

Francis Marion University – Quote Request

Quote Name: RFQ-2404- Provide Removal and Replacement for Backflow Device **Date:** [December 5, 2022](#)

Francis Marion University is accepting quotes for: A contractor to remove and replace existing RPZ (Reduced Pressure Zone Assembly) Backflow Device Model #909 minimally 12 inches above ground. Removal and installation to be initiated with contractor with times and dates mutually agreed upon by contractor and the University for approximately December 2022. See Scope of Work.

For an offer to qualify as responsive, offeror should provide all detail as indicated in this solicitation. Missing items may deem your quote as non responsive and therefore could no longer be considered by the University.

Please see details for a non-mandatory but highly recommended site visit on page 3. A site visit may aid in providing more accuracy for the offeror in their quotation.

The following schedule is required to be completed by the offeror:

Please quote your lowest delivered price for the item(s) below. Francis Marion University reserves the right to reject any or all quotes and to waive any or all technicalities. Offeror may choose to provide a quotation for one or both of the items below. If you are not providing a quotation for one of the items, please indicate N/A or leave the space blank.

Award will be made to ONE offeror. Offeror must be able provide quotation for all items in this solicitation. Francis Marion University is not accepting indivual quotes for separate items of the solicitation.

Notes:

- 1) Exclude Sales Tax in your bid prices.
- 2) Include freight/shipping. FOB Destination included to Florence, SC
- 3) The attached Terms and Conditions apply to all quotes and supersedes Offeror’s Terms and Conditions.

Item	Quantity	Description	Item Price
1	Job	All inclusive cost including delivery of one Watts RPZ Assembly, 4” Backflow device Model #909 or a like or better proposed product.	

****Offeror must provide specification sheet for backflow device being proposed in your quotation.**

Item	Quantity	Description	Job Price
2	Job	All inclusive cost for labor and materials for removal and installation of unit awarded from Item #1.	

<p>Please confirm (Yes or No) Offeror’s capability and availability in all respects to provide all products and services in items #1 and #2 during the period of December 20 and December 31, specific dates to be mutually agreed upon by the Offeror and the University.</p>	
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OFFEROR INFORMATION

References Required:

Provide three (3) references for whom OFFEROR has provided similar services,

1. Agency or Firm Name:	
Business Address:	
Mailing Address:	
Contact Person:	
Telephone:	
Email address:	
Type of Service:	
Dates(s) when service provided	
2. Agency or Firm Name:	
Business Address:	
Mailing Address:	
Contact Person:	
Telephone:	
Email address:	
Type of Service:	
Dates(s) when service provided	
3. Agency or Firm Name:	
Business Address:	
Mailing Address:	
Contact Person:	
Telephone:	
Email address:	
Type of Service:	
Dates(s) when service provided	

DELIVERY/PERFORMANCE LOCATION – SPECIFIED JAN 2006: After award, all deliveries shall be made and all services provided to the following address, unless otherwise specified:

**Francis Marion University
 Central Receiving
 4822 E. Palmetto Street
 Florence, SC 29506**

Quote with references may be e-mailed to jdhester@fmarion.edu

Quote with references **Must be Received by: Tuesday, December 13, 2022, 2:00 pm**

This Section Must be Completed by the Vendor:

Company Name:			
Authorized Signature:			
Authorized Signature (printed):			
Date:			
Address:			
City/State/Zip:			
Phone Number:		Fax Number:	
E-Mail:			
Federal ID Number:		SC Minority Cert. # (if applicable):	

SITE VISIT (JAN 2006): A highly recommended site visit may be scheduled by the offeror to accurately provide a quotation for this solicitation. The offeror’s failure to attend will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the State. The State assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available at the conference. Nor does the State assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

MAXIMUM NUMBER OF REPRESENTATIVES AT SITE VISIT (FMU SEPT 2020): Due to heightened health risks due to the COVID-19 pandemic, no greater than two representatives from any single potential contractor will be allowed to attend this Site Visit.

SITE VISIT DATE & START TIME: Non-mandatory, but **highly recommended site visit** – A University representative will be available on Thursday, December 8 at 10:00AM EST to provide a non-mandatory, but highly recommended site visit to assure a complete understanding of the project. Please contact Mike Richey, Director of Facilities Engineering and Maintenance at 843-661-1104 or mrichey@fmarion.edu to confirm your attendance. The site visit will begin in the Physical Plant Conference room promptly at 10:00AM.

