

BIDDER GUIDE
Rate of Control Venturi and Control Valves

The following information is provided by the City of Columbus to assist you in navigating the formal bid procedures. This information is not to supersede or replace any of the actual bid specifications or requirements; its sole purpose is to provide information on the process. If you have any questions regarding the process, please contact the appropriate City of Columbus representative listed on the bid solicitation (for specification questions see instructions below).

Any addenda issued by the City of Columbus will be posted on this site. The City of Columbus will send notification of addenda to Bidders that have an active login id and password with Columbus Vendor Services and are registered for the commodity code(s) associated with this solicitation.

Though the notification methods above will be utilized to notify bidders of addenda it is ultimately the Bidder's responsibility to check this site for verification of any issued addenda.

IN ORDER FOR YOUR BID TO BE CONSIDERED:

Pricing is to be entered into the corresponding lines in the body of the RFQ

AND

The following documents must be completed and attached to your response. *Complete this checklist to confirm the items required in your bid. Failure to submit the listed documents may be cause for the rejection of your bid:*

Reference Pages

Subcontractor Information

Experience Documentation

Literature

Warranty

Please refer to the Vendor Services User Guide for guidance using the Attachment feature to attach references, literature, warranty information and any other documentation as needed. **ALL ATTACHMENTS MUST BE IN PDF FORMAT TO ATTACH.**

PLEASE NOTE – Per ORC Chapter 1703, to be awarded this bid you must show proof your company is registered and in good standing to do business in the State of Ohio through the Secretary of State or provide a certified statement that your company falls within one of the exemptions in the Ohio Revised Code Chapter 1703.02. To register or check the status of your company go to <https://www.ohiosos.gov/businesses/>

ANY QUOTE OR DOCUMENTATION SHOWING THE BID IS VALID FOR ANYTHING LESS THAN 180 DAYS WILL RENDER THE BID NON-RESPONSIVE

EQUAL OPPORTUNITY CLAUSE

- (1) The contractor/vendor/bidder will not discriminate against any employee or applicant for employment because of race, sex, sexual orientation, gender identity or expression, color, religion, ancestry, national origin, age, disability, familial status or military status. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, sex, sexual orientation, gender identity or expression, color, religion, ancestry, national origin, age, disability, familial status or military status. Such action shall include, but not be limited to, the following: employment up-grading, demotion, or termination; rates of pay or other forms of compensation; and selection for training. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices summarizing the provisions of this Equal Opportunity Clause.
- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that the contractor is an equal opportunity employer.
- (3) It is the policy of the City of Columbus that business concerns owned and operated by M/WBEs shall have the maximum practicable opportunity to participate in the performance of contracts awarded by the city.
- (4) The contractor shall permit access to any relevant and pertinent reports and documents by the ODI director for the sole purpose of verifying compliance with this Title and ODI regulations. All such materials provided to the ODI director by the contractor shall be considered confidential.
- (5) The contractor will not obstruct or hinder the ODI director or his/her deputies, staff and assistants in the fulfillment of the duties and responsibilities imposed by Title 39 of the Columbus City Codes.
- (6) The contractor and each subcontractor will include a summary of this Equal Opportunity Clause in every subcontract. The contractor will take such action with respect to any subcontractor as is necessary as a means of enforcing the provisions of the Equal Opportunity Clause.
- (7) The contractor agrees to refrain from subcontracting any part of this contract or contract modification thereto to a contractor not holding a valid certification number as provided for in Title 39.
- (8) Failure or refusal of a contractor or subcontractor to comply with the provisions of Title 39 may result in cancellation of this contract.

ALL CONTRACTORS MUST HOLD A VALID CONTRACT COMPLIANCE CERTIFICATION NUMBER ISSUED BY THE OFFICE OF DIVERSITY AND INCLUSION.

To obtain a Contract Compliance number register at the City of Columbus Vendor Services website: <http://vendors.columbus.gov/sites/public>

1. Login to the City of Columbus Vendor Services Site and register with the city of Columbus. Once that is completed and approved by the purchasing office, log back in and do the following:
2. Select **Questionnaires** from the Common menu located on the left navigation bar.
3. Next select EBO Quest. (this is the contract compliance application)
4. Question 1 will be displayed; Answer question 1 and select **Forward**.
5. Proceed through the questionnaire answering each question and selecting **Forward** to continue. Once you have reached and answered the last question select **End** to submit.
6. Then the questionnaire will be received by the ODI Office, reviewed and process within 2 business days or less. For additional questions regarding this process, contact the Office of Diversity Inclusion at 614-645-4764.

City of Columbus Home Page: www.columbus.gov

INFORMATION FOR BIDDERS

SPECIAL CONDITIONS

Special conditions included in the specifications, if inconsistent with provisions included in "Information for Bidders", shall take precedence over any provisions in "Information for Bidders" to the extent inconsistent.

SUBMISSION OF PROPOSAL

Responses must be entered and submitted electronically in the body of the RFQ. Some RFQs require pricing lists or additional documents to be attached to the RFQ response electronically. In rare instances documents require submission via regular mail delivery. Refer to the "Proposal Information" section of the specifications for instructions for submission. Any unauthorized conditions, limitations or provisions attached to the proposal may render the bid nonresponsive and result in its rejection.

ACCEPTANCE AND REJECTION

This proposal submitted by the bidder to the City of Columbus will be accepted or rejected within a period of 180 days from bid opening date. The City reserves the right to waive technicalities, and to request a rebid on the required material. If more than one item, prices shall be quoted on the units requested. However, each item shall be considered a separate bid and the City reserves the right to award a contract on each item separately or on all items as a whole or any combination thereof. Bidders whose proposal is made on an "All or None" basis must clearly state such fact in the proposals.

Each RFQ issued by the City shall state that the RFQ may be cancelled and that any RFQ response may be rejected in whole or in part when it is for good cause and in the best interests of the City.

