

**INVITATION TO BID  
TOWN OF SIMSBURY  
(EQUAL OPPORTUNITY EMPLOYER)**

Project: **Simsbury WPCF  
PACKAGED PLANT WATER SYSTEM  
Project No. WPCA/DPW 2019-04**

Sealed bids, endorsed "**PACKAGED PLANT WATER SYSTEM**" will be received at the office of the Finance Director, 933 Hopmeadow St., (Route 10/202), Simsbury, Connecticut, until **Thursday, July 11, 2019 at 11:00 a.m. (EST)** at which time they will be opened in public by the Director of Finance. Bids received after the time set for the opening may be rejected.

**"NONDISCRIMINATION IN EMPLOYMENT"**

Bidders on this work will be required to comply with the President's EXECUTIVE ORDER NO. 11246. The requirements for Bidders and Contractors under this Order are explained in the Specifications.

Included in this work is furnishing a Packaged Plant Water System and alternate components; (1) Duplex Basket Strainer and (1) Magnetic Flow Meter delivered to the Town of Simsbury Water Pollution Control Facility, 36 Drake Hill Road Simsbury Connecticut 06070.

Copies of the contract documents, drawings and specifications may be obtained from the Town Website at: <https://www.simsbury-ct.gov/finance/pages/public-bids-and-rfp>.

The right is reserved to reject any or all bids or to waive defects in same if it be deemed in the best interest of the Town of Simsbury. The Town of Simsbury is an Equal Opportunity Employer.

Thomas J Roy, P.E.  
Director of Public Works

**SPECIFICATION FOR  
SIMSBURY WPCF  
PACKAGED PLANT WATER SYSTEM**

**SIMSBURY, CONNECTICUT**

**June 10, 2019**



**PREPARED FOR:** Town of Simsbury Water Pollution Control Authority  
and Department of Public Works

**PREPARED BY:** Simsbury Water Pollution Control Authority

**PROJECT NO:** WPCA/DPW 2019-04

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**SIMSBURY WPCF**

**PACKAGED PLANT WATER SYSTEM**

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## **INFORMATION FOR BIDDERS**

1. Sealed BIDS will be received by the Director of Finance, for the Town of Simsbury (Herein called the "OWNER"), at the Town Office, 933 Hopmeadow St., Simsbury, CT 06070 until **11:00 a.m.** prevailing time on **Thursday, July 11, 2019**, and then publicly opened and read aloud.
2. Each BID must be submitted in a sealed envelope, addressed to the Director of Finance, designated on the outside as BID for: **"Simsbury WPCF-Packaged Plant Water System"**.

Each envelope should also bear, on the outside, the name of the BIDDER and his address. If forwarded by mail, the sealed envelope containing the BID must be enclosed in another envelope addressed to the OWNER, at the above address.

3. Each BID must be made on attached Bid Forms and returned intact. BIDDERS will state, both in writing and in figures, the proposed price for each separate item of the work called for in the annexed blank, by which prices will be compared. If any price is omitted, the blank may be filled with the highest price named by any BIDDER for that item or the BID may be rejected. Only one copy of the BID form is required.
4. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 30 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the OWNER and the BIDDER.
5. Each BID must be accompanied by a certified check or bank draft, payable to the Town of Simsbury, or a satisfactory BID Bond executed by the bidder and an acceptable surety, in an amount equal to five (5%) percent of the total Base Bid. The certified check, bank draft, or Bid Bond shall be retained as a guarantee that if the proposal is accepted, the Bidder will post with the OWNER, a Performance, Labor and Material Bond in the full amount of the contract, submit the required insurance certificates, and to sign a contract. Attorneys-in-fact who sign Bonds must file with each Bond a certified and effective dated copy of their Power of Attorney.
  - a. As soon as the Bid prices have been compared, the OWNER will return the BONDS of all except the three lowest responsible BIDDERS. When the agreement is executed, the bonds of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the Performance, Labor, and Material Bond have been submitted and the required insurance certificates have been filed, after which it will be returned. If a BIDDER refuses to sign a contract or cannot obtain satisfactory Bonds, the Owner will retain his Bid security as liquidated damages, but not as a penalty.
  - b. The OWNER reserves the right to waive any informality in, or to reject any or all proposals or to accept any proposal which, in their opinion, is in the best interest of the Town of Simsbury whether or not such proposal is the lowest bid. The contractor must be responsible and qualified and have previously done work of a similar nature.

- c. The OWNER may make such investigations as he deems necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.
  - d. A conditional qualified Bid will not be accepted.
6. The Contractor to whom the contract shall be awarded must file the requisite Bonds, and certificate of INSURANCE as specified in the General Conditions, and execute said contract in triplicate within ten (10) calendar days from the date when NOTICE OF AWARD is delivered to the BIDDER, and in case of failure to do so, the person or firm will be considered to have abandoned the contract, and the CERTIFIED CHECK or BID BOND shall be forfeited to the Town of Simsbury.
7. BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done. The failure of omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from obligation in respect to his BID.
8. Should a BIDDER find any discrepancy or omission in the Plans or Specifications or is in doubt as to the meaning of any portion of them, he shall notify the Superintendent, who will then instruct all BIDDERS in writing regarding the points in question.
9. The OWNER, within fourteen (14) days of receipt of the requisite Bonds, acceptable Insurance Certificates and Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE, withdraw his signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notices by the OWNER.
10. The NOTICE TO PROCEED shall be issued within fourteen (14) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by mutual agreement between the OWNER AND CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.
11. The OWNER will be responsible for payment in accordance with the terms of the Contract. The OWNER reserves the right to retain five percent (5%) of the final contract price for a period not to exceed 6 months from the date of the acceptance of the project.
12. The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the Contract.
13. Further, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

14. The LOW BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when requested to do so by the OWNER.
15. The BIDDER'S attention is directed to the fact that all applicable Federal and State law, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.
16. No amount shall be included in the BID for Connecticut State Sales Tax or for Federal Excise Tax.
17. The successful bidder must provide the Town of Simsbury with a completed W-9 Form prior to commencing work.