LOCATION: FMU Facilities / Campus
 Police Building Conference Room
 Main Campus
 4822 E. Palmetto St.
 Florence, SC 29506

Scope of Work

Background Information:

The current device, Watts RPZ Assembly, 4" Backflow Model #909, which provides backflow prevention for Francis Marion University's McNair Science Building (MSB) is inoperable and located in a crawl space, which is difficult to access, beneath the building.

Specifications:

Item #1 - Delivery of one Watts RPZ Assembly, 4" Backflow device Model #909 or a like or better proposed product.

The current Watts RPZ Assembly, 4" Backflow device Model #909 no longer meets the functional requirements needed to serve the McNair Science Building.

The new backflow device will be replacing the inoperable Watts RPZ Assembly, 4" Backflow device that is under the MSB building, in a crawl space, and will be installed in the open area outside the MSB building.

The current Watts RPZ Assembly, 4" Backflow device shall be removed from under the building and replaced with 4" pipe and couplings. If no shut off valves can be located downstream of existing RPZ, then we may drain the building prior to this step and/or try to install a new valve.

See attachment 4 for specifications of the existing Watts RPZ Assembly, 4" Backflow device Model #909. The University reserves the right to review the specifications of the offerors proposed backflow assembly device.

Offeror shall extend the manufacturer's warranty for the backflow device unit provided to the University, and provide that warranty with the product upon delivery.

****Offeror must provide specification sheet for backflow device being proposed in your quotation.**

Item #2 - Installation of unit awarded from Item #1.

- Please see attachment 1, Inspection Report dated 06-08-21, to provide further detail on the current Watts RPZ Assembly, 4" Backflow device Model #909 and needs for the University.
- Please see attachment 2, McNair Science Building backflow device location, to provide further detail on the current location of the Watts RPZ Assembly, 4" Backflow device.
- Provide all labor and materials to replace backflow device supplied by the University (the unit purchased in item #1 of this solicitation).
 - Labor includes but not limited to:
 - Locate water main and determine location to cut pipe.
 - Dig and prepare area to install a new shut off valve to MSB.
 - Turn off existing valve to MSB.
 - Turn the main water supply off that serves several buildings.
 - Cut pipe and install the new MSB shut off valve.
 - Prepare area for the new pad and enclosure.
 - Excavate and install piping for installation of new RPZ.
 - Test, wrap, and backfill piping.
 - Form and place 2 concrete pads with 6 inch sleeves.

- Install backflow device.
- Install fiberglass enclosure.
- ❖ **Samples must be submitted for approval by FMU with your quote.**
- Remove old backflow device under the building and replace with 4" pipe and couplings.
- If no shut off valves can be located downstream of existing RPZ, then we may drain the building prior to this step and/or try to install a new valve.
- Perform certification Inspection.
- In coordination with a University representative, the contractor shall test the unit to verify proper installation and working order of the installed unit.
 - If a test of the unit fails due to the improper installation of the unit, contractor for item #2 shall remedy the installation for no extra cost to bring the unit to working order.
 - If a test of the unit fails due to the quality of the backflow device supplied in item #1, contractor for item #2 shall not be held liable for the quality of the unit unless the contractor awarded for item #2 is the same as the contractor awarded for item #1.

GENERAL CONDITIONS

DEFAULT: In case or default by the Contractor, Francis Marion University reserves the right to purchase any or all items in default in the open market, charging the Contractor with any additional costs. The defaulting Contractor shall not be considered a responsible Contractor until the assessed charge has been satisfied.

All amendments to and interpretation of this RFQ shall be in writing. The procurement officer shall not be legally bound by any amendment or interpretation that is not in writing.

Any contract entered into by Francis Marion University resulting from this quotation shall be subject to cancellation at the end of any fiscal or appropriated year unless otherwise provided by law.