WITHDRAWAL OF PROPOSALS

Bidders may withdraw their RFQ response at any time prior to the time specified in the advertisement as the closing time for the receipt of bids. However, no bidder shall withdraw or cancel his response for a period of 180 calendar days after said advertised closing time for the receipt of proposals.

DEFAULT PROVISION

In case of default by the bidder or the contractor, the City of Columbus may terminate and may procure the articles or services from other sources and hold the bidder or contractor responsible for any excess costs occasioned or incurred thereby.

SIGNATURE REQUIRED

By submitting this response electronically, bidder/proposer is affixing an electronic signature as defined by the Ohio Uniform Transactions Act. Said signature represents that he/she has the authority to bind the entity to the terms and conditions contained herein.

APPLICABLE LAWS

The Revised Code of the State of Ohio, the Charter of the City of Columbus, and all City ordinances insofar as they apply to the laws of competitive bidding, contracts, and purchases, and wage theft prevention, are made a part hereof.

PRICING

Bidders are to quote firm or fixed prices for the duration of any contract which may be a result of this proposal unless otherwise noted in the specifications. In case of discrepancy in computing the amount of the bid, the **UNIT PRICE** quoted will govern.

Quotations are requested F.O.B. destination. If quoted F.O.B. Shipping Point include freight estimate and full value insurance cost.

CONTRACT AND BOND

The bidder to whom an award is made will be required to execute a written contract with the City of Columbus, Ohio within ten days after receiving such contract for execution, and if specified in the legal notice, furnish a good and approved bond conditioned upon the faithful performance of the same. The proposal, contract, proposal bond, (if applicable), and performance bond (if applicable) shall be in the form herein specified.

If, at any time during the continuance of the Contract, any surety shall, in the opinion of the Finance & Management Director, become irresponsible, then said Director shall have the right to require additional and sufficient surety or sureties. The Contractor shall furnish the surety

or sureties to the satisfaction of the said Director, within ten (10) days after notice. In default thereof the default provision herein shall apply.

LIABILITY, INSURANCE, LICENSES AND PERMITS

Where bidders are required to enter or go onto City of Columbus property to deliver materials or perform work or services as a result of bid award, the bidder will assume full duty, obligation and expense of obtaining all necessary licenses, permits, and insurance when required. The bidder shall be liable for any damages or loss to the City occasioned by negligence of the bidder (or his agent) or any person the bidder has designated in the completion of his contract as a result of his bid.

Particular attention is directed to the statutory requirements of the State of Ohio relative to the licensing of corporation organized under the Laws of any other State.

TAXES

Federal and/or State Taxes are not to be included in prices quoted. The successful bidder will be furnished an exemption certificate if needed.

SAMPLES

Samples, when requested, must be furnished free of expense to the City and if not destroyed, will upon request be returned at the bidder's expense.

DELIVERY

Time will be of the essence for any orders placed as a result of this bid. Purchaser reserves the right to cancel such orders or any part thereof, without obligations if delivery is not made within the time(s) specified. Delivery shall be made during normal working hours and to the destination shown on the proposal.

QUALITY

Unless otherwise stated by the bidder, the RFQ response will be considered as being in strict accordance with the specifications outlined in the Bid Document.

References to a particular trade, manufacturer's catalog or model number are made for descriptive purposes to guide the bidder in interpreting the requirements of the City. They should not be construed as excluding proposals on other types of materials, equipment and supplies. However, the bidder, if awarded the contract, will be required to furnish the particular item referred to in the specifications or description unless a departure or substitution is clearly noted and described in the proposal.

CHANGES AND ADDENDA TO BID DOCUMENTS

Each change or addenda issued in relation to this bid document will be published on the City's Vendor Services website no less than five (5) working days prior to the scheduled bid opening date. In addition, to the extent possible, notice will be e-mailed to each person registered as having interest in the commodities selected for this bid. Total bid inquiry or specific item cancellations may be issued later than that time specified above.

WITHHOLDING OF INCOME TAX

All bidders are advised that in order for a contract to bind the City, each contract must contain the provisions found in Chapter 362 C.C.C. with regard to income taxes due or payable to the City of Columbus for wages, salaries and commissions paid to the contractor's employees as well as requiring those contractors to ensure that subcontractors withhold in a like manner.

CAMPAIGN CONTRIBUTIONS

Contractor hereby certifies the following: that it is familiar with Ohio Revised Code ("O.R.C.") Section 3517.13; that all applicable parties listed in Subsection (I) or (J) of O.R.C. Section 3517.13 are in full compliance with Subsection (I) and (J) of that Section; that it is eligible for this contract under the law and will remain in compliance with O.R.C. Section 3517.13 for the duration of this contract and for one year thereafter.

PUBLIC RECORDS REQUESTS

The City of Columbus, as a political subdivision of the State of Ohio, is subject to Ohio Revised Code Chapter 149, known as the Ohio Public Records Law. Consequently, the Offeror understands that ALL documents submitted in response to this solicitation are considered public records and WILL be released when a public records request is

INFORMATION FOR BIDDERS

made by news media, competitors, or other interested parties, in accordance with the law. If you contend that certain CLEARLY MARKED portions of your response constitute an exception to Ohio's public records law, you MUST submit your legal basis in support of that assertion with your response.

If a public records request is made for any portion of the documents that you have submitted and you have NOT clearly marked such documents as information constituting an exception to Ohio's public records law, your information will be released immediately.

If a public records request is made for such information and you HAVE clearly marked portions of your response as information constituting an exception to Ohio's public records law, AND you have submitted the legal basis supporting such claim, the City will release a redacted version of your information to the requestor and notify you that a request was made and that a redacted version of your response was released. Should the requestor indicate that the redacted version is not sufficient for their purposes, you then will be IMMEDIATELY responsible for obtaining an order from a Court of competent jurisdiction in Franklin County, Ohio enjoining release of your clearly marked information constituting an exception to Ohio's public records law.