18. Insurance Requirements:

The Contractor must carry insurance under which the Town is named as an assured, as follows:

Such insurance must be by insurance companies licensed to write such insurance in Connecticut against the following risks with the following minimum amounts and minimum durations.

- A. Workman's Compensation, as required by Connecticut State Statute.
- B. Public Liability, Bodily Injury Liability and Property Damage Liability as follows:

Injury or death of one person:	\$1,000,000
Injury to more than one person in a single accident:	\$1,000,000
Property damage in one accident:	\$1,000,000
Property damage in all accidents:	\$1,000,000

- C. Automobile and Truck (Vehicular) Public Liability, Bodily Injury Liability and Property Damage Liability as follows:

Injury or death of one person:	\$1,000,000
Injury to more than one person in a single accident:	\$1,000,000
Property damage in one accident:	\$1,000,000
Property damage in all accidents:	\$1,000,000

- D. Builders Risk including Fire and Extended coverage:

In an amount equal to the value of construction completed plus materials delivered to the site. Insurance under B, C, D above must provide for a 30 day notice to the Town of cancellation/or restrictive amendment.

Insurance under B and C above must be for the whole duration of the contract and for twelve (12) months after acceptance of the project by the Town.

Insurance under D above must be carried for the whole duration of the project and until acceptance by the Town.

Subcontractors must carry A, B, C in the same amounts as above for the duration of the project and until acceptance by the Town.

Certificates of insurance must be submitted to the Superintendent Water Pollution Control prior to

the signing of the contract and within ten days of notification of award of contract. Should any insurance expire or be terminated during the period in which the same is required by this contract, the Superintendent Water Pollution Control shall be notified and such expired or terminated insurance must be replaced with new insurance and a new certificate furnished to the Superintendent Water Pollution Control.

Failure to provide the required insurance and certificates may, at the option of the Town, be held to be a willful and substantial breach of this contract.

19. Substitution for Name Brands:

Should brand name items appear in this bid, the bidder must attach specifications for any substitutions and explain how the substitution compares with the specifications of the named brand. The decision on whether to use the substitution or the named brand rests solely with the Town of Simsbury.

20. In accordance with Executive Order 11246, the Contractor is obliged not to discriminate against any employee or applicant for employment because of race, color, creed, or national origin. This obligation not to discriminate in employment includes, but is not limited to, the following: hiring, placement, upgrading, transfer, demotion, recruitment, advertising, solicitation for employment training during employment, rates of pay or other forms of compensation, selection for training including apprenticeship, layoff, or termination.

21. Questions:

Any questions about this project should be directed to: Mr. Anthony Piazza, Superintendent, Water Pollution Control by fax (860) 658-6809, or by mail Water Pollution Control 36 Drake Hill Road, Simsbury, CT 06070. To receive consideration, such questions must be received at least four (4) business days before the established date for receipt of bids. No oral interpretations shall be made to any respondent as to the meaning of any of the bid documents. Every request for an interpretation shall be made in writing.

**BIDDER'S PROPOSAL**

Place \_\_\_\_\_

Date \_\_\_\_\_

TO: Director of Finance  
933 Hopmeadow Street  
Simsbury, Connecticut 06070

Sir:

1. Proposal of \_\_\_\_\_

(hereinafter called BIDDER), organized and existing under the laws of the State of \_\_\_\_\_

doing business as \_\_\_\_\_

In compliance with your Invitation to Bid, dated \_\_\_\_\_, Bidder hereby proposes to perform all work for the delivery of **Simsbury WPCF- Packaged Plant Water System** in strict accordance with the CONTRACT DOCUMENTS, within the time set forth therein, and at the prices shown for each bid item on the Bid Schedule. Any total cost found inconsistent with the unit cost when the bids are examined will be deemed in error and corrected to agree with the unit cost which shall be considered correct.

2. The undersigned BIDDER does hereby declare and stipulate that this proposal is made in good faith, without collusion or connection with any other person or persons bidding for the same work; that no person or persons other than those named herein are interested in this proposal or in the contract proposed to be taken; that no person acting for or employed by the Town of Simsbury is directly interested therein, or in the supplies or works to which it relates, or in any portion of the profits thereof contrary to the ordinances of said Town and laws of the State of Connecticut; that it is made in pursuance of and subject to all the terms and conditions of the Notice and Instructions to Bidders, the Construction Contract, the Detailed Specifications, and the Plans pertaining to the work to be done, all of which have been examined by the undersigned; that the site of the work has been examined; that it is understood that the town, its agents and employees are not to be in any manner held responsible for the accuracy of, or bound by, any estimates, subsurface information or plan of borings relative to the work and appearing on plans or in the foregoing notice; and that all such estimates, etc., are to be considered solely for the purpose of filling out and comparing the several proposals.

\* Insert "a corporation", "a partnership", or "an individual" as applicable

3. The undersigned further agrees, in case of a corporation or fictitious trade name, that an acceptable certificate will be filed showing the proper officer or person authorized to sign said contract.