Payment will be made in accordance with Section 11-35-45 of the South Carolina Consolidated Procurement Code and Disbursement Regulations. Delay in receiving invoices, as well as errors and omissions on the invoices, will be considered just cause for withholding payment without losing discount privileges. The University reserves the right to withhold payment or make such deductions as may be necessary to protect the University from loss or damage because of defective work, claims, damages or to pay for repair of correction of materials furnished hereunder.

Quoted prices must remain firm for a period of thirty (30) days beyond the Request for Quotation deadline.

Unit prices will govern over extended prices unless otherwise stated.

Francis Marion University shall consider payment discounts in the award of this contract when such discounts are for thirty (30) days or more after final inspection and acceptance of contract requirements. Payment discounts for less than thirty days are encouraged but shall not be a factor in award determination. Please state your discount terms using the above referenced information as the University's position on the matter.

All materials and products offered must be guaranteed to meet and comply with the requirements all the specifications, terms and conditions indicated or referred to.

The award will be made in accordance with Section 11-35-1550 (b) of the South Carolina Consolidated Procurement Code.

The University reserves the right to reject any and all quotations and to cancel the solicitation; waive any and all technicalities; the University reserves the right to reject any quotation in which the delivery time indicated to be of substantial length to cause disruption and/or delay in operation for which the item(s) is/are intended; ambiguous quotations which are uncertain as to terms, delivery, quantity or compliance with specifications may be rejected.

The contractor assumes sole responsibility and shall hold harmless Francis Marion University, its directors, officers, employees and agents from and against any and all claims, actions or liabilities of any nature which may be asserted against them by third parties

in connection with the performance of the successful Contractor, its directors, officers, employees and agents under this agreement. Francis Marion University agrees to accept responsibility for claims, actions or liabilities resulting from negligent acts of its employees occurring within the scope of their employment which may be asserted against them by third parties in connection with the performance of Francis Marion University, its members, directors, officers, employees and agents under this agreement.

Contractor agrees not to refer to award of this contract in commercial advertising in such a manner to state or imply that the products or service provided are endorsed or preferred by the user.

Upon award of a contract under this quotation, the person, partnership, association or corporation to whom the award is made must comply with the laws of South Carolina that require such person or entity to be authorized and/or licensed to do business in this State. Notwithstanding the fact that applicable statutes may be exempt or exclude the successful Contractor from requirements that it be authorized and/or licensed to do business in this State, by submission of this signed quote, the Contractor agrees to subject itself to the jurisdiction and process of the courts of the State of South Carolina as to all matters and disputes arising or to arise under the contract and the performance thereof, including any questions as to the liability for taxes, licenses or fees levied by the State.

Information Security –Location Of Data: Notwithstanding any other provisions, contractor is prohibited from processing, storing, transmitting, or accessing clinic or client information, outside the continental United States. For clarity, this obligation is a material requirement of this contract and applies to subcontractors at any tier.

Indemnification -- Third Party Claims: Notwithstanding any limitation in this agreement, and to the fullest extent permitted by law, Contractor shall defend and hold harmless Indemnitees for and against any and all suits or claims of any character (and all related damages, settlement payments, attorneys' fees, costs, expenses, losses or liabilities) by a third party which are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property arising out of or in connection with the goods or services acquired hereunder or caused in whole or in part by any act or omission of contractor, its subcontractors, their employees, workmen, servants, agents, or anyone directly or indirectly employed by them or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by an Indemnitee, and whether or not such claims are made by a third party or an Indemnitee; however, if an Indemnitee's negligent act or omission is subsequently determined to be the sole proximate cause of a suit or claim, the Indemnitee shall not be entitled to indemnification hereunder. Contractor shall be given timely written notice of any suit or claim. Contractor's obligations hereunder are in no way limited by any protection afforded under workers' compensation acts, disability benefits acts, or other employee benefit acts. This clause shall not negate, abridge, or reduce any other rights or obligations of indemnity which would otherwise exist. The obligations of this paragraph shall survive termination, cancellation, or expiration of the parties' agreement. This provision shall be construed fairly and reasonably, neither strongly for nor against either party, and without regard to any clause regarding insurance. As used in this clause, "Indemnitees" means the State of South Carolina, its instrumentalities, agencies, departments, boards, political subdivisions and all their respective officers, agents and employees.

No Indemnity or Defense Any term or condition is void to the extent it requires the State to indemnify, defend, or pay attorney's fees to anyone for any reason.