If a public records request is made for such information and you HAVE clearly marked portions of your response as information constituting an exception to Ohio's public records law, but you have NOT submitted the legal basis supporting such claim, the City WILL RELEASE your information to the requestor and notify you that a request was made and that your response was released.

DO NOT mark your entire response/submittal as information constituting an exception to Ohio's public records law. If your entire response/submittal is so marked, the City of Columbus will not consider your offer.

INFORMATION FOR BIDDERS (Continued)

IN THE EVENT OF A CONTRACT

1. Where applicable according to the specifications successful seller shall transfer and deliver to City goods which conform to the specifications.
2. The City shall accept from seller goods that conform to the specifications, and shall pay for the goods in accordance with the terms of an agreement, which may result from this proposal.
3. The risk of loss from any causality to the goods regardless of the cause of the casualty shall be on seller until the goods have been delivered at the address designated in the order and are approved after inspection by the City.
4. Seller warrants and represents that seller has absolute and good title to and full right to dispose of the goods, and that there are no liens, claims, or encumbrances of any kind against the goods, and at the time of delivery shall be free from any security interests or other lien or encumbrance.
5. If there is a breach by seller of the warranty against encumbrances granted by seller in an agreement, which may result from this proposal, the City shall have the option to cancel an agreement, which may result from this proposal.
6. Seller shall defend any action brought against the City so far as the action is based on a claim that the goods, or any part of the goods, furnished under an agreement which may result from this proposal constitutes an infringement of any patent of the United States or a trademark. Seller shall be notified promptly in writing of the action and be given authority, information, and assistance, at the expense of seller, for the defense of the action. Seller shall pay all damages and costs awarded in the action. In case the goods or a part thereof are held to constitute infringement and the use of the goods or part thereof is enjoined, seller shall, at the expense of the seller, either procure for the City the rights to continue using the goods, replace the goods or a part hereof with non-infringing goods of equal or better quality, modify the goods so that the goods become non-infringing while continuing to meet or exceed the original specifications, or retake the goods and refund the purchase prices and the transportation and installation costs of the goods at the option of the City.
7. Seller warrants that (1) the goods to be supplied pursuant to an agreement which result from this proposal are fit and sufficient for the purpose intended, (2) the goods are merchantable, of a good quality, and free from defects, whether patent or latent, in material or workmanship and (3) the goods sold to the City pursuant to an agreement which may result from this proposal conform to the specifications. The particular purpose of which the goods are required may be set forth in the specifications.
8. The benefit of any warranty made in an agreement which may result from this proposal by seller shall extend to the City and to the employees of the City, any employee of the City may bring an action directly against seller for damages or injuries sustained by the employee resulting from any breach of warranty by seller.
9. All goods ordered shall be subject to final inspection and approval at the facility of the City designated for delivery. Any goods, which do not conform to the order of the City, may be rejected by the City. The City may hold any goods rejected pending instructions from the seller or the City may return goods to seller at seller's expense.
10. If any tender or delivery by seller is rejected by the City for nonconformity, no notice of intention to cure can be effective unless it is received by the City agency within five (5) days after notice of rejection is sent to seller.
11. The liability of the City for either non-acceptance of conforming goods or repudiation of the agreement which might result from this proposal shall be limited to the difference between the market price at the time and place for tender of the goods and the unpaid sales price together with any incidental damages, but less expenses paid in consequence of the breach by the City.
12. An agreement which may result from this proposal shall not be modified or altered by any subsequent course of performance between parties or by additional terms contained in any subsequent documents unless said additional or differing terms are incorporated by contract modification authorized to be entered into by ordinance.
13. Contractor shall protect, indemnify and save the City harmless from and against any damage, cost, or liability, including reasonable attorneys' fees, resulting from claims for any or all injuries to persons or damage to property arising from intentional,

willful or negligent acts or omissions of Contractor, its officers, employees, agents, or Subcontractors.

14. The City will not indemnify the contractor and is prohibited from doing so.
15. This Contract may not be assigned or otherwise transferred to others by the Contractor without the prior written consent of the City. If this Contract is so assigned, it shall inure to the benefit of and be binding upon any respective successors and assigns (including successive, as well as immediate, successors and assignees) of the Contractor.
16. The signatories to this Contract represent that they have the authority to bind themselves and their respective organizations to this Contract.
17. In the event either party is unable to perform its obligations under the terms of this Agreement because of acts of God, strikes, equipment or transmission failure or damage reasonably beyond its control, epidemics, pandemics, or other causes reasonably beyond its control, such party shall not be liable for damages to the other for any damages resulting from such failure to perform or otherwise from such causes.

LOCAL CREDIT

Pursuant to City of Columbus Ordinance # 2607-2012, in determining the lowest bid for a contract the local bidder credit will not be applied.

WAGE THEFT PREVENTION

Chapter 377 of the Columbus City Codes is hereby incorporated into the contract and seller is required to comply with said chapter. This includes, but is not limited to reporting requirements and the obligation to review the commission list of contractors and subcontractors that received an adverse determination. Penalties for failure to comply with the wage theft prevention code include suspension for three years, up to permanent disbarment.

CERTIFICATE OF TITLE ON EQUIPMENT

If applicable to this purchase, all documents required to obtain a State of Ohio Certificate of Title **must** be delivered to:

**Fleet Management Administrator
City of Columbus/Fleet Management Div.
4211 Groves Road
Columbus, Ohio 43232**

After signature by the Fleet Management Administrator, an original title is to be delivered to the above address within three (3) days. No payment for vehicles requiring a title will be authorized by the Fleet Management Administrator until a valid title is received.

REMEDIES

All claims, counterclaims, disputes and other matters in question between the City, its agents and employees, and the Contractor arising out of or relating to this agreement or its breach will be decided in a court of competent jurisdiction within the County of Franklin, State of Ohio.

