

C. PIPE RACK

1. The Pipe Loop shall include pipe racks sized according to the Drawings to accommodate up to 6 harvested pipe segments and 3 copper pipe segments for each train.

2. The pipe rack shall include non-metallic pipe supports for each pipe segment. The harvested pipe segments and copper pipe segments shall not be in contact with any other metallic components.
3. As shown on the Drawings, the pipe rack shall support a primary pipe segment approximately 60 inches in length and an upstream pipe section up to 12 inches in length.
4. For each train, the pipe rack may be arranged vertically in up to three layers of three pipe segments each. Copper pipe segments shall be placed on the bottom rack.
5. The pipe rack shall be designed for ease of access to the harvested pipe segments to facilitate pipe installation and replacement.
6. The Supplier shall provide the Pipe Loop with removable PVC “blank” segments in place of harvested pipe segments. Each replicate shall have one 5-foot long blank downstream of one 12-inch long blank. PVC blanks shall be factory-installed and will be used for testing and startup of the Pipe Loop. Following startup, the Owner will remove PVC blanks and install harvested pipe segments.

PART 3 – MECHANICAL AND PLUMBING

PART 3 – MECHANICAL AND PLUMBING

A. GENERAL MECHANICAL REQUIREMENTS

1. The Supplier shall furnish and install fittings, couplings, unions, connections, and adapters as required for a complete installation.
2. Solvent welded joints in plastic piping shall be accomplished in accordance with the pipe manufacturer's recommendations, including necessary field cuttings, sanding of pipe ends, joint support during setting period, etc. Solvent or adhesive material shall be compatible with the pipe itself, being a product approved by the pipe manufacturer. Unions are required adjacent to valves and equipment.
3. Pipe Loop components (e.g. valves, instruments, chemical feed pumps, etc.) shall have affixed identifying labels.

B. WATER SUPPLY

1. The Pipe Loop shall have a single inlet connection for the water supply to provide ease of connection on site.
2. The incoming water supply to the Pipe Loop shall be filtered water from the Van de Water WTP with the following approximate characteristics:
 - a. pH: 7.4 to 8.4
 - b. Free Chlorine Residual: 0.5 to 1.5 mg/L
 - c. Turbidity: <0.3 ntu
3. The anticipated water supply pressure at the Pipe Loop inlet is 40 psi (minimum) to 75 psi (maximum). The pressure reducing valve on the Pipe Loop shall decrease the pressure inside the Pipe Loop to an anticipated maximum pressure of 20 psi.
4. The inlet connection shall be a PVC union fitting of the size indicated on the Drawings. The male threaded end of the union shall be connected to the Pipe Loop.

5. The centerline of the inlet connection shall be 36 inches above the floor and shall extend a minimum of 6 inches beyond the edge of the Module for ease of connection to Site piping.
6. The Pipe Loop shall include a backflow preventer and pressure reducing valve at the water supply inlet. The pressure reducing valve will be set in the field to decrease the pressure in the Pipe Loop while maintaining adequate flow rates through each pipe segment.

C. FLOW REGIME

1. The Pipe Loop shall operate with intermittent flow and stagnation cycles according to a preset schedule.
2. During flow cycles, the system shall meet the flow rate range indicated in **Table 3-1**. The total flow rate supplied into the pipe loop (upstream of the backflow preventer) shall be up to 54 gallons per minute (gpm).
3. Piping, valves, and other components shall be sized as required to achieve these flow rates and according to the minimum sizes indicated on the Drawings. Pipes shall be designed to ensure adequate and evenly distributed flow between trains.
4. The Pipe Loop shall allow the flow rate through each pipe segment to be individually adjusted within the range specified using manually operated control valves.

Table 3-1. Pipe Loop Flow Rate Requirements

Location	Minimum	Maximum
Flow Rate per Pipe Segment	1 gpm	2 gpm
Flow Rate per Train	9 gpm	18 gpm
Total Pipe Loop Flow Rate	27 gpm	54 gpm

D. DRAIN

1. Water shall flow through the Pipe Loop to a common drain outlet.
2. Continuously slope drain piping downstream of flushing valves at a minimum of ¼" per foot.
3. The Supplier shall be responsible for providing adequate ventilation of drain piping, including use of air admittance valves as required, to provide unrestricted flow draining from the Pipe Loop.

4. The common Pipe Loop drain outlet shall be positioned a minimum of 18 inches above the floor.

E. PVC PIPE

1. The Pipe Loop shall be constructed using PVC pipe, except where specifically indicated otherwise.
2. PVC pipe shall be Schedule 80 with solvent welded socket joints.
3. PVC pipe shall be Type 1 Grade 1 conforming to ASTM D1785. Fittings shall conform to ASTM D2467.
4. All piping shall be securely and rigidly supported to facilitate pipe disassembly at unions and support the weight of connected valves and components.
5. Unions shall be provided as needed to facilitate disassembly of piping for repair and component replacement. PVC flanges may be used as necessary for connections to valves and other components.
6. Elastomers for PVC pipe, fittings, valves, and other components shall be EPDM.

F. FLEXIBLE TUBING

1. As shown on the Drawings, flexible tubing shall be provided within the pipe rack to accommodate different harvested pipe shapes.
2. Flexible tubing shall be PVC tubing or similar material. Connections shall consist of barbed adapter with hose clamp.
3. Flexible tubing and connections to rigid PVC pipe shall have a minimum pressure rating of 20 psi. To maximize the flexibility of the tubing, the maximum wall thickness shall be 1/8 inch.
4. Provide a spare roll of flexible tubing, minimum 50 feet in length, with the Pipe Loop.

G. COPPER PIPE SEGMENTS

1. The Supplier shall fabricate segments of new Type L copper pipe with leaded solder. Each copper pipe segment shall consist of five 1-foot pipe sections joined

by four lead soldered joints with an overall length of 5 feet. Copper pipe segments shall be joined using copper slip coupling without internal stops.

2. Leaded solder used to join copper pipes shall contain 50% lead and 50% tin by weight. Copper pipe connections shall be fluxed prior soldering. The pipe surface area covered by flux shall be constant for each joint.
3. A consistent mass of solder shall be applied to each joint. The Supplier shall measure and record the mass of solder applied to each joint. The mass of solder applied to each joint shall be within +/- 10% of the average mass across all pipe segments. Pipe segments with a mass of leaded solder outside this range may be rejected.
4. Lead soldered copper pipe segments shall not be directly connected to dissimilar metals and shall be connected to pipe loop piping using flexible thermoplastic couplings.