PRICE ADJUSTMENTS

(1) Method of Adjustment. Any adjustment in the contract price made pursuant to a clause in this contract shall be consistent with this Contract and shall be arrived at through whichever one of the following ways is the most valid approximation of the actual cost to the Contractor (including profit, if otherwise allowed):

(a) by agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;

(b) by unit prices specified in the Contract or subsequently agreed upon;

(c) by the costs attributable to the event or situation covered by the relevant clause, including profit if otherwise allowed, all as specified in the Contract; or subsequently agreed upon;

(d) in such other manner as the parties may mutually agree; or,

(e) in the absence of agreement by the parties, through a unilateral initial written determination by the Procurement Officer of the costs attributable to the event or situation covered by the clause, including profit if otherwise allowed, all as computed by the Procurement Officer in accordance with generally accepted accounting principles, subject to the provisions of Title 11, Chapter 35, Article 17 of the S.C. Code of Laws.

(2) Submission of Price or Cost Data. Upon request of the Procurement Officer, the contractor shall provide reasonably available

factual information to substantiate that the price or cost offered, for any price adjustments is reasonable, consistent with the provisions of Section 11-35-1830.

Subcontractor Limitation: Subcontractor may only be assigned upon mutual agreement with the University. Offeror shall provide with their quotation any and all subcontractors for which work is expected to be assigned.

Survival Of Obligations: The Parties' rights and obligations which, by their nature, would continue beyond the termination, cancellation, rejection, or expiration of this contract shall survive such termination, cancellation, rejection, or expiration, including, but not limited to, the rights and obligations created by the following clauses: Indemnification - Third Party Claims, Intellectual Property Indemnification, and any provisions regarding warranty or audit.

Termination: Subject to the provisions below, the contract may be terminated for any reason by the University providing a thirty-day advance notice in writing is given to the contractor.

Termination for Convenience: In the event that this contract is terminated or cancelled upon request and for the convenience of the University may negotiate reasonable termination costs, if applicable.

Termination for Cause: Termination by the University for cause, default, or negligence on the part of the Contractor shall be excluded from the foregoing provisions; termination costs, if any, shall not apply. The thirty day advance notice requirement is waived and the default provision in this bid shall apply.

SPECIAL CONDITIONS

LICENSES, PERMITS, INSURANCE: All costs for required licenses, permits and insurance shall be borne by the Contractor.

Francis Marion University requires all contractual activities to be performed in a manner that is consistent with all applicable federal, state and local laws, regulations, rules, rulings and ordinances. These include, but are not limited to: the Occupational safety and Health Act, The Environmental Protection Act, The South Carolina Hazardous Waste Management Act.

IMPORTANT– Please Note - Contractors, we MUST have your Federal ID # (company) or Social Security # (individual) before processing any invoices for payment. Failure to provide this information will result in delay of payments until this information is received. Please include this information with your quote.

INSTRUCTIONS TO OFFERORS – SPECIAL INSTRUCTIONS AWARD CRITERIA

AWARD CRITERIA – BIDS (JAN 2006) Award will be made to the lowest responsible and responsive bidder(s).

AWARD TO ONE OFFEROR (JAN 2006) Award will be made to one Offeror. [06-6040-1]

COMPETITION FROM PUBLIC ENTITIES (JAN 2006) If a South Carolina governmental entity submits an offer, the Procurement Officer will, when determining the lowest offer, add to the price provided in any offers submitted by nongovernmental entities a percentage equivalent to any applicable sales or use tax. S.C. Code Ann. Regs 117-304.1 (Supp. 2004).

UNIT PRICE GOVERNS (JAN 2006) In determining award, unit prices will govern over extended prices unless otherwise stated.

FRANCIS MARION UNIVERSITY STANDARD TERMS AND CONDITIONS (2021) Francis Marion University's standard terms and conditions for purchase orders may be found at <https://www.fmarion.edu/procurement/>. Terms and Conditions found at that website are not all inclusive, and do not supersede standard terms and conditions of the State of South Carolina.