OFFERORS TERMS AND CONDITIONS

Terms and conditions, submitted with this proposal, which are contrary to City Code or Charter shall be disregarded for the purpose of any subsequent contract. The successful bidder shall be notified as to which terms and conditions, if any, have been deleted.

PUBLICATIONS

The Contractor agrees to submit to the City's Contract Administrator all advertising, sales promotion, and other publicity matters relating to this Contract wherein the City's name is mentioned or language used from which the connection of the City's name therewith may, in the City's judgment, be inferred or implied. The Contractor further agrees not to publish, or use such advertising, sales promotion, or publicity matter without the prior written consent of the City except that may be required under law.

**City of Columbus, Department of Public Utilities
Division of Water
Rate of Control Venturi and Control Valves
Detailed Specifications**

1.0 SCOPE AND CLASSIFICATION

- 1.1 **Scope:** It is the intent of the City of Columbus, Department of Public Utilities, Division of Water, to obtain formal bids to establish a contract for three (3) Rate of Control Venturi's with attached Control Valves, for the Dublin Road Water Plant (DRWP).
- 1.2 **Classification:** The contract resulting from this bid proposal will provide three (3) replacement Rate of Control Venturi's with attached Control Valves.
- 1.3 For additional information concerning this bid, including procedures on how to submit a proposal, you must go to the City of Columbus Vendor Services web site at <https://columbusvendorservices.powerappsportals.com/> and view this bid number.

2.0 APPLICABLE PUBLICATIONS AND STANDARDS

- 2.1 Must meet or exceed all AWWA, hydraulic institute, ANSI, and American Society for Testing and Materials (ASTM) standards to match these specified valves.
- 2.2 (ASTM) A48: Gray Iron Castings.
- 2.3 (ASTM) A105: Forging, Carbon Steel, for Piping Components.
- 2.4 (ASTM) A126: Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
- 2.5 (ASTM) A276: Stainless and Heat-Resisting Steel Bars and Shapes.
- 2.6 (ASTM) A536: Grade 65-45-12 ductile iron.
- 2.7 (ANSI) B16.5: Steel Pipe Flanges and Flanged Fittings.
- 2.8 (ANSI) 16.1: 125 lb Flange
- 2.9 (AWWA) C504: Rubber Seated Butterfly Valves
- 2.10 (NSF) 61 Must meet all requirements to be used in drinking water applications.

**City of Columbus, Department of Public Utilities
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3.0 REQUIREMENTS

3.1 General Information:

3.1.1 **Term:** The Contract awarded as a result of this proposal is for a one-time purchase. It shall be for valves that are bolt in replacements to the existing BIF Model 0603 with a BIF Model 20620-16 or equal. See details of design below.

3.1.2 **Pricing:** Bidders are to bid firm or fixed prices, FOB Destination, Freight Prepaid and Allowed. All pricing must include manufacturer warranty. All manufacturer warranties will be passed on to the City of Columbus.

3.1.2.1 **Note:** To allow time for City funding approval process, it may take up to six months after bid opening before a purchase order will be issued. Please bid accordingly.

3.1.3 **Quantity:** Three (3) Rate of Control Venturi's with attached Control Valves, see specifications below.

3.1.4 **Quality Standards:** The City intends to purchase new, unused and the most current model. The specifications describe a minimum acceptable requirement which a bidder has to meet. However, the bidder is allowed to exceed a minimum requirement where the excess enhances the function of the unit and which the City can accept. It is not acceptable for a bidder to exceed a maximum desired limit.

3.2 **Bidder Requirements:** The City will use the requirements of this section to determine if each bidder meets the minimum standards to be considered a responsible bidder. **Please attach** reference pages and attach any supplemental pages as may be necessary to meet these requirements. **For instructions on how to attach a document to your bid, go to page 36 of the Vendor Services User Guide.**

3.2.1 **Experience Required:** Documentation shall include (at a minimum) information meeting the following criteria.

3.2.1.1 **Equipment and Warranty:** Offerors must be able to provide warranty assistance, as needed to correct issues with manufacturing defects or performance. If warranty service is required, the vendor should be the primary contact to solve the issue. See below for more on warranty.

3.2.1.2 **Manufacturer Relationship:** The offeror shall provide the history of their relationship with the manufacturer(s) that provides these valves, including but not limited to the following:
a) Length of the relationship.
b) Level of the relationship.
c) A brief history of the relationship.

3.2.2 **References:** The offeror shall have documented proven successful contracts from at least four customers that the offeror supports that are similar in scope, complexity, and cost to the requirements of this specification.

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- 3.2.2.1 **Contact Information Required:** The reference contact information shall include the customer name, customer e-mail address, street address, telephone number, fax number, contact name and equipment purchase date.
- 3.2.2.2 **Equipment / Warranty Service Information:** A description of the equipment/parts provided and type of warranty service that will be provided.
- 3.2.3 **Subcontractor Information Required:** If subcontractor(s) are to be used, please list names, addresses, telephone numbers and a contact person for each subcontractor. All subcontracts must have valid City of Columbus, contract compliance certification.
- 3.2.3.1 **Subcontractor Contact:** Should the offeror use subcontractors, the City shall use the offeror as the primary contact point.
- 3.2.3.2 **Specification Questions:** Questions regarding this bid including any exceptions and/or suggested changes to the requirements must be submitted on the vendor services portal by 11:00 am (local time) on Thursday, June 25th, 2026. Responses and any necessary addenda will be posted as an amendment to this RFQ on the City's Vendor Services portal no later than 11:00 a.m. (local time) on Tuesday, June 30th, 2026. **The City strongly encourages bidders to submit exceptions and/or changes during this stage of the process.** Bidders submitting exceptions and/or changes before this date will greatly reduce the likelihood of their bid being rejected as non-responsive to the specifications. Bidders whom have not registered and created a new user on the City's portal <http://vendors.columbus.gov/sites/public> are strongly encouraged to do so. Notice of any pre-bid notes and addenda will only be sent to Bidders whom have registered at the site.
- 3.2.4.1 For further instructions on how to submit "Vendor Questions" through the Vendor Portal, please see Section "Add Vendor Questions" provided on page 47 of the City of Columbus Vendor Services User Guide.
- 3.2.4.2 The City has instructional videos to assist bidders at the portal. Tutorial videos are available to be viewed through You Tube or by clicking the following link:

https://www.youtube.com/channel/UCTIkkGNM7GHITzoqQVNJIA/videos?shelf_id=0&view=0&sort=dd