H. VALVES AND APPURTENANCES

1. Backflow Preventer
 - a. A reduced pressure zone (RPZ) backflow preventer shall be provided at the Pipe Loop inlet as shown on the Drawings.
 - b. The backflow preventer shall be sized to accommodate the flow rates specified.
 - c. The backflow preventer shall be stainless steel. Backflow preventers containing brass or bronze components shall not be allowed.
2. Pressure Reducing Valve
 - a. A PVC pressure reducing valve shall be provided at the Pipe Loop inlet as shown on the Drawings.
 - b. The pressure reducing valve shall have a minimum pressure rating of 100 psi, or higher.
 - c. The pressure reducing valve shall have a manual adjusting bolt to set the pressure drop across the valve.

- d. The pressure reducing valve shall remain closed as long as the set downstream pressure is maintained. As valves downstream of the regulator begin to open and demand flow, the downstream pressure begins to fall and the regulator shall open until the maximum opening is reached. The regulator shall prevent the downstream pressure from exceeding the manual set point.
 - e. The pressure reducing valve shall have a minimum pressure drop setting of 5 psi or less. The valve setting will be manually adjusted on Site based on downstream pressure settings and measured flow rates.
- 3. Static Mixers
 - a. Static mixers shall be constructed of clear PVC and shall be rated for the operating pressure of the Pipe Loop.
 - b. Static mixers shall contain a minimum of twelve mixing elements.
 - c. Provide minimum 24-inches of straight downstream pipe between static mixers and adjacent instrument analyzers used to verify or control chemical feed.
- 4. Ball Valves
 - a. Ball valves shall provide manual isolation of the system. Ball valves shall be full-port design and have union ends.
 - b. Ball valve bodies, stems, balls, and unions shall be constructed of PVC. Valve stems shall contain double O-ring seals.
 - c. Ball valves shall have a minimum pressure rating of 100 psi.
 - d. Ball valves shall have quarter-turn manual operators.
- 5. Flushing Valves
 - a. Flushing valves shall operate to control the flow and stagnation cycles in the Pipe Loop.
 - b. Flushing valves shall be ball valves with motor operators integrated with the Pipe Loop control system and integrally powered by the Pipe Loop electrical supply.

- c. Flushing valves shall have an operation time (from full open to fully closed) of 2 seconds or less.
- d. Solenoid valves shall not be an acceptable alternative to motor-operated ball valves.

6. Control Valves

- a. Control valves shall provide for manual adjustment of the flow rate in each pipe segment. Control valves shall include a multi-turn manual operator (e.g. handwheel) for precise adjustment of the flow rate.
- b. Acceptable control valve types include diaphragm valves, needle valves, or globe valves. Ball valves and other quarter-turn valves shall not be acceptable as control valves. Control valves shall have union or flange connections.
- c. Valve bodies, bonnets, end connectors, and unions shall be constructed of PVC.
- d. Control valves shall provide drip-tight shutoff when fully closed.

7. Check Valves

- a. Check valves may be of the ball, spring, or diaphragm type.
- b. Check valve bodies, balls or diaphragms, and end connectors shall be constructed of PVC. Valves shall be suitable for either horizontal or vertical applications, as required.
- c. Check valves shall have a pressure rating of 100 psi or higher.
- d. Check valves shall have a pressure drop of 3 psi or less at a flow rate of up to 18 gpm.

8. Flow Indicators

- a. Flow indicators shall be inline rotameters providing visual monitoring of the flow rate through each pipe segment.
- b. Rotameters shall have a polysulfone or acrylic body.

- c. Rotameters shall provide flow metering in the range of 0.5 to 5 gpm.
- d. Rotameters shall provide an accuracy of +/- 5% or better.

I. FITTINGS AND CONNECTORS

1. Flexible Coupling

- a. As shown on the Drawings, harvested pipe segments and copper pipe segments in the pipe rack shall be connected to PVC piping through use of flexible connectors.
- b. Flexible couplings shall be connected to flexible tubing to accommodate different harvested pipe shapes, as harvested pipe ends may not be aligned or parallel.
- c. Flexible couplings shall accommodate varying harvested pipe outer diameters of approximately 1.1 to 1.3 inches. Flexible connectors shall also be suitable for the outer diameter of the PVC pipe "blanks" provided with the Pipe Loop.
- d. Flexible connections to pipe segments shall be leak tight.

2. Sample Taps

- a. As shown on the Drawings, sample taps shall be provided for monitoring of influent water quality on each train and sampling downstream of pipe segments.
- b. Sample taps shall be constructed of PVC pipe and PVC ball valves. No metallic sample tap components shall be acceptable.
- c. Each pipe segment shall include a dedicated sample tap at the downstream end of the pipe segment. The Pipe Loop shall be fabricated to minimize the distance between the pipe segment and the sample tap while meeting applicable requirements specified herein.
- d. Downstream sample taps shall be full port to provide full flow rate through each pipe during sampling.

- e. Downstream sample taps shall be identical for all pipe replicates to provide consistency and repeatability.
- 3. System Drain
 - a. The Pipe Loop shall include drain ports where indicated on the Drawings. The drain port shall consist of a quick connect or threaded hose connection, complete with a minimum 20-foot long section of flexible pipe or hose, minimum $\frac{3}{4}$ " diameter. The flexible hose shall be removable at the drain port for storage by the Owner.
- 4. Inline Storage
 - a. Where indicated on the Drawings, provide inline storage consisting of a minimum of 2 linear feet of 6-inch diameter PVC pipe with bushings at inlet and outlet for connection to adjacent piping.
 - b. Alternate inline storage devices with separate inlet and outlet providing a minimum volume of 3 gallons may be used if approved by the Engineer.

J. TESTING

- 1. The Pipe Loop shall be thoroughly flushed with water at the Supplier's facility.
- 2. After flushing, the Pipe Loop shall be hydrostatically tested at the Supplier's facility at a minimum pressure of 20 psi. The duration of the hydrostatic test shall be 2 hours.
- 3. PVC pipe "blanks" (in place of harvested pipe segments), flexible couplings, and flexible tubing shall be installed during the hydrostatic test. It is not required for chemical feed systems to be connected to the Pipe Loop during hydrostatic testing.
- 4. During testing, the piping shall show no leakage. Any leaks or defective piping disclosed by the leakage test shall be repaired or replaced by the Supplier, at his own expense, and the test shall be repeated.
- 5. The Supplier shall notify the Engineer of the test results prior to shipment of the Pipe Loop to the Site.