Attachment 1

BairCo. Backflow Prevention Inspection Test Report


Date: 06-08-21

BairCo. Backflow Prevention

P.O. Box 12124, Florence, SC 29504
bairco@sc.rr.com

Domestic:
 Irrigation:
 Fire Line:
 Bypass:

Account/Business Name: FMU
 Account Address: 4822 E. Palmetto St. Florence, SC 29506
 Account Number: _____ Meter Number: _____
 Device Name/Type: Watts / RPZ Model Number: 909
 Serial Number: 175362 Size: 4" Tested By: (Print) Josh Bair
 Device Location: 13) McNair Science Bldg-under bldg in crawl space

	CHECK # 1	CHECK # 2	AIR-INLET VALVE OR RELIEF VALVE	#1 SHUT-OFF (CHECK ONE)	#2 SHUT-OFF (CHECK ONE)
				GATE <input type="checkbox"/> BALL <input type="checkbox"/>	GATE <input type="checkbox"/> BALL <input type="checkbox"/>
TEST BEFORE REPAIRS	Leaked <input type="checkbox"/> Closed Tight <input type="checkbox"/> Diff. Press* _____	Leaked <input type="checkbox"/> Closed Tight <input type="checkbox"/> Diff. Press* _____	Opened at _____ lbs. Diff. Pressure*	Leaked <input type="checkbox"/> Closed Tight <input type="checkbox"/>	Leaked <input type="checkbox"/> Closed Tight <input type="checkbox"/>
REPAIRS AND NEW PARTS					
TEST AFTER REPAIRS	Leaked <input type="checkbox"/> Closed Tight <input type="checkbox"/> Diff. Press* _____	Leaked <input type="checkbox"/> Closed Tight <input type="checkbox"/> Diff. Press* _____	Opened at _____ lbs. Diff. Pressure*	Leaked <input type="checkbox"/> Closed Tight <input type="checkbox"/>	Leaked <input type="checkbox"/> Closed Tight <input type="checkbox"/>

***IF PERFORMING DIFFERENTIAL TEST YOU MUST INCLUDE DIFFERENTIAL PRESSURE READING.**

Testing Method: (Check One) Direction of Flow Differential

Differential Gauge Model: 845-3

COMMENTS: NC - Unable to test this device due to the condition of the #2 shut off valve. In my opinion, this device needs to be replace with a new device that is installed properly. This device is an RP (Reduced Pressure Zone Assembly) and is not supposed to be in a confined space and is to be at least 12 inches above ground.

Test Date: 06-08-21 PASS FAIL Retest Date: _____

Above data certified to be correct.