**City of Columbus, Department of Public Utilities
Division of Water
Rate of Control Venturi and Control Valves
Detailed Specifications**

3.3 Product Requirement Specifications for Rate of Control Venturi and Control Valves

3.3.1 **System Description:** The rate of flow controller shall consist of a cast iron venturi flow meter, close coupled flanged butterfly valve, flange adapter and motor actuator. The flow element shall be a cast iron venturi as per the following specifications. One manufacturer shall provide both the venturi and valve per this specification. Rate of Flow Controller shall be factory configured and arrive at project site as a complete unit.

3.3.2 **System Specifications:**

- A. The metering design shall be a differential pressure producing type, utilizing pure static pressure sensed at the throat. The differential pressure shall indicate static pressure change only. Devices employing pitot effects, amplifying the differential by causing changes in the direction of the flow at the inlet and/or throat cross sections, or introducing unwanted noise are not acceptable.
- B. The entrance section shall be a cylindrical section of similar diameter as the pipe in which the meter is being installed. The high-pressure tap shall be installed in this entrance section.
- C. The convergent section shall incorporate a hydraulic shape employing at least two-vena contracta to condition the flow pattern before it enters the throat section. Flow elements utilizing a continuous arc from the entrance section to the throat shall not be considered. Vent and drain ports shall be included in the venturi entrance section on a 90 degree plane to metering taps.
- D. The throat section shall be a cylindrical section with a length at least 0.50 times the throat diameter. The low-pressure tap shall be installed in the throat section.
- E. The pressure recovery section (outlet cone) shall be truncated and have an included angle of at least 10 degrees.
- F. The metering element shall not have debris collecting cavities or annular chambers, and shall have a single pressure connection at the inlet and throat on the horizontal centerline.
- G. Venturi shall be designed to allow close coupling of an AWWA flanged butterfly valve, it shall be designed in such a manner as to prevent venturi flange or body from impeding valve disc travel.
- H. Rate of flow controller control element shall be an AWWA C504 flanged butterfly valve, valve shall be sized to afford best performance in the filter effluent application in no condition should the valve be larger than 90% of nominal inlet diameter. Valve shall be in accordance with specification section 3.3.5 for flanged AWWA butterfly valves.
- I. Rate of flow controller assembly shall include a valve adapter to be installed on the outlet valve flange to return valve flange to nominal inlet diameter.

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- J. Butterfly control valve shall have a factory mounted modulating electric actuator per valve actuator specification section 3.3.6.
- K. Rate of flow controller shall be shipped to the project site as a complete assembly, one (2) for left hand installation and two (1) for right hand installation.

Rate of Flow Controller Tag #	Nominal Inlet/Outlet Diameter	Throat Diameter	Maximum Flow	Differential at Max Flow	Valve Size	ROFC Length
Filter #03	16"	11.600"	8.0 MGD	45.6 " W.C.	14"	35 1/8"

3.3.3 Materials of Construction:

- A. The flow meter body shall be constructed of cast iron ASTM A536 Grade 65-45-12 ductile iron. Meter bodies that are fabricated of carbon or stainless steels shall not be acceptable under this specification.
- B. The throat liner and pressure tap bushings shall be Type 316 Stainless Steel.
- C. The flow meter flanges shall be ANSI 16.1 125 lb. rating with drilling to match adjacent pipeline flange.
- D. The Rate of flow controller shall be hydrostatically tested at twice the working pressure for a period of not less than 10 minutes. Hydrostatic testing of the rate of flow controller shall be performed at the factory by placing the body in tension using blind flanges to seal the ends of the venturi. Hydrostatic testing by the use of internal presses to simulate hydrostatic pressure is prohibited. Hydrostatic testing of the Rate of Flow Controller shall be performed after assembly of the control valve to the venturi body.
- E. The entire flow meter except the throat liner, flange faces and pressure tap bushings shall be coated with epoxy paint. The interior surfaces shall be coated with paint that meets the requirements of the United States EPA, and is NSF 61 approved for potable water applications. The exterior surfaces except flange faces shall be coated with a universal epoxy primer suitable for field coating.

3.3.4 Performance Data and Substantiation

- A. Coefficient values and tolerances shall be based on actual calibrations, performed by a hydraulic laboratory, which has been in the calibration business for at least 15 years. This laboratory shall have routinely conducted flow meter calibrations with standards traceable to NIST and in conformance with standard calibration protocol (hereafter called "recognized hydraulic laboratory).