PART 4 – CHEMICAL FEED SYSTEMS

PART 4 – CHEMICAL FEED SYSTEMS

A. CHEMICAL FEED REQUIREMENTS

1. The Pipe Loop shall include feed systems for the following chemicals. All chemical feed system components shall be suitable for service with these chemicals.
 - a. Sodium hydroxide solution at up to 10% strength by weight; specific gravity up to 1.12.
 - b. Corrosion inhibitor – sodium orthophosphate solution at up to 28% by weight; specific gravity up to 1.35.
2. Chemical feed requirements for the Pipe Loop are shown on the Drawings. All trains will require sodium hydroxide feed systems, and two trains will require corrosion inhibitor feed systems.
3. Chemicals will be supplied by the Owner and Engineer.
4. All chemical feed system components (metering pumps, storage tanks, appurtenances, etc.) shall be contained within the Pipe Loop Modules.
5. Sodium hydroxide feed rates will vary depending on the train flow rate, the incoming water quality supplied to the Pipe Loop, the target pH level, and the dose of corrosion inhibitor in Trains 2 and 3. The system shall be capable of supplying sodium hydroxide solution feed rates in the following range:
 - a. Minimum: 0.3 mL/min
 - b. Maximum: 7.5 mL/min
6. Corrosion inhibitor feed rates will vary depending on the train flow rate and dose setpoint. The system shall supply corrosion inhibitor feed rates in the following range:
 - a. Minimum: 1.3 mL/min
 - b. Maximum: 2.9 mL/min

7. For both chemicals, the chemical feed rates shall be independently adjustable for each train by varying the speed of the chemical metering pump.
8. Chemical feed systems shall operate accurately with metering pump discharge pressures up to 25 psi.

B. CHEMICAL STORAGE

1. Each train shall have chemical storage tanks for the chemical service required (refer to **Table 4-1**).
2. Chemical storage tank materials shall be non-metallic and compatible with the chemical service specified.
3. Each chemical tank shall have a minimum useable storage volume of 14 liters.
4. Chemical tanks shall be double-walled or other provide full chemical containment.
5. Each chemical tank shall be translucent for monitoring of the liquid level or shall contain an integral sight gauge.
6. Each chemical tank shall have a level sensor, integrated with the Pipe Loop control system, to provide monitoring of the liquid level and a calculated storage volume.
7. Chemical tanks shall have conservatively sized access ports for filling of the tank with chemical solution. Access ports shall be normally closed and shall be opened via threaded plug or valve.
8. Chemical tanks shall be fully enclosed except for an appropriately sized vent to maintain atmospheric conditions in the headspace of the tank.
9. Chemical tanks shall have normally-closed drain ports to facilitate complete draining of the tank to replace the chemical solution.

C. METERING PUMPS

1. For each individual chemical system on each train, a single duty peristaltic metering pump shall be provided.

2. Each metering pump shall include pump head, motor, self-contained variable speed drive, flexible tube, and all accessories and appurtenances necessary for a complete installation.
3. The Supplier is responsible for the coordination and selection of corrosion resistant materials for the chemical solutions specified herein.
4. Metering pumps shall provide the following performance:
 - a. Discharge pressure rating of 25 psi or higher
 - b. Variable speed drive with turndown of 30:1 or greater and as needed for the required feed range
 - c. Accuracy of +/- 0.5%
 - d. Self-priming and suction lift as required for the Pipe Loop
 - e. Capable of being run dry without damaging effects to pump or tube.
 - f. Suitable for chemical service specified.
5. Each chemical feed system shall include a calibration column, sized per manufacturer's recommendations according to the anticipated chemical feed rates.
6. The Supplier shall provide one spare peristaltic pump tube of the appropriate size for each metering pump. Replacements shall be adequate in length for a full tube replacement.
7. Chemical metering pumps shall be automatically controlled by the Pipe Loop control system and associated instruments.
8. Metering pumps shall provide the following status outputs to the Pipe Loop control system: running/stopped status, speed output.

D. TESTING

1. Metering pumps shall be tested at the Supplier's facility for minimum and maximum capacity at 25 psi prior to shipment, and the results shall be provided to the Engineer.

2. *Chemical feed systems shall be tested on site with water during startup. Metering pumps will be checked for proper alignment, rotation, excessive or unusual noises, overheating, lubrication, and satisfactory performance, demonstrating the pumps' ability to deliver the rated capacity and operating pressure. Testing of the pumps will be at 4%, 10%, 50% and 100% of rated speeds. The functioning of all system components including pump accessories shall be checked.*

PART 5 – ELECTRICAL

PART 5 – ELECTRICAL

A. POWER SUPPLY

1. Pipe Loop modules shall be wired by the Supplier so that the entire apparatus is supplied from a single power source. Pipe Loop shall be supplied by a single 3-prong grounded NEMA 5-20 plug.
2. Pipe Loop shall be supplied with a conservatively sized 120V jacketed copper power cable at least 20 feet long.
3. The maximum current required to operate the Pipe Loop shall be 20 amps at 120V AC.
4. Provide ancillary conduit and wire on the Pipe Loop as required to supply all electrical components.

B. ELECTRICAL COMPONENTS

1. The Supplier shall be responsible for the electrical distribution system with breakers to isolate equipment on the skid. The Supplier shall be responsible for transformers and other components as needed to provide low voltage or DC power to instruments, if necessary.
2. The Supplier shall be responsible for providing and connecting conduit and wire between Modules and the control panel. The Supplier shall design interconnecting conduit and wire for ease of installation on Site and shall be responsible for making all electrical connections between Modules during installation.
3. All wire on the Pipe Loop shall be installed in rigid metallic conduits.
4. Panels and junction boxes on the Pipe Loop shall be NEMA 12 at minimum.

PART 6 – INSTRUMENTATION AND CONTROLS

PART 6 – INSTRUMENTATION AND CONTROLS

A. GENERAL REQUIREMENTS

1. The Pipe Loop shall include all interconnected wiring between all instruments, panels, controls, and other devices as required to provide all functions specified herein, all cable and conduit required to carry all signals, and special cables that are required for interconnection between sensors or probes and transmitters.
2. Provide digital control system hardware and software.
3. Provide PLC programming to perform all functions specified herein.
4. Instrumentation and control system equipment shall be suitable for installation in an indoor unconditioned industrial facility environment. The location may have high ambient humidity, ranging from approximately 40 to 95 percent relative humidity, and varying temperatures from approximately 45 degrees to 80 degrees F.
5. The control system shall be fully checked and tested in the factory to ensure connectivity of required instrument signals.