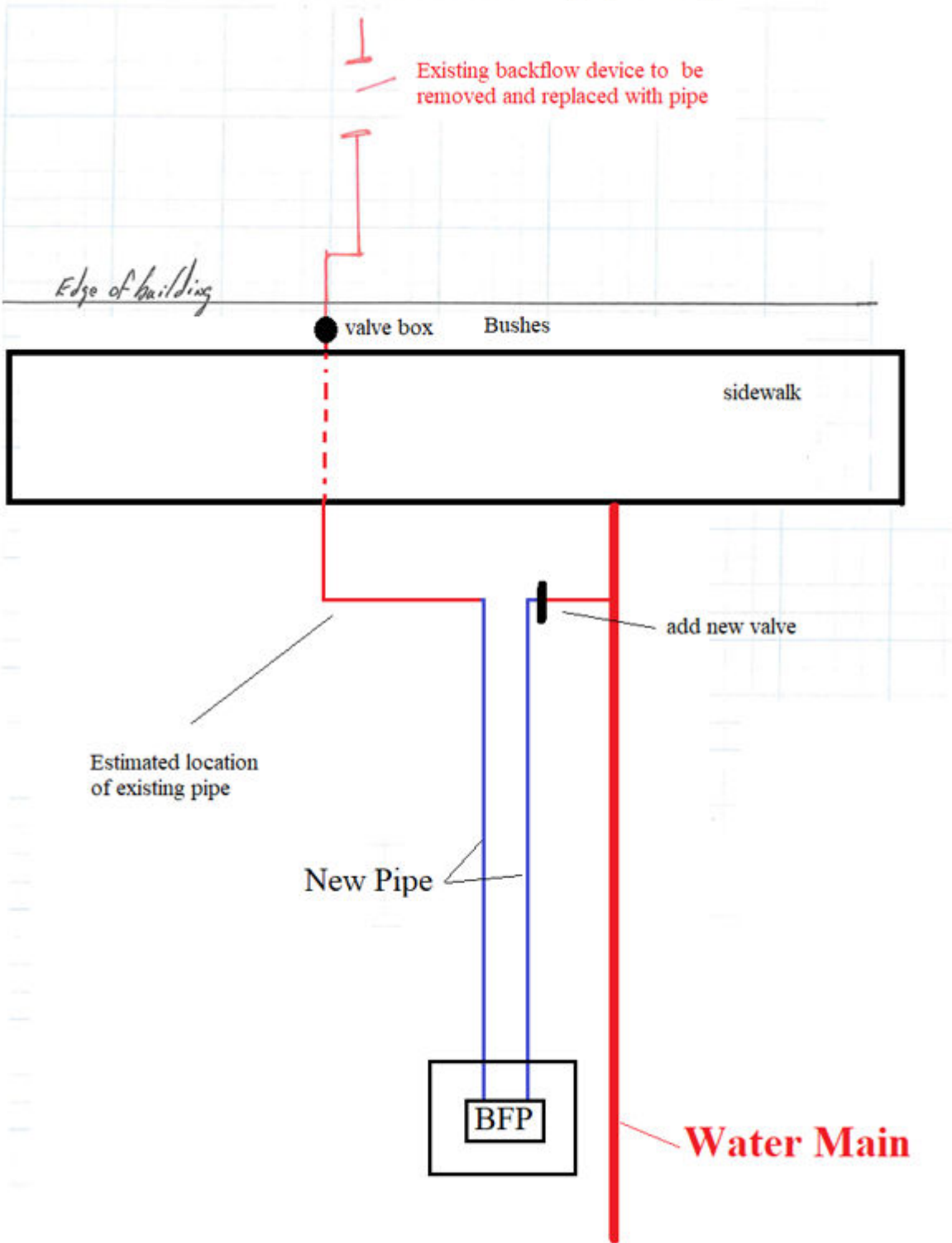
Tester Signature: *Joshua S. Bair* Certification Number: 121140622

Company Name: BairCo. Backflow Prevention Telephone Number: 843-496-8899

Category: General Limited Inspector

Attachment 2
McNair Science Building current backflow device location

McNair Science Building (MSB)



Attachment 3
OPEN TRADE REPRESENTATION
(S.C. Code Ann. §§ 11-35-5300)

The following representation, which is required by Section 11-35-5300(A), is a material inducement for the State to award a contract to you.

I, the official named below, certify I am duly authorized to execute this certification on behalf of the vendor identified below, and, as of the date of my signature, the vendor identified below is not currently engaged in the boycott of a person or an entity based in or doing business with a jurisdiction with whom South Carolina can enjoy open trade, as defined in SC Code Section 11-35-5300.

Vendor Name (Printed)	State Vendor No.
By (Authorized Signature)	Date Executed
Printed Name and Title of Person Signing	[Not used]

Attachment 4

Specifications of the existing Watts RPZ Assembly, 4" Backflow device Model #909

LEAD FREE*

Series LF909

Reduced Pressure Zone Assemblies

Sizes: 2½" – 10"

Series LF909 Reduced Pressure Zone Assemblies are designed to provide cross-connection control protection of the potable water supply in accordance with national plumbing codes. This series can be utilized in a variety of installations, including health hazard cross-connections in plumbing systems or for containment at the service line entrance. With its exclusive relief valve design incorporating the "air-in/water-out" principle, it provides substantially improved relief valve discharge performance during the emergency conditions of combined backsiphonage and backpressure with both checks fouled. The coating on this backflow assembly uses ArmorTek™ technology to resist corrosion due to microbial induced corrosion (MIC) or exposed metal substrate. The LF909 features Lead Free* construction to comply with Lead Free* installation requirements.

Series LF909 is also available with SentryPlus™ Alert technology to detect catastrophic relief valve discharge that could potentially cause flooding, and issue a multi-channel alert (call, e-mail, text) to selected users so they can take action to avoid potentially costly flooding.

Features

- Replaceable seats
- Stainless steel internal parts
- No special tools required for servicing
- Captured spring check assemblies
- Fused epoxy coated & lined checks
- Utilizes advanced ArmorTek™ coating technology to resist corrosion of internals
- Industrial strength sensing hose
- Field reversible relief valve
- Air-in/water-out relief valve design provides maximum capacity during emergency conditions

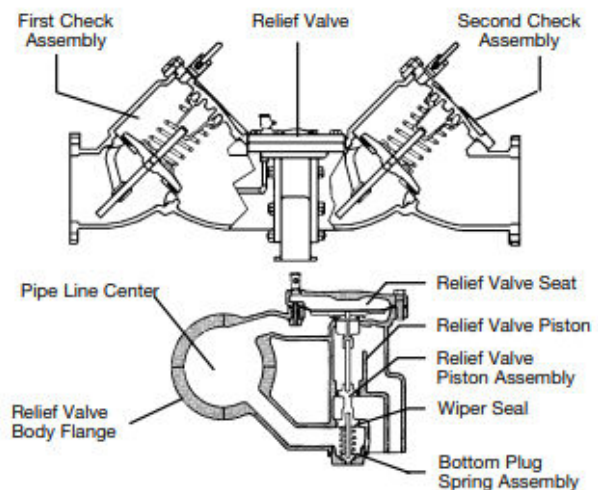
Specifications

A Reduced Pressure Zone Assembly shall be installed at each cross-connection to prevent backsiphonage and backpressure backflow of hazardous materials into the potable water supply. The assembly shall consist of a pressure differential relief valve located in a zone between two positive seating check valves and captured springs. Backsiphonage protection shall include provision to admit air directly into the reduced pressure zone via a separate channel from the water discharge channel. The assembly shall include two tightly closing shutoff valves before and after the valve and test cocks. The Lead Free* Reduced Pressure Zone Assembly shall comply with state codes and standards, where applicable, requiring reduced lead content. The assembly shall meet the requirements of ASSE Std. 1013; AWWA Std. C511-92; CSA B64.5; and UL Classified File No. EX3185. Listed by IAPMO (UPC). Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. The valve body shall utilize a coating system with built in electrochemical corrosion inhibitor and microbial inhibitor. The assembly shall be a Watts Series LF909.

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



LF909 DNRS



**Now Available
WattsBox Insulated Enclosures.**

For more information, send for literature ES-WB.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

NOTICE

Inquire with governing authorities for local installation requirements

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

WATTS®

Attachment 4

Specifications of the existing Watts RPZ Assembly, 4" Backflow device Model #909 Continuation

Available Models & Options

- Suffix:
 LF – without shutoff valves
 NRS – non-rising stem resilient seated gate valves
 OSY - UL/FM outside stem & yoke resilient seated gate valves
 S-FDA – FDA epoxy coated strainer
 ALERT with SentryPlus™ Alert flood detection system

Note: The installation of a drain line is recommended. When installing a drain line, an air gap is necessary.

Materials

- Check Valve Bodies: FDA epoxy coated cast iron
 Seats: Stainless steel
 Trim: Stainless steel
 Relief Valve Body: 2½"-3" Lead Free* cast copper silicon alloy
 4"-10" FDA epoxy coated cast iron
 Test Cocks: Lead Free* copper silicon alloy

Pressure – Temperature

- Temperature Range: 33°F-110°F (0.5°C-43°C) continuous,
 140°F (60°C) intermittent
 Maximum Working Pressure: 175psi (12.06 bar)

Standards

- AWWA C511-92
 IAPMO PS 31, SBCCI (Standard Plumbing Code)
 USC manual for Cross-Connection Control, 8th Edition

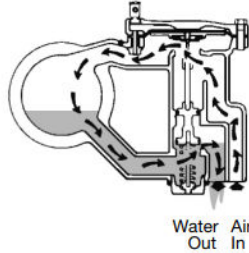
Approvals



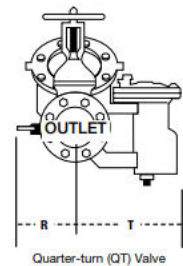
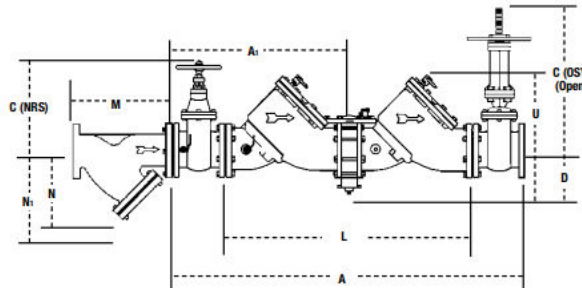
Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

How It Operates

The unique relief valve construction incorporates two channels: one for air, one for water. When the relief valve opens, as in the accompanying air-in/water-out diagram, the right-hand channel admits air to the top of the reduced pressure zone, relieving the zone vacuum. The channel on the left then drains the zone to atmosphere. Therefore, if both check valves foul, and simultaneous negative supply and positive backpressure develops, the relief valve uses the air-in/water-out principle to stop potential backflow.



Dimensions – Weights



Quarter-turn (QT) Valve
 Watts G-4000 Series Ball Valves
 Send for F-G4000

NOTE: Valve may be furnished with (2) OSY or (2) NRS Shutoffs.
 NOTE: Relief valve section is reversible, therefore, can be on either side and is furnished standardly as shown.

SIZE	DIMENSIONS												WEIGHT													
	A		A1		C clearance for check		D		L		U		R (QT)		T		NRS		OSY		QT					
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm				
2½	4 1/2	1053	2 3/4	527	1 6/16	416	9/16	238	5/16	133	26 1/16	669	11	279	4	102	16	406	9 1/16	230	195	88.4	198	89.8	182	82.6
3	4 1/2	1079	2 1/4	539	1 8/16	479	1 1/4	260	5/16	133	26 1/16	669	11	279	5	127	16	406	9 1/16	230	225	102	230	104	190	86
4	5 5/16	1405	2 7/16	702	2 2/16	578	1 1/2	310	6	152	37 1/16	944	14	356	6	152	19 1/16	502	14 3/16	365	455	206	470	213	352	160
6	8 5/16	1672	3 3/16	836	3 0/16	765	1 6/16	406	6	152	44 1/16	1134	16	406	11	279	26	660	14 3/16	365	718	326	798	362	762	346
8	7 7/8	1995	3 9/16	998	3 7/16	959	1 9/16	506	9	248	55 1/16	1404	21	533	11 1/16	286	11 1/4	286	19 1/16	489	1350	612	1456	660	2286	1037
10	9 3/4	2376	4 6/16	1188	4 5/16	1162	2 3/16	605	9	248	67 1/16	1709	21	533	12 1/16	318	12 1/4	318	21	533	2160	980	2230	1011	3716	1685

*UL, FM approved backflow preventers must include UL/FM approved OSY gate valves.

Strainer Dimensions

SIZE	DIMENSIONS						WEIGHT	
	M		N11		N		lbs.	kg.
in.	in.	mm	in.	mm	in.	mm		
2½	10	254	10	254	6 1/16	165	28	12.7
3	10 1/16	257	10	254	7	178	34	15.4
4	12 1/16	308	12	305	8 1/16	210	60	27
6	18 1/16	470	20	508	13 1/16	343	133	60
8	21 1/16	549	22 1/16	578	15 1/16	394	247	112
10	26	660	28	711	18 1/16	470	370	168

† – Dimension required for screen removal

Air Gap Dimensions

When installing a drain line on Series 909 backflow preventers that are installed horizontally, use 909 AG series air gaps.

IRON BODY MODEL NO.	ORDERING CODE	SERIES/SIZES	DIMENSIONS			WEIGHT				
			A	B	C	lbs.	kg.			
			in.	mm	in.	mm	in.	mm		
909AG-F	881378	1 1/4" – 3" 009/909 1 1/4" – 2" 009 M1 2" 009 M2	4 1/16	111	6 1/16	171	2	51	3.25	1.47
909AG-K	881385	4" – 6" 909	6 1/16	162	9 1/16	244	3	76	6.25	2.83
909AG-M	881387	8" – 10" 909	7 1/16	187	11 1/4	286	4	102	15.5	7.03



For flange size backflow preventers installed vertically (flow down), a fabricated air gap is recommended.