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- B. The data submitted must be from the meter manufacturer and from the testing of its own venturi. The data shall indicate that the venturi meter discharge coefficient is independent of line size and beta ratio. In addition, the test data shall prove that the coefficient remains constant over the applications Reynolds Number or over a range of Reynolds Numbers down to 75,000 whichever is higher. Use of substantiation data from any sources other than actual laboratory live testing will be rejected.
- C. Test results from the calibration of at least 30 hydraulically similar meters used for this substantiation shall show that the discharge coefficient 2 times standard deviation is no greater than ± 0.5 percent. This data must have been obtained and performed by the manufacturer submitting its venturi meter for approval. Test data gathered from patents, ASME publications or other sources will not be acceptable unless the data listed in these sources is from actual testing of that manufacturer's own venturi meters.
- D. Effects of upstream piping configuration shall be known and based on testing performed by a recognized hydraulic laboratory. Test data gathered from patents, ASME publications or other sources will not be acceptable unless the data listed in these sources is from actual testing of that manufacturer's own venturi meters. The manufacturer must have performed these tests on meters of the same hydraulic profile as the meter proposed for this application. Data must show that venturi can be installed in the actual application piping with ≤ 7 upstream piping diameters and have no effect on metering uncertainty.
- E. If a manufacturer cannot substantiate performance of their venturi flow meters as above, or does not have the required data from 30 calibrations of hydraulically similar venturis', the manufacturer shall provide actual wet calibration data for all the meters provided under this contract. A laboratory meeting all of the requirements of section 3.3.3 and 3.3.4 shall perform this calibration.
- F. The results of the hydrostatic test must be certified by the manufacturer in writing and submitted to the engineer as part of the final O&M manual.
- G. A certificate of final factory dimensions and associated tolerances shall be submitted to the engineer prior to shipment of the meter. This report shall also be provided to the engineer as part of the final O&M manual.
- H. The Manufacturer shall furnish a certified curve with data, which shall show the flow versus differential pressure from minimum flow to maximum flow with final O&M manuals.
- I. The meter shall be a Model 20620 as manufactured by BIF and shall satisfy all project requirements, or engineers preapproved equal.

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3.3.5 Butterfly Control Valve

- A. Valves shall be Capable of and heavy duty to withstand modulating application and be of the rubber seat type, manufactured in accordance with AWWA C504, Class 150B, and latest revision. Valves shall be bubble tight at the rated pressure, bi-directional, and be suitable for either on/off or throttling service. Valves shall be certified to NSF/ANSI-61 and NSF/ANSI-372. All valves shall be Homestead Series 820 or equal.
- B. Bodies shall be constructed of ASTM A536, Grade 65-45-12 ductile iron. Flanged valves shall be fully faced and drilled in accordance with ANSI B16.1, Class 125. Mechanical joint valves shall have ends conforming to ANSI/AWWA C111/A21.11.
- C. Discs shall be constructed of ASTM A536, Grade 65-45-12 ductile iron with a 316 stainless steel edge.
- D. Rubber body seats shall cover the entire interior through surface of the body. Seats shall be of one-piece construction and be bonded and vulcanized to the body. Mechanically retained seats are not acceptable.
- E. Shafts shall be constructed of ASTM A276, Type 316 stainless steel and be a one-piece design.
- F. Bearings shall be constructed of a non-metallic, corrosion-resistant, self-lubricating material. Bearings shall be a sleeve-type design, capable of horizontal or vertical shaft loading.
- G. Shaft packing shall be V-type chevron style. U-Cup or O-Ring packing is not acceptable.
- H. All valves shall be hydrostatic and seat leakage tested in strict accordance with AWWA C504.
- I. Manufacturer shall have a minimum of five years of experience producing AWWA butterfly valves.
- J. Acceptable manufactures Homestead Valves or equal.

3.3.6 Electric Continuous Modulating Actuator

- A. The actuators shall be suitable for full modulation and use on a nominal 480 volt, 3 phase, 60 Hz power supply and are to incorporate motor, integral reversing starter, local control facilities and terminals for remote control and indication connections housed within a self-contained, sealed enclosure. The actuator shall include a remote hand station, to match actuator, so the valve can be operated at floor level.

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- B. As a minimum the actuators should meet the requirements set out in EN15714-2 and ISA SP96.02
- C. In order to maintain the integrity of the enclosure, setting of the torque levels, position limits and configuration of the indication contacts etc. must be carried out without the removal of any actuator covers and without mains power over an Infrared or Bluetooth® wireless interface. Sufficient commissioning tools must be provided with the actuators and must meet the enclosure protection and certification levels of the actuators. Commissioning tools must not form an integral part of the actuator and must be removable for secure storage / authorized release. In addition, provision shall be made for the protection of configured actuator settings by a means independent of access to the commissioning tool. Provision shall be made to disable Bluetooth communications or only allow a Bluetooth connection initiated by an Infra-Red command for maximum security.
- D. The actuator shall include a device to ensure that the motor runs with the correct rotation for the required direction of valve travel irrespective of the connection sequence of the power supply.
- E. The actuator must be sized to guarantee valve closure at the specified differential pressure and temperature. The safety margin of motor power available for seating and unseating the valve must be sufficient to ensure torque switch trip at maximum valve torque with the supply voltage 10% below nominal. For linear operating valves, the operating speed shall be such as to give valve closing and opening at approximately 10-12 inches per minute unless otherwise stated in the data sheet. For 90° valve types the operating time will 60-120 Seconds (adjustable).
- F. Actuators must be suitable for indoor and outdoor use with a standard corrosively category, C4 medium durability as per ISO 12944. The actuator must be capable of functioning in an ambient temperature ranging from -30°C (-22°F) to +70°C (+158°F), up to 100% relative humidity. Actuators for hazardous area applications must meet the area classification, gas group and surface temperature requirements specified in the data sheet.
- G. Actuators shall be O-ring sealed, watertight to IP66/IP68 20m for 10 days, NEMA 4, 6. The motor and all other internal electrical elements of the actuator must be protected from ingress of moisture and dust when the terminal cover is removed for site cabling. The terminal compartment must maintain the same ingress protection rating with the terminal cover removed. The actuator enclosure must allow for temporary site storage without the need for electrical supply connection. All external fasteners shall be suitable for the actuator corrosively category and installation environment indicated on the datasheet.
- H. The motor must be an integral part of the actuator, designed specifically for valve actuator applications. The motor shall be a low inertia, high

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torque design and class F insulated. Resulting in class B temperature rise with a time rating of 15 minutes at 40°C (104°F) at an average load of at least 33% of maximum valve torque. Temperature shall be limited by thermostat device embedded in the motor end windings and integrated into the actuator control. Electrical and mechanical disconnection of the motor shall be possible without draining the lubricant from the actuator gearcase. The actuator shall include a device to ensure that the motor runs with the correct rotation for the required direction of valve travel irrespective of the connection sequence of the power supply.