B. CONTROL SYSTEM AND OPERATOR INTERFACE

1. The control system shall include a programmable logic controller (PLC) and Operator Interface Terminal (OIT) screen.
2. Control system shall provide data-logging capabilities for all equipment output signals for the duration of the Project Term.
3. Programmable Logic Controller
 - a. PLCs shall be provided complete with backplane, power supply, I/O cards, special function cards, instructions, memory, input/output capacity, and appurtenances to provide all features and functions as described herein. The PLC and all components listed above shall be industrial rated to adhere to abnormal temperature/humidity conditions.
 - b. Input/output hardware shall be provided and integrated with the PLC as required for specified inputs and outputs and to meet performance criteria.

- c. The PLC shall be provided with a software package consisting of all programming, configuration, and documentation needed to place Pipe Loop in satisfactory operation.
- d. Only a single type of processor shall be supplied for all PLCs of a designated type. Memory and processor shall be adequate for all control functions specified.
- e. PLCs shall be Modicon M251 by Schneider Electric.

4. Operator Interface Terminal

- a. An OIT shall be provided to view and change PLC monitoring and control parameters and to display alarm messages using a graphical user interface. The OIT shall provide the following features as a minimum:
 - 1) Minimum of 12-inch diagonal display
 - 2) Color display with backlight
 - 3) Battery-backed real-time clock
 - 4) Secure Digital (SD) card slot and USB port
- b. The OIT shall be configured to display all PLC I/O, setpoints, and parameters. PLC I/O values and operator-entered setpoints shall be displayed with associated engineering units and service descriptions. Menus shall be provided to navigate between screens of different equipment items. Displays shall be arranged in a hierarchical structure with displays for specific equipment items grouped together.
- c. The OIT shall be positioned between approximately 48 and 60 inches above the floor.
- d. The Supplier shall submit draft OIT screen visuals for review and approval by the Authority.

5. Uninterruptable Power Supply (UPS)

- a. The PLC and OIT shall be connected to a UPS. The UPS shall consist of a freestanding UPS module and battery modules as required to meet backup run time requirements.

- b. UPS units shall be true on-line type. Each UPS shall be sized to match the maximum power requirements of the associated digital equipment, control panel power supplies and accessories. Upon loss of the AC supply, the inverter shall continue to supply normal power to the device, drawing DC from the batteries.

C. INSTRUMENTS

1. Flow Meters

- a. Flow meters shall be of the magnetic type with in-line flow tube.
- b. Flow meter shall provide real-time flow rate measurement suitable for monitoring of Pipe Loop operation and flow-paced control of chemical feed; flow meter shall include transmitter with flow rate readout.
- c. Flow meters shall be Rosemount 8700 Series, Endress+Hauser Picomag, or equal.
- d. Accuracy shall be 0.50% of rate, or better, for the range of design flow rates. Meter shall be sized to provide appropriate flow velocity at point of installation to achieve this accuracy.
- e. Repeatability shall be + 0.2% of rate.
- f. Flow tube shall be provided with flush mounted electrodes.
- g. Grounding rings shall be provided for both ends of all meters.
- h. The Supplier shall be responsible for Pipe Loop design to provide adequate upstream and downstream pipe length per flow meter manufacturer's recommendations.

2. Pressure Gauges

- a. Gauges shall be direct reading type with 4 ½" dial. Snubbers shall be provided on all gauges.
- b. Gauge range shall be approximately 0 to 60 psi.
- c. Mounting: ½" NPT, lower stem mount type

- d. Accuracy: 0.5% full scale
- e. Case: Solid front, black phenolic material
- f. Dial: White background and black letters
- g. Glass: Shatterproof
- h. Blow-out protection: Back
- i. Pressure element: stainless steel bourdon tube

3. pH Analyzers

- a. pH sensors shall be digital sensors encapsulated in liquid crystal polymer thermoplastic and utilize the differential electrode measurement technique. Analyzers shall be online instruments integrated with the control system.
- b. pH analyzers shall be Endress+Hauser Memosens CPF81 Series, Hach pH/D, or equal.
- c. Glass process electrode
- d. Integral temperature compensation sensor
- e. Measuring range: 0-14 pH
- f. Pressure rating: 75 psig or greater
- g. Accuracy: ± 0.02 pH
- h. Sensitivity: ± 0.01 pH
- i. Drift: 0.03 pH per 24 hours, non-cumulative
- j. Provide consumables as needed for calibration over the duration of the Project Term.

4. Chlorine Analyzers

- a. Free chlorine analyzers shall be of the amperometric type and shall not require reagents. Measurement method shall be polarographic.
- b. Chlorine analyzers shall be Analytical Technology, Inc., series Q46H.
- c. Free chlorine analysis range: 0.01 to 2 mg/L, minimum
- d. Free chlorine accuracy: +/- 0.5%
- e. Repeatability: +/- 0.3%
- f. Provide adequate electrolyte solution for electrodes and sensor membranes for the duration of the Project Term.

5. Orthophosphate Analyzers

- a. Orthophosphate Analyzers shall employ a photometric / colorimetric method to measure orthophosphate. The analyzer shall require reagent replacement not more than once every two months.
- b. Orthophosphate analyzers shall be Hach Phosphax, or equal.
- c. Measuring Range: 0.05-5 mg/L as PO₄, minimum
- d. Accuracy: 4%, or +/- 0.05 mg/L, or better
- e. Reproducibility: 4%, or +/- 0.05 mg/L, or better
- f. Adjustable Measurement Interval
- g. Response Time: Less than 5 minutes, including sample prep
- h. Self-diagnostics: Included
- i. Calibration: Automatic with buffer recognition
- j. Provide reagents as required for operation throughout the Project Term.

- k. Provide a removable spent sample/reagent container on the Pipe Loop capable of receiving instrument flows for a duration of at least 1 week.