4. And the undersigned agrees to furnish satisfactory bonds and insurance, and to execute within ten (10) days after notice of the award, a formal contract with the Town of Simsbury, for the fulfillment of this proposal, and it is agreed that in case of failure on the part of the undersigned to do so, the certified check or bid bond deposited herewith shall be forfeited to the Town of Simsbury as liquidated damages for such failure.

Enclosed herewith find Certified Check, or Bid Bond in amount of \_\_\_\_\_

\_\_\_\_\_ Dollars (\$\_\_\_\_\_) made payable to the Town of Simsbury as a proposal guarantee which it is understood will be forfeited in the event the Form of Contract is not executed, if awarded to the undersigned.

5. The undersigned BIDDER agrees to abide by the requirements of EXECUTIVE ORDER NO. 11246, as amended.
6. All the various phases of work enumerated in the Detailed Specifications with their individual jobs and overhead, whether specifically mentioned, included by implication or appurtenant thereto, are to be performed by the BIDDER under one of the items listed in the Bid Schedule, irrespective of whether it is named in said list.
7. Payment for work performed will be in accordance with the Bid Schedule, subject to changes as provided for in the Construction Contract. The total of the Bid is for comparison of proposals only. The Unit Prices, as applied to the quantities of work actually completed, will govern for actual payment. The Bidder acknowledges that the unit price will be applied and the final quantities may increase or decrease by up to 25%. If quantities for an item vary by more than 25% pricing may be adjusted by a mutual agreement in the form of a Change Order.

BIDDER \_\_\_\_\_

Seal, (if a corporation) BY \_\_\_\_\_

TITLE \_\_\_\_\_

BUSINESS ADDRESS \_\_\_\_\_

\_\_\_\_\_

TELE. (\_\_\_\_) \_\_\_\_\_

If a Partnership, the partners are:

Full Name

Residence

_____	_____
_____	_____
_____	_____

If a Corporation, the officers are:

Full Name

Residence

_____	President	_____
_____	Treasurer	_____
_____	Directors	_____
_____		_____
_____		_____

(I/We have)

\*(I/We have not) previously performed work subject to the President's Executive Order Number 11246 or any preceding Executive Order.

Signed \_\_\_\_\_  
\_\_\_\_\_

\*Cross out words not applicable

**NOTE:**

Bidder is reminded that in addition to completing and signing the above proposal and bid form, he/she shall also complete and return with the bid:

- Bid Security
- Non-Collusion Affidavit
- Legal Status Form
- Statement of Bidder's Qualifications

Simsbury Water Pollution Control Facility  
 Packaged Plant Water System

Bid Number: 2019-04

ITEM NO.	ITEMS OF WORK	ESTIMATED QUANTITIES	UNIT PRICES BID		AMOUNT
			WORDS	FIGURES	
1	Packaged Plant Water System	One (1)			
		<b>TOTAL BID:</b>			

**ALTERNATES**

ITEM NO.	ITEMS OF WORK	ESTIMATED QUANTITIES	UNIT PRICES BID		AMOUNT
			WORDS	FIGURES	
Alternate 1	8" Duplex Basket Strainer	One (1)			
		<b>TOTAL BID:</b>			
Alternate 2	6" Magnetic Flow Meter	One (1)			
		<b>TOTAL BID:</b>			

\_\_\_\_\_

Contractor Signature

\_\_\_\_\_

Date

**TOWN OF SIMSBURY, CONNECTICUT**

**BIDDER'S LEGAL STATUS DISCLOSURE**

Please fully complete the applicable section below, attaching a separate sheet if you need additional space.

For purposes of this disclosure, "permanent place of business" means an office continuously maintained, occupied and used by the bidder's regular employees regularly in attendance to carry on the bidder's business in the bidder's own name. An office maintained, occupied and used by a bidder only for the duration of a contract will not be considered a permanent place of business. An office maintained, occupied and used by a person affiliated with a bidder will not be considered a bidder's permanent place of business.

IF A SOLELY OWNED BUSINESS:

Bidder's Full Legal Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

Owner's Full Legal Name \_\_\_\_\_

Does the bidder have a "permanent place of business" in Connecticut, as defined above?

\_\_\_\_\_ Yes                      \_\_\_\_\_ No

If yes, please state the full street address (not a post office box) of that "permanent place of business."

\_\_\_\_\_

IF A CORPORATION:

Bidder's Full Legal Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

State in which Legally Organized \_\_\_\_\_

State Business ID # \_\_\_\_\_

Current Officers

\_\_\_\_\_  
President

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
Chief Financial Officer

**TOWN OF SIMSBURY**

**BIDDER'S NON-COLLUSION AFFIDAVIT**

The undersigned bidder, having fully informed himself/itself regarding the accuracy of the statements made herein, certifies that:

- (1) the bid is genuine; it is not a collusive or sham bid;
- (2) the bidder developed the bid independently and submitted it without collusion with, and without any agreement, understanding, communication or planned common course of action with, any other person or entity designed to limit independent bidding or competition;
- (3) the bidder, its employees and agents have not communicated the contents of the bid to any person not an employee or agent of the bidder and will not communicate the bid to any such person prior to the official opening of the bid; and
- (4) no elected or appointed official or other officer or employee of the Town of Simsbury is directly or indirectly interested in the bidder's bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

The undersigned bidder further certifies that this statement is executed for the purpose of inducing the Town of Simsbury to consider its bid and make an award in accordance therewith.

\_\_\_\_\_  
Legal Name of Bidder

\_\_\_\_\_  
(signature)  
Bidder's Representative, Duly Authorized

\_\_\_\_\_  
Name of Bidder's Authorized Representative

\_\_\_\_\_  
Title of Bidder's Authorized Representative

\_\_\_\_\_  
Date

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

\_\_\_\_\_  
Notary Public  
My Commission Expires:

## STATEMENT OF BIDDER'S QUALIFICATIONS

All questions shall be answered and information given shall be clear and comprehensive. This statement shall be notarized. If additional room is required to answer questions, please attach additional sheet(s) with the supplemental information. The bidder's name shall appear on the top of the supplemental sheets to avoid confusion. The bidder may submit additional information as it deems necessary to enable the Town to judge the bidder's ability to perform the proposed Contract.

A complete statement of Bidders Qualifications shall be submitted for any Subcontractor that will be utilized to satisfy Item 13 of this Statement of Bidders Qualifications.

1. Bidder's full legal name:
2. Permanent main office address:
3. Contact person for this Invitation:
4. Phone and fax numbers and e-mail address of the contact person during normal business hours:
5. Date of organization:
6. Date of incorporation, if applicable:
7. Number of years bidder has been engaged in business under present firm or trade name:
8. Contracts on hand (dollar value, anticipated completion date):
9. General character or type of work performed by the bidder:
10. Has the bidder ever failed to complete any work awarded to it? If so, please explain in detail the circumstances:
11. Has the bidder ever defaulted on a contract? If so, please explain in detail the circumstances:

**TOWN OF SIMSBURY**  
**SAMPLE OF CONTRACT THAT IS TO BE EXECUTED BETWEEN THE TOWN OF**  
**SIMSBURY AND THE LOWEST RESPONSIBLE BIDDER**

THIS AGREEMENT, made this \_\_\_ day of \_\_\_\_\_ by and between THE TOWN OF SIMSBURY, 933 Hopmeadow Street, Simsbury, Connecticut hereinafter referred to as the OWNER and \_\_\_\_\_ with an address at ADDRESS OF \_\_\_\_\_ hereinafter referred to as the CONTRACTOR.

WITNESSETH:

That for and in consideration of the mutual covenants and promises between the parties hereto, it is hereby agreed that:

1. The CONTRACTOR will furnish all of the materials and supplies, equipment, and labor and other services necessary in conformance with these contract documents for the construction and completion of the project described in general as follows: SIMSBURY WPCF-PACKAGED PLANT WATER SYSTEM, as defined in the Standard Instruction for Bidders.
  
2. COMPLETION OF WORK. The Contractor shall commence the work covered by this contract within fourteen (14) calendar days after the date of receipt of the Notice to Proceed and shall complete the same within 180 calendar days unless the period for completion is extended as provided for in the General Conditions.
  - a) **Liquidated Damages:** If CONTRACTOR fails to achieve Substantial Completion of the Work by \_\_\_\_\_, CONTRACTOR shall be responsible for payment of liquidated damages in the amount of \$250.00 per day that the Work has failed to achieve Substantial Completion. It is agreed and understood between the parties that while actual damages sustained by OWNER in the event of a CONTRACTOR delay would be difficult to quantify, the foregoing liquidated damage amounts represent fair and reasonable estimated of such damages and are not (and shall not be deemed to be) penalties. The parties further agree that in lieu of actual payment of liquidated damages to OWNER from CONTRACTOR, OWNER may withhold the amount of liquidated damages to OWNER by CONTRACTOR from the balance of any monies owned to CONTRACTOR from OWNER.
  
3. CONTRACT SUM. The Owner shall pay the Contractor for the performance of said work the sum of \$ \_\_\_\_\_, subject to additions or deductions provided herein in conformity with the bid schedule of prices.
  
4. The Contract Documents include the following:

- (a) Notice and Instructions to Bidders dated \_\_\_\_\_
  - (b) Bidder's Proposal dated \_\_\_\_\_
  - (c) Notice of Award dated \_\_\_\_\_
  - (d) Contract
  - (e) General Conditions
  - (f) Supplemental General Conditions
  - (g) Technical Specifications prepared or issued by the Town of Simsbury Department of Water Pollution Control
5. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Conditions and in such amounts as required by the Contract Documents.
  6. This Contract shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Contract in duplicate, on the date first above written.

**OWNER:**

Signed, Sealed and Delivered  
in the presence of:

\_\_\_\_\_  
Town of Simsbury  
BY: Maria E. Capriola  
Town Manager

**CONTRACTOR:**

**BY:** \_\_\_\_\_  
**Printed Name:** \_\_\_\_\_  
**Title:** \_\_\_\_\_



**PROJECT:**

**Information Needed for  
Communications on the Project**

Name of Company: \_

Location of Company Office:

Street \_

City/State \_

Zip Code \_

Mailing Address of Company Office (if different than

location): Street \_

City/State \_

Zip Code \_

Phone No. of Company's Office (include area code)

Phone No. of Company's Project Office (if  
applicable) \_ Company Official Responsible for this  
Project:

Name \_

Title \_

Phone No. \_( )\_

Project Supervisor or Foreman:

Name \_

Phone No. \_ ( )\_

Person to be Contacted in Emergencies after Work Hours:

Name \_ Phone

No. ( )\_

Person to be Contacted in Emergencies on Weekends and

Holidays: Name \_\_\_\_\_

Phone No. \_( )\_

If any changes to the above information occur during the progress of the work, the Public Works Director shall be immediately notified.

**Town of Simsbury**

**SUPPLEMENTAL CONTRACT SECTION**

**CODE OF ETHICS**

Chapter 13 of the Code of Ordinances, the Simsbury Code of Ethics, is hereby incorporated by reference as if fully set forth, and is made a part of the Contract Documents. All Contractors shall sign the Acknowledgement Form.

**TOWN OF SIMSBURY**

**Acknowledgement Form  
and**

**Charter Section 1003 Code of the Town of Simsbury**

**ACKNOWLEDGEMENT FORM**

I have read Section 1003 of the Charter of the Town of Simsbury, the Code of Ethics Ordinance, and the Guidelines issued thereunder. I understand my responsibilities as a Contractor retained by the Town of Simsbury, and I am in compliance with the Charter and the Code of Ethics. I have indicated in the space below any areas of conflict should they arise in matters before our board, commission, agency or department, and I agree to report any future conflicts under the provisions of Section 1003 of the Charter.

Areas of Exception
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**CONFLICTS OF INTEREST  
SECTION 1003**

CONFLICTS OF INTEREST. It is hereby declared to be the policy of the Town that any elected or appointed officer, any member of any board or commission or any employee of the Town who has a financial interest, direct or indirect, in any contract, transaction or decision of any officer or agent of the Town or any board or commission, shall disclose that interest to the Board of Selectmen, which shall record such disclosure upon the official record of its meetings. Such disclosure of a financial interest, direct or indirect, in any contract, transaction or decision of any officer or agent of the town or of any board or commission shall disqualify such elected or appointed official or such member of a board of commission or such town employee from participation in the awarding, assignment or discussion of said contract, transaction or decision. Violation by any such official, board or commission member or employee of the provisions of this section shall be grounds for his/her removal.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name (Please Print)

\_\_\_\_\_  
Date

**CONTRACTOR'S EXEMPT PURCHASE CERTIFICATE**

I hereby certify, under penalties of perjury, that I am engaged in the performance of a construction contract on a project for the following named exempt agency or organization:

**Town of Simsbury**

---

Full Name of Agency of Organization

**933 Hopmeadow Street  
Simsbury, CT 06070**

---

Address of Same

That such agency is, to the best of my knowledge and belief, exempt from the Sales and Use Tax because it is a

**Town**

---

(Town, School, Fire or Police Department, Library etc.,  
or other branch of State or Federal Government)

in accordance with Regulation No. 16 of Sales and Use Tax.

That this certificate is issued to cover all purchases of materials and supplies, designated by me, for use of the project referred to above.

Permit No. \_ (if any) (signed) \_ Contractor

Date: \_

Place: \_ 

---

 Firm Name

Address: \_

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**SIMSBURY WPCF**  
**PACKAGED PLANT WATER SYSTEM**

**INDEX TO SPECIFICATIONS**

Technical Specifications

Division I

Division II

Division III

Packaged Plant Water System

Duplex Basket Strainer (Alternate Bid)

Magnetic Flow Meter (Alternate Bid)

**Simsbury WPCF  
Specification for Packaged Plant Water System**

**Part 1 – GENERAL**

**1.1 WORK INCLUDED**

Supply one (1) packaged plant water system as described herein. Packaged plant water system shall include pumps, integrated motor/VFD's, piping, valves, and control panel. Packaged system shall be as manufactured by Grundfos or approved equal.

Maximum packaged system dimensions shall be 80" L x 62" W x 53" H. The control panel shall be installed on a stainless steel plinth separate from the equipment skid. All cables required for interfacing between the control panel and the equipment skid components shall be provided by the packaged system manufacturer. The platform must be able to be disassembled and fit thru a HALLIDAY PRODUCTS hatch, which has a rough opening of Forty Seven (47) inches wide by forty four (44) inches deep.

**1.2 REFERENCE STANDARDS**

The work in this section is subject to the requirements of applicable portions of the following standards:

- A. Hydraulic Institute
- B. ANSI – American National Standards Institute
- C. ASTM – American Society for Testing and Materials
- D. IEEE – Institute of Electrical and Electronics Engineers
- E. NEMA – National Electrical Manufacturers Association
- F. NEC – National Electrical Code
- G. ISO – International Standards Organization
- H. UL – Underwriters Laboratories, Inc.

**Part 2 – PRODUCTS**

**2.1 VARIABLE SPEED PACKAGED PUMPING SYSTEM WITH INTEGRATED VARIABLE FREQUENCY DRIVE MOTORS**

Furnish and install a pre-fabricated and tested variable speed packaged pumping system to maintain constant water delivery pressure.

The packaged pump system shall be a standard product of a single pump manufacturer. The entire pump system including pumps and pump logic controller, shall be designed and built by the same manufacturer.

The complete packaged water booster pump system shall be certified and listed by UL (Category QCZJ – Packaged Pumping Systems) for conformance to U.S. standards.

**2.2 PUMPS**

All pumps shall be ANSI/NSF 61 approved for drinking water.

The pumps shall be of the in-line vertical multi-stage design.

The head-capacity curve shall have a steady rise in head from maximum to minimum flow within the preferred operating region. The shut-off head shall be a minimum of 20% higher than the head at the best efficiency point.

**Division I**

### Jockey Pump

- System shall include one (1) Jockey Pump, Grundfos Model CRNE 15-4. Duty point shall be 100 GPM @ 150' TDH @ 92% speed, 65% minimum wire-to-water efficiency.
- Motor and variable frequency drive shall be an integrated unit. Maximum HP rating shall be 7.5 HP. Integrated variable frequency drive motor shall be rated for operation on 460 volt, 3 phase service. See Part 2.3 for requirements for the variable frequency drive motors.
- The pump impellers shall be secured directly to the pump shaft by means of a splined shaft arrangement.
- The suction/discharge base shall have ANSI Class 250 flanged connections.
- Pump Construction.

Pump head and base plate:	Cast iron, ASTM Class 30
Pump head cover:	CF 8M stainless steel
Impellers, diffuser chambers, outer sleeve:	316 Stainless Steel
Shaft	329 Stainless Steel
Bearing rings:	Silicon Carbide
O-rings:	EPDM
Coupling:	Cast iron

- The shaft seal shall be a balanced O-ring cartridge type with the following features:

Collar, Drivers, Spring:	316 Stainless Steel
Shaft Sleeve, Gland Plate:	316 Stainless Steel
Stationary Ring:	Silicon Carbide
Rotating Ring:	Silicon Carbide
O-rings:	EPDM

The Silicon Carbide shall be imbedded with graphite.

- Shaft seal replacement shall be possible without removal of any pump components other than the coupling guard, shaft coupling and motor. The entire cartridge shaft seal shall be removable as a one piece component.

### Duty Pumps

- System shall include three (3) Duty Pumps, Grundfos Model CRNE 45-2. Duty point shall be 250 GPM @ 150' TDH @ 96% speed, 67% minimum wire-to-water efficiency.
- Motor and variable frequency drive shall be an integrated unit. Maximum HP rating shall be 15 HP. Integrated variable frequency drive motor shall be rated for operation on 460 volt, 3 phase service. See Part 2.3 for requirements for the integrated variable frequency drive motors.
- The pump impellers shall be secured directly to the smooth pump shaft by means of a split cone and nut design.
- The suction/discharge base shall have ANSI Class 125 flange connections.
- Pump Construction.

Base plate	Cast Iron, ASTM 88-55-06
Pump head	CF 8MStainless Steel
Motor stool	Cast Iron, ASTM Class 25B
Impellers, diffuser chambers, outer sleeve:	316 Stainless Steel
Shaft	Stainless Steel
Bearing rings:	Silicon Carbide
O-rings:	EPDM
Coupling:	Cast iron



- The shaft seal shall be a balanced O-ring cartridge type with the following features:

Collar, Drivers, Spring:	316 Stainless Steel
Shaft Sleeve, Gland Plate:	316 Stainless Steel
Stationary Ring:	Silicon Carbide
Rotating Ring:	Silicon Carbide
O-rings:	EPDM

- The entire cartridge shaft seal shall be removable as a one piece component. Pumps shall have adequate space within the motor stool so that shaft seal replacement is possible without removing the motor.

### **2.3 INTEGRATED VARIABLE FREQUENCY DRIVE MOTORS**

Each motor shall be of the Integrated Variable Frequency Drive design consisting of a motor and a Variable Frequency Drive (VFD) built and tested as one unit by the same manufacturer.

The VFD shall be of the PWM (Pulse Width Modulation) design using current IGBT (Insulated Gate Bipolar Transistor) technology.

The VFD shall convert incoming fixed frequency three-phase AC power into a variable frequency and voltage for controlling the speed of motor. The motor current shall closely approximate a sine wave. Motor voltage shall be varied with frequency to maintain desired motor magnetization current suitable for centrifugal pump control and to eliminate the need for motor de-rating.

The VFD shall utilize an energy optimization algorithm to minimize energy consumption. The output voltage shall be adjusted in response to the load, independent of speed.

The VFD shall automatically reduce the switching frequency and/or the output voltage and frequency to the motor during periods of sustained ambient temperatures that are higher than the normal operating range. The switching frequency shall be reduced before motor speed is reduced.

An integral RFI filter shall be standard in the VFD.

The VFD shall have a minimum of two skip frequency bands which can be field adjustable.

The VFD shall have internal solid-state overload protection designed to trip within the range of 125-150% of rated current.

The integrated VFD motor shall include protection against input transients, phase imbalance, loss of AC line phase, over-voltage, under-voltage, VFD over-temperature, and motor over-temperature. Three-phase integrated VFD motors shall be capable of providing full output voltage and frequency with a voltage imbalance of up to 10%.

The integrated VFD motor shall have, as a minimum, the following input/output capabilities:

- Speed Reference Signal: 0-10 VDC, 4-20mA
- Digital remote on/off
- Fault Signal Relay (NC or NO)

- Fieldbus communication port (RS485)

The motor shall be Totally Enclosed Fan Cooled (TEFC) with a standard NEMA C-Face, Class F insulation with a temperature rise no higher than Class B.

The cooling design of the motor and VFD shall be such that a Class B motor temperature rise is not exceeded at full rated load and speed at a minimum switching frequency of 9.0 kHz.

Motor drive end bearings shall be adequately sized so that the minimum L10 bearing life is 17,500 hours at the minimum allowable continuous flow rate for the pump at full rated speed.

## **2.4 CONTROL PANEL AND PUMP SYSTEM CONTROLLER**

The pump system control panel enclosure shall be NEMA 3R. The control panel shall be mounted on a stainless steel plinth (separate from the skid) to enable remote mounting of the skid. Incoming power shall be 460 volt, 3 phase.

The pump system controller shall be a standard product developed and supported by the pump manufacturer. The controller shall be Grundfos Model CU352.

The controller shall be microprocessor based capable of having software changes and updates via personal computer (notebook). The controller user interface shall have a VGA display with a minimum screen size of 3-1/2" x 4-5/8" for easy viewing of system status parameters and for field programming. The display shall have a back light with contrast adjustment. Password protection of system settings shall be standard.

The controller shall provide internal galvanic isolation to all digital and analog inputs as well as all fieldbus connections.

The controller shall display the following as status readings from a single display on the controller (this display shall be the default):

- Current value of the control parameter, (typically discharge pressure)
- Most recent existing alarm (if any)
- System status with current operating mode
- Status of each pump with current operating mode and rotational speed as a percentage (%)

The controller shall have as a minimum the following hardware inputs and outputs:

- Three analog inputs (4-20mA or 0-10VDC)
- Three digital inputs
- Two digital outputs
- Ethernet connection
- Field Service connection to PC for advanced programming and data logging

Pump system programming (field adjustable) shall include as a minimum the following:

- Water shortage protection (analog or digital)
- Transducer Settings (Suction and Discharge Analog supply/range)
- PI Controller (Proportional gain and Integral time) settings
- High system pressure indication and shut-down

- Low system pressure indication and shut-down
- Low suction pressure/level shutdown (via digital contact)
- Low suction pressure/level warning (via analog signal)
- Low suction pressure/level shutdown (via analog signal)
- Flow meter settings (if used, analog signal)

The system controller shall be able to accept up to seven programmable set-points via a digital input, (additional input/output module may be required).

The controller shall have advanced water shortage protection. When analog sensors (level or pressure) are used for water shortage protection, there shall be two indication levels. One level is for warning indication only (indication that the water level/pressure is getting lower than expected levels) and the other level is for complete system shut-down (water or level is so low that pump damage can occur). System restart after shut-down shall be manual or automatic (user selectable).

The system pressure set-point shall be capable of being automatically adjusted by using an external set-point influence. The set-point influence function enables the user to adjust the control parameter (typically pressure) by measuring an additional parameter. (Example: Lower the system pressure set-point based on a flow measurement to compensate for lower friction losses at lower flow rates).

The controller shall be capable of receiving a remote analog set-point (4-20mA or 0-10 VDC) as well as a remote system on/off (digital) signal.

The pump system controller shall store up to 24 warning and alarms in memory. The time, date and duration of each alarm shall be recorded. A potential-free relay shall be provided for alarm notification to the building management system. The controller shall display the following alarm conditions:

- High System Pressure
- Low system pressure
- Low suction pressure (warning and/or alarm)
- Individual pump failure
- VFD trip/failure
- Loss of sensor signal (4-20 mA)
- Loss of remote set-point signal (4-20mA)
- System power loss

The pump system controller shall be mounted in a UL Type 3R rated enclosure. A self-certified NEMA enclosure rating shall not be considered equal. The entire control panel shall be UL 508 listed as an assembly. The control panel shall include a main disconnect, circuit breakers for each pump and the control circuit and control relays for alarm functions.

Control panel shall include:

- Main disconnect
- Service disconnect switch for each pump
- Pump run lights
- Emergency/Normal Operation Selector Switches
- System Fault Light
- Audible Alarm (80 db[A])
- Surge Arrestor
- Control power transformer

The controller shall be capable of receiving a redundant sensor input to function as a backup to the primary sensor.

The controller shall have a pump “Test Run” feature such that pumps are switched on during periods of inactivity (system is switched to the “off” position but with electricity supply still connected). The inoperative pumps shall be switched on for a period of two to three (2-3) seconds every 24 hours, 48 hours or once per week (user selectable).

The controller shall be capable of displaying instantaneous power consumption (Watts or kilowatts) and cumulative energy consumption (kilowatt-hours).

The actual pump performance curves (5<sup>th</sup> order polynomial) shall be loaded (software) into the pump system controller.

## **2.5 SEQUENCE OF OPERATION**

The system controller shall operate equal capacity variable speed pumps to maintain a constant discharge pressure (system set-point). The system controller shall receive an analog signal [4-20mA] from the factory installed pressure transducer on the discharge manifold, indicating the actual system pressure. As flow demand increases the pump speed shall be increased to maintain the system set-point pressure. When the operating pump(s) reach 96% of full speed (adjustable), an additional pump will be started and will increase speed until the system set-point is achieved. When the system pressure is equal to the system set-point all pumps in operation shall reach equal operating speeds. As flow demand decreases the pump speed shall be reduced while system set-point pressure is maintained. When all pumps in operation are running at low speed the system controller shall switch off pumps when fewer pumps are able to maintain system demand.

The system controller shall be capable of switching pumps on and off to satisfy system demand without the use of flow switches, motor current monitors or temperature measuring devices.

All pumps in the system shall alternate automatically based on demand, time and fault. If flow demand is continuous (no flow shut-down does not occur), the system controller shall have the capability to alternate the pumps every 24 hours, every 48 hours or once per week. The interval and actual time of the pump change-over shall be field adjustable.

## **2.6 LOW FLOW STOP FUNCTION**

The system controller shall be capable of stopping pumps during periods of low-flow or zero-flow without wasting water or adding unwanted heat to the liquid. Temperature based no flow shut-down methods that have the potential to waste water and add unwanted temperature rise to the pumping fluid are not acceptable.

### Standard Low Flow Stop and Energy Saving Mode

If a low or no flow shut-down is required (periods of low or zero demand) a bladder type diaphragm tank shall be installed with a pre-charge pressure of 70% of system set-point. The tank shall be piped to the discharge manifold or system piping downstream of the pump system. When only one pump is in operation the system controller shall be capable of detecting low flow (less than 10% of pump nominal flow) without the use of additional flow sensing devices. When a low flow is detected, the system controller shall increase pump speed until the discharge pressure reaches the stop pressure (system set-point plus 50% of programmed on/off band). The pump shall remain off until the discharge pressure reaches the start pressure (system set-point minus 50% of programmed on/off band). Upon low flow shut-down a pump shall be restarted in one of the following two ways:

- Low Flow Restart: If the drop in pressure is slow when the start pressure is reached (indicating the flow is still low), the pump shall start and the speed shall again be increased until the stop pressure is reached and the pump shall again be switched off.
- Normal Flow Restart: If the drop in pressure is fast (indicating the flow is greater than 10% of pump nominal flow) the pump shall start and the speed shall be increased until the system pressure reaches the system set-point.