- I. Protection must be provided for the motor as follows:
- J. Stall - the motor must be de-energized within 8 seconds in the event of a stall when attempting to unseat a jammed valve.
- K. Over temperature - thermostat will cause tripping of the motor. Auto-reset on cooling
- L. Single phasing - lost phase protection.
- M. Direction – phase rotation correction.
- N. The actuator gearing must be totally enclosed in an oil-filled gearcase suitable for operation at any angle. Grease lubrication is not permissible. All drive gearing and components must be of metal construction and incorporate a lost-motion hammer blow feature. For rising spindle valves the output shaft shall be hollow to accept a rising stem, and incorporate thrust bearings of the ball or roller type at the base of the actuator. The design should be such as to permit the opening of the gearcase for inspection or disassembled without releasing the stem thrust or taking the valve out of service. For 90° operating type valves, drive gearing shall be self-locking to prevent the valve back-driving the actuator.
- O. A handwheel must be provided for emergency operation, engaged when the motor is declutched by a lever or similar means, the drive being restored to electrical operation automatically by starting the motor. The handwheel or selection lever must not move on restoration of motor drive. Provision shall be made for the hand/auto selection lever to be locked in both hand and auto positions. It should be possible to select hand operation while the actuator is running or start the actuator motor while the hand/auto selection lever is locked in hand without damage to the drive train.
- P. Clockwise operation of the handwheel must give closing movement of the valve unless otherwise stated in the data sheet. For linear valve types the actuator handwheel drive must be mechanically independent of the motor drive and should be such as to permit valve operation in a reasonable time with a manual force not exceeding 400N through stroke and 800N for seating/unseating of the valve.

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- Q. The actuator shall be furnished with a drive bushing easily detachable for machining to suit the valve stem or gearbox input shaft. The drive bush shall be positioned in the base of the actuator. Thrust bearings shall be sealed for life and the base shall be capable of withstanding five times the rated thrust of the actuator.
- R. The actuator must incorporate local controls for Open, Close and Stop operation and a Local/Stop/Remote mode selector switch. Mode selection must be lockable in any one of the following three positions: local control plus local stop only, stop (no electrical operation), remote control plus local stop only. It must be possible to select maintained or non-maintained local control.
- S. The local controls shall be arranged so that the direction of valve travel can be reversed without the necessity of stopping the actuator.
- T. The local controls and display shall be rotatable through increments of 90 degrees to suit valve and actuator orientation.
- U. Indication contacts must be 120 volts AC.
- V. The valve actuator shall be ROTORK IQ series or equal.

3.3.7 Actuator Torque and turns limitation to be adjustable as follows:

- A. Position setting range – multi-turn: 2.5 to 8,000 turns, with resolution to 7.5° of actuator output.
- B. Position setting range – direct drive part turn actuators: 90° +/-10°, with resolution to 0.1° of actuator output.
- C. Torque setting: 40% to 100% rated torque.
- D. Position measurement – Absolute position measurement should be incorporated within the actuator. The technology must be capable of reliably measuring position even in the case of a single fault. The design must be simple with the minimum number of moving parts (no more than 5). Technologies such as LEDs or potentiometers for position measurement are considered unreliable and therefore not preferred.
- E. Measurement of torque for multi-turn actuators must be from direct measurement of force at the output of the actuator. Methods of determining torque-using data derived from the motor such as motor speed, current, flux etc. are only acceptable for part-turn actuators.
- F. A means for automatic “torque switch bypass” to inhibit torque off during valve unseating and “latching” to prevent torque switch hammer under maintained or repeated control signals shall be provided.

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- G. The electrical circuit diagram of the actuator should not vary with valve type remaining identical regardless of whether the valve is to open or close on torque or position limit.

- 3.3.8 **System Performance Requirements:** The un-calibrated accuracy of the flow metering section installed per the manufacturer's recommendation shall be +/- 0.75% of actual flow rate over a range of at least 5 to 1. This accuracy shall be substantiated by the method set forth in section 3.3. Performance shall be in accordance with the schedule in section 3.3. Rate of Flow Controller shall fit into the available piping space occupied by legacy BIF model 0603/RCBT integral rate of flow controllers without alteration of the piping configuration.
- 3.3.9 **Submittals:** Submit product data including manufacturer's specifications, installation instructions, and general recommendations. Also include manufacturer's certification or other data substantiating that products comply with requirements of Contract Documents. Provide documents certifying that the equipment to be provided comply in all respects with the requirements of this specification. Provide a final O&M manual covering venturi and valve.
- 3.3.10 **Quality Assurance:** Due to the process conditions and the size of this measurement device, the engineer requires that only experienced manufacturers be considered for manufacturing this venturi. Manufacturers must show at least 10 years of current manufacturing experience building cast iron venturi flowmeters. The manufacturer must have on permanent staff a designated flow engineer with a minimum of 15 years' experience in the design and fabrication of venturi flowmeters. Manufacturers wishing to meet preapproval standards shall present the following to the engineer as a minimum. A complete resume of manufacturing experience over the last 10 years. This resume shall include a list of at least 10 venturi flow meters of similar diameter that have been designed, engineered and produced by the manufacturer that will be supplying the venturi on this project. This list shall include the size, application, and date, owner and owner's current contact person with telephone number.
- 3.3.11 **Alternates:** Bids will be considered on units complying with the specifications. All alternates must be detailed in an attached letter to bid and the Manufacturer and Model clearly identified, and the letter shall outline all exceptions and differences between the submitted units and the units specified herein. Explanations must fully state what is to be furnished and how it differs from the specified valves. All alternates must meet or exceed specifications. The City of Columbus reserves the right to determine whether any proposed alternates are within the specifications.