D. SIGNAL LIST

1. The control system shall provide instantaneous monitoring, data logging, and cellular data access for the following signals:
 - a. Chemical metering pump start/stop command (5 total pumps)
 - b. Chemical metering pump running/stopped status (5 total pumps)
 - c. Chemical metering pump speed command/feedback (5 total pumps)
 - d. Chemical metering pump fault (5 total pumps)
 - e. Chemical storage tank level (inches) for each tank (5 total tanks)
 - f. Chemical storage tank volume (liters) for each tank (5 total tanks)
 - g. Flushing valve open/close command (3 total valves)
 - h. Flow rate (gallons per minute) for each train (3 trains)
 - i. Water supply free chlorine residual (1 analyzer)
 - j. Water supply pH (1 analyzer)
 - k. pH for each train, downstream of chemical feed (3 trains)
 - l. Orthophosphate concentration (mg/L as PO₄) for Train 2 and Train 3

E. REMOTE MONITORING

1. The Pipe Loop shall include a cellular connection and cloud-based platform for remote monitoring of Pipe Loop operation.
2. The cellular communication system shall utilize 4G LTE cellular Ethernet. The Supplier shall construct the system in accordance with all applicable FCC rules. In addition, the Supplier shall prepare and submit any other documentation as required.

3. The cellular modem and antenna shall be remotely installed at the Site to maximize cellular signal and shall be connected to the Pipe Loop with up to 250 feet of ethernet cable. The Supplier shall be responsible for installation and connection of the remotely-installed cellular modem.
4. Cellular WAN:
 - a. North American Model
 - b. Carrier Approvals: Verizon
 - c. LTE
 - d. SIM Interface (2FF)
5. The Supplier shall pay all costs associated with the cellular connection throughout the Project Term. The Owner shall bear no additional costs to setup or use the remote monitoring system.
6. The remote monitoring platform shall allow real-time viewing of Pipe Loop operation data for signals specified in the Signal List and review of control system alarms.
7. Submit screenshots or diagrams of remote monitoring platform. Platform shall be customized based on comments from the Owner and Engineer.

F. TESTING

1. The Supplier shall field calibrate, test, inspect, and adjust all equipment in accordance with manufacturer's specifications and instructions.
2. The Supplier shall demonstrate the availability of the entire control system.
3. System performance shall be tested using a fully integrated system, including all software and hardware. To achieve this, the entire control system shall be assembled at the Supplier's facility and the complete operational program loaded and simulated.

G. FUNCTIONAL CONTROL DESCRIPTION

1. General Provisions

- a. Together with the specifications and the Drawings, the functional control description describes the required operation, monitoring, and control of the Pipe Loop.
- b. The Supplier shall be responsible for providing a complete functioning system according to the functional control description specified herein. In addition to automated operation specified herein, the OIT shall allow the operator to manually control operation of all components.
- c. Where setpoints, operating limits, and other control settings are provided by the functional descriptions, these settings shall be initial settings only and shall be used for assistance in the initial startup of the plant. All such settings shall be fully adjustable in the OIT.

2. Flow Control

a. Control Operation

- 1) The Pipe Loop shall operate with a daily flow and stagnation cycle, consisting of multiple flow cycles and stagnation periods per day.
- 2) Flow cycles shall be determined by a PLC real-time clock with setpoints changeable from the OIT.
- 3) To perform the flow and stagnation cycles, the motor-operated ball valve on each train shall automatically open to initiate the flow cycle and close to end the flow cycle.
- 4) Stagnation cycles occur whenever the Pipe Loop is not in a flow cycle. During stagnation cycles, the system shall remain isolated with all pipes full of water, and water shall remain motionless inside the Pipe Loop.
- 5) Flow cycles shall occur according to a consistent daily schedule to provide the same start time of the first flow cycle each day.
- 6) The start time of the first flow cycle shall be independently adjustable for each train. By default, the start time for all trains shall be the same, and flow cycles for all trains will occur simultaneously.
- 7) Flow rates will be manually adjusted via the common pressure reducing valve and individual flow control valves for each pipe segment.

- 8) The flow meter on each train shall continuously monitor and record:
 - a) The instantaneous flow rate (i.e., to verify the start and stop of flow cycles)
 - b) The cumulative daily flow volume through each train
- 9) The control system shall be programmed to include the following modes of operation, as selected by the operator.
 - a) Regular Operation
 - b) High Flow Conditioning
 - c) Manual Operation
- b. Regular Operation Mode
 - 1) The Pipe Loop shall have three flow cycles per day (adjustable 1 to 5).
 - 2) The duration of the flow cycles shall be as follows by default (and each adjustable from 1 to 1,440 minutes):
 - a) Flow Cycle 1: 70 minutes
 - b) Flow Cycle 2: 60 minutes
 - c) Flow Cycle 3: 70 minutes
 - 3) Flow Cycle 1 shall begin at 10:00AM each day for all trains (adjustable for each train). The control system shall monitor the date and adjust the clock based on daylight savings time to provide a consistent start time for the flow cycle each day.
- c. High Flow Conditioning Mode
 - 1) The Pipe Loop shall have one flow cycle per day (adjustable 1 to 5).
 - 2) The duration of the flow cycle shall be 900 minutes (adjustable 1 to 1,440 minutes).

- 3) The flow cycle shall begin at 10:00AM each day for all trains (adjustable for each train).

d. Manual Operation Mode

- 1) The flow cycle and stagnation cycles shall be controlled by directly operating the position of the motor-operated ball valve for each train.
- 2) The control system shall allow the operator to fully open and fully close the motor-operated ball valves in the OIT.

e. Alarms

- 1) During each flow cycle (i.e. when the motor-operated ball valve is open), the control system shall verify that the measured flow rate in each train exceeds the minimum flow rate setpoint (initially 1 gpm, adjustable). If the measured flow rate in any train is less than this setpoint, an alarm shall be triggered.
- 2) During each stagnation cycle (i.e. when the motor-operated ball valve is closed), the control system shall verify that the measured flow rate in each train is approximately zero, plus or minus an adjustable deadband. If the measured flow rate in any train is greater than zero, an alarm shall be triggered.

3. Chemical Feed System Control

a. Control Operation Overview

- 1) The Pipe Loop shall provide automated operation of chemical feed systems to achieve the treatment alternatives.
- 2) Chemical feed systems shall operate only during the flow cycle for the corresponding train. Chemical feed systems shall not operate during stagnation cycles.
- 3) Chemicals shall be evenly metered into each train upstream of a static mixer to increase chemical dispersion.
- 4) Chemicals will be stored in onboard chemical storage tanks mounted in the Pipe Loop.

- 5) The liquid level in each chemical storage tank shall be monitored in the control system and displayed in the OIT.
 - 6) If a chemical metering pump fails to start or fails during operation, the flow cycle shall be immediately ended by closing the motor-operated ball valves for all trains, and an alarm shall be triggered.
- b. Chemical Metering Pump Control
- 1) Chemical metering pump controls shall provide for two alternate modes of operation, selected by the operator, for starting and stopping chemical metering pumps during flow cycles: Timer-Based Control, or Flow-Based Control.
 - 2) Timer-Based Control
 - a) The chemical metering pumps for each train shall start concurrently with the beginning of each flow cycle, plus an adjustable delay (default of 0 seconds, adjustable from -30 to 30 seconds).
 - b) The chemical metering pumps for each train shall stop concurrently with the end of each flow cycle, plus an adjustable delay (default of 0 seconds, adjustable from -30 to 30 seconds).
 - 3) Flow-Based Control
 - a) The chemical metering pumps for each train shall start when the measured flow rate in the train exceeds the minimum flow rate setpoint, as defined above.
 - b) The chemical metering pumps for each train shall stop when the measured flow rate in the train decreases below the minimum flow rate setpoint, as defined above.
 - c) The control system and flow measurement intervals shall be configured so that the chemical metering pumps will stop within 1 second of the flow rate decreasing below the setpoint (i.e. flow rate must be measured at least every 1 second).
- c. Corrosion Inhibitor Metering Pump Operation – Automatic Mode

- 1) The corrosion inhibitor feed systems shall be flow-paced to provide the target orthophosphate dose for each train at the measured instantaneous flow rate.
- 2) The operator shall input the target orthophosphate dose (mg/L as PO₄) for each train.
- 3) For each train, the corrosion inhibitor feed rate shall be automatically calculated according to the following equation, where:
 - a) Q = train flow rate in gallons per minute, measured by the flow meter for each train
 - b) P = target orthophosphate dose for each train in mg/L as PO₄
 - c) u = solution density for each train in pounds per gallon
 - d) v = orthophosphate solution strength in percent by weight
 - e) C = adjustment coefficient for each train, default = 1.0 (adjustable from 0.5 to 1.5 in 0.01 increments)

$$\text{Corrosion Inhibitor Solution Feed Rate} \left(\frac{\text{mL}}{\text{min}} \right) = C \frac{Q * P}{u * v * 31.675}$$

- 4) The target orthophosphate dose (P), solution density (u), and solution strength (v) will vary for each train. Default values for each train are provided in the following table. These values shall be fully adjustable in the control system.

Train	P	u	v	C
Train 2	1 mg/L as PO ₄	8.59 lb/gal	2.33%	1.0
Train 3	3 mg/L as PO ₄	9.09 lb/gal	7.00%	1.0

- 5) For each train, the corrosion inhibitor metering pump speed shall be automatically adjusted to provide the calculated feed rate.
- 6) Orthophosphate Analyzers:
 - a) The operator will monitor orthophosphate concentrations measured by the online analyzer and grab samples to confirm chemical feed. The

Engineer will adjust corrosion inhibitor metering pump variable C or other variables as required.

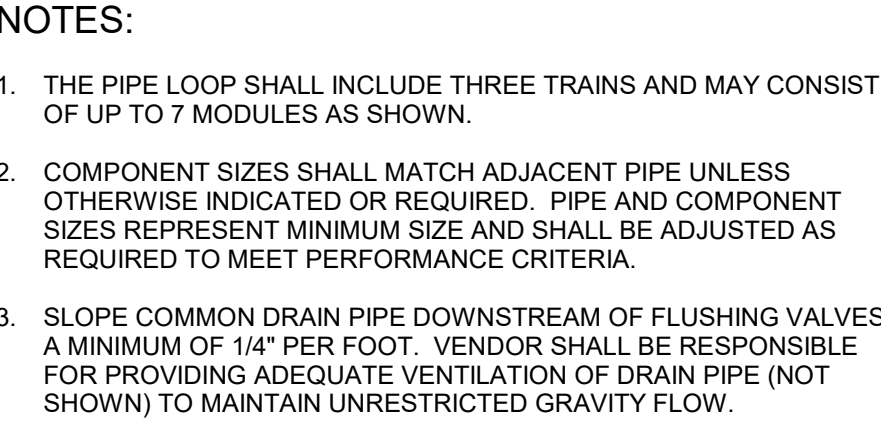
- b) The operator will enter a target orthophosphate setpoint for each Train.
 - c) The PLC will compare the measured orthophosphate concentration to the setpoint value for each train.
 - d) If the measured orthophosphate concentration differs from the setpoint value plus or minus an operator adjustable deadband (default +/- 10%), an alarm will be generated.
- d. Corrosion Inhibitor Metering Pump Operation – Manual Mode
- 1) The corrosion inhibitor metering pump shall be manually started and stopped in the control system.
 - 2) The operator shall specify a corrosion inhibitor solution feed rate in mL/min.
- e. Sodium Hydroxide Metering Pump Operation – Automatic Mode
- 1) The sodium hydroxide feed pumps shall be controlled to increase the pH of the incoming water to meet a target pH value for each train.
 - 2) For each train, the feed rate shall be flow paced based on the measured train flow rate with a compound loop control to maintain an operator adjustable pH setpoint.
 - 3) The pH for each train shall be measured by an online instrument. The control system shall compare the operator-entered pH setpoint for each train to the actual pH from the online analyzer.
 - 4) When the measured pH is less than the operator-specified pH setpoint (including an operator adjustable deadband, default of 0.1 pH units), the pump speed shall be controlled to maintain the pH setpoint.
 - 5) The incoming water pH may sometimes exceed the operator-specified setpoint. If a metering pump reaches its minimum speed and the measured pH exceeds the operator-specified setpoint (plus the operator adjustable deadband), the metering pump shall turn off. Metering pump operation shall
















automatically resume when the measured pH decreases below the operator-specified setpoint.

- 6) If the measured pH is less than the operator-specified setpoint by more than 0.2 pH units (operator adjustable from 0.1 to 0.5 pH units), an alarm shall be generated.

f. Sodium Hydroxide Metering Pump Operation – Manual Mode

- 1) The sodium hydroxide metering pump shall be manually started and stopped in the control system.
- 2) The operator shall specify a sodium hydroxide solution feed rate in mL/min.



PIPE LINE	
PIPE BY OTHERS	
TRAIN OUTLINE	
MODULE OUTLINE	
BALL VALVE	
MOTOR OPERATOR	
REDUCER	
METERING PUMP	
TANK	
STATIC MIXER	
INSTRUMENT (AE)	
CONTROL VALVE	
CHECK VALVE	
FLOW INDICATOR	
INLINE STORAGE	

Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

ERIE COUNTY
WATER AUTHORITY

VAN DE WATER
WATER TREATMENT PLANT

PIPE LOOP SCHEMATIC

DATE:	2022
HAZEN NO.:	90397-000
CONTRACT NO.:	1
DRAWING NUMBER:	

M1

APPENDIX B

CORROSION CONTROL TREATMENT PROGRAM PIPE LOOP EQUIPMENT

ECWA PROJECT NO: 202100152

Insurance Specs:

The following minimum insurance requirements shall apply to vendors providing services to the Erie County Water Authority (the Authority). If a service or project, in the opinion of the Authority, represents an unusual or exceptional risk, the Authority may establish additional insurance requirements for that service or project. All insurance required herein shall be obtained at the sole cost and expense of the contractor, including deductibles and self-insured retentions, and shall be in full force and effect on the contract commencement date and for the duration of the contract. These requirements include but are not limited to the minimum insurance requirements.

Insurance Requirements:

a. Workers Compensation:

Part 1: Workers Compensation: Statutory

Part 2: Employers Liability: \$1,000,000.

Note: If New York State domiciled employees are used, coverage to be New York Statutory for both Parts 1 and 2

b. New York Disability Benefits Liability: Statutory coverage if New York State domiciled employees are used.

c. Commercial General Liability:

- \$2,000,000. General Aggregate
- \$2,000,000. Products/Completed Operations Aggregate
- \$1,000,000. Each Occurrence
- \$1,000,000. Personal Injury/Advertising Liability
- Per Project/Job Aggregate Limit Required
- Erie County Water Authority to be scheduled as an Additional Insured for both on-going and completed operations (attach Additional Insured endorsement to Certificate of Insurance)
- Insurance to be primary and non-contributory

d. Automobile Liability:

- \$1,000,000. Each Accident
- Erie County Water Authority to be scheduled as an Additional Insured.

f. Umbrella Liability:

- \$5,000,000. Each Occurrence
- \$5,000,000. Aggregate
- Per Project/Job Aggregate Limit Required
- Erie County Water Authority to be scheduled as an Additional Insured

Certificates of Insurance to be provided to the Authority prior to start of work as follows:

ACORD 25 including copy of Additional Insured Endorsement Note: If coverage provided for NYS domiciled employees require Forms C 105.2 and DB 120.1 for Workers Compensation and NYS DBL.

Certificates of Insurance, on forms approved by the New York State Department of Insurance, must be submitted to the Authority prior to the award of contract. Renewals of Certificates of Insurance, on forms approved by the New York State Department of Insurance, must be received by the Authority 30 days prior to the expiration of the insurance policy period.

Certificates of Insurance and renewals, on forms approved by the New York State Department of Insurance, must be submitted to the Authority prior to the award of contract. Each insurance carrier issuing a Certificate of Insurance shall be rated by A. M. Best no lower than “A-” with a Financial Strength Code (FSC) of at least VII.

The provider shall name the Authority, its officers, agents and employees as additional insured on a Primary and Non-Contributory Basis, including a Waiver of Subrogation endorsement (form CG 20 26 11 85 or equivalent), on all applicable liability policies.

Any liability coverage on a “claims made” basis should be designated as such on the Certificate of Insurance. Such insurance shall continue through the term of this Agreement and vendor shall purchase at his sole expense either 1) an Extended Reporting Endorsement (also, known as Tail Coverage); or 2) Prior Acts Coverage from new insurer with a retroactive date back to the date of, or prior to, the inception of this Agreement; or 3) demonstrate through Certificates of Insurance that vendor has Maintained continuous coverage with the same or original insurer. Coverage provided under items; 1), 2), or 3) will continue as long as the law allows.

To avoid confusion with similar insurance company names and to properly identify the insurance company, please make sure that the insurer’s National Association of Insurance Commissioners (N.A.I.C.) identifying number or A. M. Best identifying number appears on the Certificate of Insurance. Also, at the top of the Certificate of Insurance, please list the project number.

Acceptance of a Certificate of Insurance and/or approval by the Authority shall not be construed to relieve the outside vendor of any obligations, responsibilities or liabilities.

Certificates of Insurance should be e-mailed to mmusarra@ecwa.org or mailed to Ms. Molly Jo Musarra, Claim Representative/Risk Manager Erie County Water Authority, 295 Main Street – Room 350, Buffalo, New York 14203-2494, or If you have any questions you can contact Ms. Musarra by e-mail or phone (716) 849-8465.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
08/30/2022

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

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

PRODUCER Sentry Insurance 1800 North Point Drive Stevens Point, WI 54481	CONTACT NAME: Sentry Customer Service	
	PHONE (A/C, No, Ext): 800-473-6879	FAX (A/C, No): 800-514-7191
INSURED Intutech Inc PO Box 17321 Salt Lake City, UT 84117-0321	EMAIL ADDRESS: businessproducts_direct@sentry.com	
	INSURER(S) AFFORDING COVERAGE	
	INSURER A: Sentry Insurance Company	
	INSURER B: Middlesex Insurance Company	
	INSURER C:	
	INSURER D:	
INSURER E:		
INSURER F:		
NAIC #		

COVERAGES

CERTIFICATE NUMBER: 2642769

REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY	X	X	2550940002	05/07/2022	05/07/2023	EACH OCCURRENCE		
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						\$ 2,000,000		
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 500,000	
							MED EXP (Any one person)	\$ 15,000	
							PERSONAL & ADV INJURY	\$ 2,000,000	
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	\$ 6,000,000	
	<input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						PRODUCTS - COMP/OP AGG	\$ 4,000,000	
	OTHER:							\$	
A	AUTOMOBILE LIABILITY	X		2550940003	05/07/2022	05/07/2023	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000	
	<input type="checkbox"/> ANY AUTO						BODILY INJURY (Per person)	\$	
	<input type="checkbox"/> OWNED AUTOS ONLY <input checked="" type="checkbox"/> SCHEDULED AUTOS						BODILY INJURY (Per accident)	\$	
	<input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	\$	
								\$	
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR			2550940007	05/07/2022	05/07/2023	EACH OCCURRENCE	\$ 2,000,000	
	<input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE						AGGREGATE	\$ 2,000,000	
	DED						RETENTION \$	PRODUCTS - COMP/OP AGG	\$ 2,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	Y/N	N/A	2550940005	05/07/2022	05/07/2023	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER		
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						E.L. EACH ACCIDENT	\$ 1,000,000	
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	\$ 1,000,000	
							E.L. DISEASE - POLICY LIMIT	\$ 1,000,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Refer to attached

APPROVED/MJM

CERTIFICATE HOLDER

CANCELLATION

Erie County Water Authority 295 Main St Rm 350 Buffalo, NY 14203-2415	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE

ACORD 25 (2016/03)

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Sentry Insurance Company

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08/30/2022

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AGENCY CUSTOMER ID: XXXXXX0069

LOC #: _____

ADDITIONAL REMARKS SCHEDULEPage 2 of 2

AGENCY Russell Judd		NAMED INSURED Intuitech Inc
POLICY NUMBER 2550940002		
CARRIER Sentry Insurance Company	NAIC CODE 24988	EFFECTIVE DATE: 05/07/2022

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: ACORD 25 **FORM TITLE:** Certificate of Liability Insurance**General Liability**

Project # ECWA 202100152 GL Coverage provided is primary and non-contributory per the terms of endorsement CG 20 01 Commercial Excess Umbrella liability coverage follows form with the underlying insurance coverage subject to policy terms and conditions.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS - SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location(s) Of Covered Operations
Erie County Water Authority	Van de Water WTP 3750 River Road Tonawanda, NY 14150 Description: They go on site with Pipe Loop Equipment
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II - Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

Change effective 08/29/2022

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08/30/2022

- C.** With respect to the insurance afforded to these additional insureds, the following is added to **Section III - Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or

2. Available under the applicable Limits of Insurance shown in the Declarations;
whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PRIMARY AND NONCONTRIBUTORY - OTHER INSURANCE CONDITION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

The following is added to the **Other Insurance** Condition and supersedes any provision to the contrary:

Primary And Noncontributory Insurance

This insurance is primary to and will not seek contribution from any other insurance available to an additional insured under your policy provided that:

- (1) The additional insured is a Named Insured under such other insurance; and

- (2) You have agreed in writing in a contract or agreement that this insurance would be primary and would not seek contribution from any other insurance available to the additional insured.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name Of Person Or Organization: Erie County Water Authority
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The following is added to Paragraph **8. Transfer Of Rights Of Recovery Against Others To Us** of **Section IV - Conditions**:

We waive any right of recovery we may have against the person or organization shown in the Schedule above because of payments we make for injury or damage arising out of your ongoing operations or "your work" done under a contract with that person or organization and included in the "products-completed operations hazard". This waiver applies only to the person or organization shown in the Schedule above.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED FOR COVERED AUTOS LIABILITY COVERAGE

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM
BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" for Covered Autos Liability Coverage under the Who Is An Insured provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Named Insured: Intuitech Inc

Endorsement Effective Date: 08/29/2022

SCHEDULE

Name Of Person(s) Or Organization(s):

Erie County Water Authority

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Each person or organization shown in the Schedule is an "insured" for Covered Autos Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Paragraph **A.1.** of Section **II** - Covered Autos Liability Coverage in the Business Auto and Motor Carrier Coverage Forms and Paragraph **D.2.** of Section **I** - Covered Autos Coverages of the Auto Dealers Coverage Form.

Change effective 08/29/2022

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08/30/2022



**Workers'
Compensation
Board**

**Certificate of Attestation of Exemption
from New York State Workers' Compensation and/or
Disability and Paid Family Leave Benefits Insurance Coverage**

*****This form cannot be used to waive the workers' compensation rights or obligations of any party.*****

The applicant may use this Certificate of Attestation of Exemption **ONLY** to show a government entity that New York State specific workers' compensation and/or disability and paid family leave benefits insurance is not required. The applicant may **NOT** use this form to show another business or that business's insurance carrier that such insurance is not required. Please provide this form to the government entity from which you are requesting a permit, license or contract. This Certificate will not be accepted by government officials one year after the date printed on the form.

**In the Application of
(Legal Entity Name and Address):**

Intuitech, Inc.
2490 S 900 W
South Salt Lake, UT 84119-1543
PHONE: 801-487-9255 FEIN: XXXXX0069

**Business Applying For:
OTHER: Certificate of Attestation of Exemption**

From: NYS Workers Compensation Board

Workers' Compensation Exemption Statement:

The above named business is certifying that it is **NOT REQUIRED TO OBTAIN NEW YORK STATE SPECIFIC WORKERS' COMPENSATION INSURANCE COVERAGE** for the following reason:
The out-of-state entity has no NYS employees and/or NYS subcontractors AND ALL work related to the permit, license or contract is done outside of NYS; OR ALL employees are direct employees of a government entity outside of New York.

Disability and Paid Family Leave Benefits Exemption Statement:

The above named business is certifying that it is **NOT REQUIRED TO OBTAIN NEW YORK STATE STATUTORY DISABILITY AND PAID FAMILY LEAVE BENEFITS INSURANCE COVERAGE** for the following reason:
The business **MUST** be either: 1) owned by one individual; OR 2) is a partnership (including LLC, LLP, PLLP, RLLP, or LP) under the laws of New York State and is not a corporation; OR 3) is a one or two person owned corporation, with those individuals owning all of the stock and holding all offices of the corporation (in a two person owned corporation each individual must be an officer and own at least one share of stock); OR 4) is a business with no NYS location. In addition, the business does not require disability and paid family leave benefits coverage at this time since it has not employed one or more individuals on at least 30 days in any calendar year in New York State. (Independent contractors are not considered to be employees under the Disability and Paid Family Leave Benefits Law.)

I, Brock Emerson, am the CEO with the above-named legal entity. I affirm that due to my position with the above-named business I have the knowledge, information and authority to make this Certificate of Attestation of Exemption. I hereby affirm that the statements made herein are true, that I have not made any materially false statements and I make this Certificate of Attestation of Exemption under the penalties of perjury. I further affirm that I understand that any false statement, representation or concealment will subject me to felony criminal prosecution, including jail and civil liability in accordance with the Workers' Compensation Law and all other New York State laws. By submitting this Certificate of Attestation of Exemption to the government entity listed above I also hereby affirm that if circumstances change so that workers' compensation insurance and/or disability and paid family leave benefits coverage is required, the above-named legal entity will immediately acquire appropriate New York State specific workers' compensation insurance and/or disability and paid family leave benefits coverage and also immediately furnish proof of that coverage on forms approved by the Chair of the Workers' Compensation Board to the government entity listed above.

**SIGN
HERE**

Signature: 

Date: 8/30/2022

**Exemption Certificate Number
2022-060405**

**Received
August 30, 2022
NYS Workers' Compensation Board**