### Enhanced Low Flow Stop and Energy Saving Mode

The pump system controller shall be capable receiving a digital signal from a flow switch or an analog signal from a flow meter to indicate a low flow condition. A bladder type diaphragm tank shall be installed with a pre-charge pressure of 70% of system set-point. The tank shall be piped to the discharge manifold or system piping downstream of the pump system. When low flow is detected (signal from flow switch or meter), the system controller shall increase pump speed until the discharge pressure reaches the stop pressure (system set-point plus 50% of programmed on/off band). The pump shall remain off until the discharge pressure reaches the start pressure (system set-point minus 50% of programmed on/off band). The pump shall remain in the energy saving on/off mode during low flow indication. When low flow is no longer present (low flow indication ceases), the pump(s) shall resume constant pressure operation.

It shall be possible to change from the standard low flow stop to the enhanced low flow stop (and vice-versa) via the user interface.

## **2.7 SYSTEM CONSTRUCTION**

The suction and discharge manifolds shall be 8" diameter and constructed of 316 stainless steel. Manifold connection sizes shall be 8" ANSI Class 150 rotating flanges.

Pump Isolation valves shall be provided on the suction and discharge of each pump. Isolation valve sizes shall be a lug style butterfly valve. The valve disk shall be of stainless steel. The valve seat material shall be EPDM and the body shall be cast iron, coated internally and externally with fusion-bonded epoxy.

A spring-loaded non-slam type check valve shall be installed on the discharge of each pump. The valve shall be a wafer style type fitted between two flanges. The head loss through the check valve shall not exceed 5 psi at the pump design capacity. Check valves 1-1/2" and smaller shall have a POM composite body and poppet, a stainless steel spring with EPDM or NBR seats. Check valves 2" and larger shall have a body material of stainless steel or epoxy coated iron (fusion bonded) with an EPDM or NBR resilient seat. Spring material shall be stainless steel. Disk shall be of stainless steel.

Connection for diaphragm tank shall be 1.5" NPT.

A pressure transducer shall be factory installed on the discharge manifold (or field installed as specified on plans). Systems with positive inlet gauge pressure shall have a factory installed pressure transducer on the suction manifold for water shortage protection. Pressure transducers shall be made of 316 stainless steel. Transducer accuracy shall be +/- 1.0% full scale with hysteresis and repeatability of no greater than 0.1% full scale. The output signal shall be 4-20 mA with a supply voltage range of 9-32 VDC.

A bourdon tube pressure gauge, 2.5 inch diameter, shall be placed on the suction and discharge manifolds. The gauge shall be liquid filled and have copper alloy internal parts in a stainless steel case. Gauge accuracy shall be 2/1/2 %. The gauge shall be capable of a pressure of 30% above its maximum span without requiring recalibration.

A water shortage protection device shall be included on the suction manifold to prevent the pumps from running dry.

The base frame shall be constructed of corrosion resistant 304 stainless steel. Rubber vibration dampers shall be fitted between each pumps and base frame to minimize vibration.

Cables to connect each motor/VFD to the control panel shall be provided by the manufacturer.

Cable to connect the discharge pressure transmitter to the control panel shall be provided by the manufacturer.

## **2.8 TESTING**

The entire pump station shall be factory performance tested as a complete unit prior to shipment. Job-site programming shall be entered into the controller prior to shipment (details of installation requirements shall be communicated to the pump system manufacturer). A verified performance test report shall be provided by the manufacturer.

The system shall undergo a hydrostatic test prior to shipment.

## **2.9 WARRANTY**

The warranty period shall be a non-prorated period of 24 months from date of installation, not to exceed 30 months from date of manufacture.

## **Alternate 1**

### **SPECIFICATION FOR DUPLEX BASKET STRAINER**

Provide one (1) duplex basket strainer. Strainer shall be Eaton Model 50 or approved equal. Strainer body shall be cast iron with 8" ANSI Class 125 flanged connections. Strainer body shall be provided with drain tap. All seals shall be Buna-N.

Diverter plug shall be bronze. Strainer shall include a manual, integral lifting jack to lift and seat the diverter plug.

Strainer shall include two (2) stainless steel baskets with lifting handles and 1/32" perforations. Covers shall be Quick-Opening Yoke-type.

The strainer shall be designed to operate at pressures up to 150 psi @ 100° F. The strainer shall be rated for 1 PSI head loss at 900 GPM with clean baskets.

## Division II

### Alternate 2

#### **SPECIFICATION FOR MAGNETIC FLOW METER**

Provide one (1) 6" magnetic flow meter. The magnetic flow meter shall be Krohne Enviromag series or approved equal. Flow meter shall be factory calibrated.

Measuring tube shall be stainless steel with polyurethane coated sheet steel housing. Liner shall be type A-35R10 hard rubber. Enclosure rating shall be IP66.

Flow meter shall have flanged connections.

Provide one (1) magnetic inductive flow converter. Flow converter shall be mounted directly on the flow sensor. Flow converter shall be Krohne Model IFC 100 C. Flow converter shall provide precisely controlled and regulated, bi-polar DC primary field excitation pulses which are digitally selectable at 12 different frequencies. The converter shall include graphical display.

The flow converter shall contain the following outputs:

- (1) Analog mA output
- (1) Pulse or analog frequency output
- (1) Status output



**Division III**