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4.0 SAMPLING, INSPECTION AND TEST PROCEDURES

- 4.1 **Inspection:** All parts shall be thoroughly, physically inspected upon delivery by an authorized representative of the Department of Public Utilities/Division of Water for verification of conformance to the specifications. Any damaged, defective, or substandard item shall be promptly removed by the supplier, and replaced at no cost to the City of Columbus. The supplier will be responsible for all shipping costs.
- 4.2 The City reserves the right to conduct testing on supplies provided by the ensuing contract before acceptance for specification compliance at any time during the duration of the contract. Any product not meeting the above described specifications shall be rejected and returned to the supplier.

5.0 ORDERING, DELIVERY and INVOICING

- 5.1 **Ordering Procedure:** A written purchase order will be established by the Director of Finance and Management. The Purchase Order will have the delivery information and invoice information.
- 5.2 **Delivery days after Order:** Bidder shall insert in the "Discount" tab of the bid the Lead Time expressed as the number of calendar days after receipt of order that delivery will be made. Vendors shall state actual delivery time in calendar days in the space provided under Delivery/Payment Terms. Delivery time may be a factor in determining award of bid.
- 5.2.1 **Delivery Location:** The equipment will be delivered FOB Destination Freight Prepaid and Allowed (Seller Bears All Freight Costs) to: City of Columbus, Department of Public Utilities, Dublin Road Water Plant, 940 Dublin Road, Columbus, OH 43215.
- 5.2.2 The City of Columbus requires seventy-two (72) hours advance notice before the actual delivery to DRWP Storeroom at 614-645-8297.
- 5.3 **Packaging:** All items must be packaged in the minimum standard packing material designed to protect against damage during shipment. Note the use of Environmentally Friendly materials is encouraged.
- 5.4 **Invoicing:** Each invoice shall show the City Purchase Order number, a brief description identifying the item, the unit price, and the total amount. The invoice amount must exactly match the purchase order amount in accordance with the bid proposal. All Invoices should be emailed to the following address to ensure proper payment: City of Columbus DPUIInvoices@columbus.gov.

6.0 NOTES

- 6.1 **Online Bidding Instructions:** Bidders are requested to quote firm or fixed prices on the corresponding line item(s) only. Within the "Comment" section of each line bidders are

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requested to provide the make, model and manufactured year of the unit quoted. It is understood that all parts that may not be specifically mentioned must be included to make the unit operational and complete.

6.1.1 **Alternates:** Bids will be considered on units complying with the specifications. All alternates must be detailed in an attached letter to bid. Explanations must fully state what is to be furnished. The City of Columbus reserves the right to determine whether any proposed alternates are within the specifications.

6.1.1.1 **Attachments:** For instruction on attaching documents to online quotes, please see page 36 of the "City of Columbus Vendor Services User Guide", made available through the Vendor Portal.

6.2 **Warranty:** The equipment specified herein shall be covered by the manufacturer's warranty at no additional charge. Bidders shall submit warranty on a separate sheet attached to the bid proposal.

6.2.1 **Warranty Period:** Manufacturer shall provide standard product warranty executed by authorized company official. The manufacturer shall warrant the flow meter for a period of not less than 5 years against defects in materials and workmanship.

6.3 **Literature:**

6.3.1 To aid in the evaluation of bids, all bidders are to furnish with this bid current published literature that best explains the valves offered, model and identification of the options that meet or exceed the specifications. Published literature shall include pictures and complete descriptive matter.

6.4 **Manuals:**

6.4.1 The successful bidder shall supply four (4) copies of all (as built) parts lists, service, maintenance, and operation manuals upon delivery of the equipment to the City of Columbus. The City of Columbus would prefer that a copy of all parts and service manuals be supplied on thumb drive.

6.5 **Correspondences:** During the bidding and evaluation process Offerors are strictly prohibited from communicating with any City employees or officers regarding the solicitation. Any communication from the vendor to the City should be limited to only the contact(s) listed in the RFQ and/or below. A violation of this section on the part of the Offeror may lead to disqualification.

All correspondences regarding this bid should be sent via email to
RJHreha@columbus.gov

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REFERENCES

The bidder must briefly document its capabilities and submit an outline of its experience and work history in Rate of Control Venturi and Control Valves and warranty service for the past five years by submitting the contact information of References from four (4) separate equipment sales. References should consist of projects of a similar scope, complexity, and cost.

Business Name: _____ Tel #. _____ - _____

Address: _____

E-mail Address: _____ Fax #. _____ - _____

Contact: _____ Equipment purchase date: _____

Equipment Provided/ Warranty Service Performed:

Business Name: _____ Tel #. _____ - _____

Address: _____

E-mail Address: _____ Fax #. _____ - _____

Contact: _____ Equipment purchase date: _____

Equipment Provided/ Warranty Service Performed:

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Business Name: _____ Tel #. _____ - _____
Address: _____
E-mail Address: _____ Fax #. _____ - _____
Contact: _____ Equipment purchase date: _____
Equipment Provided/ Warranty Service Performed:

Business Name: _____ Tel #. _____ - _____
Address: _____
E-mail Address: _____ Fax #. _____ - _____
Contact: _____ Equipment purchase date: _____
Equipment Provided/ Warranty Service Performed:

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SUBCONTRACTORS INFORMATION (IF APPLICABLE)

Business Name: _____ Tel #. _____ - _____

Address: _____

E-mail Address: _____ Fax #. _____ - _____

Contact: _____ Equipment purchase date: _____

Equipment Provided/ Warranty Service Performed:

Business Name: _____ Tel #. _____ - _____

Address: _____

E-mail Address: _____ Fax #. _____ - _____

Contact: _____ Equipment purchase date: _____

Equipment Provided/ Warranty Service Performed:
