

LEGIONELLA PLUMBING UPGRADES TO BE MADE PART OF AND INCLUDED WITH THE SOLICITATION
AND ANY RESULTANT CONTRACT

BRAND NAME OR EQUAL
LEGIONELLA PLUMBING UPGRADES
SALIENT CHARACTERISTICS

The following commercial faucet and plumbing product information sheets identify the salient characteristics of brand name items identified to fulfill the requirement for this solicitation and the resultant contract. These product information sheets are publicly available for viewing in widely distributed manufacturer literature on the manufacturer's website. They are provided in this attachment for information purposes to identify salient characteristics including specifications and dimensions of brand name items that are known to adequately fulfill the requirements of this solicitation and the resultant contract.

Each product information sheet includes specifications that highlight the salient characteristics of that particular item. The salient characteristics identified herein are those that will be used to determine acceptability of any product submitted as being equal to the brand name item identified in the solicitation and in the corresponding attached product information sheet.

The Government will make a definitive determination of acceptability of equal items, and the Government's determination will be final.

**LEGIONELLA PLUMBING UPGRADES TO BE MADE PART OF AND INCLUDED WITH THE SOLICITATION
AND ANY RESULTANT CONTRACT**

Background

The VA Pittsburgh Healthcare System (VAPHS) has a need to implement a plumbing upgrade project in order to comply with VHA Directive 2009-009 Domestic Hot Water Temperature Limits for Legionella Prevention and Scald Control.

The presence of Legionella in the water distribution system of hospitals has been linked to the acquisition of hospital-acquired Legionellosis. Water temperatures exceeding 130 degrees Fahrenheit are necessary in the hot water circulating distribution systems to eliminate presence and growth of Legionella. In order to eliminate the risk of scalding of the patients, staff, employees, and visitors, mixing valves at all fixtures are required to reduce temperature to 120 degrees Fahrenheit or below (depending on patient environment).

Scope

This following upgrades / revisions to the Existing Plumbing Related Specifications and Drawings shall be incorporated into your Bid

Clarification #1:

Install Thermal Mixing Control for sinks, eyewash stations and slop sinks as shown on the ROB Fixture Schedule Attachment B. This attachment provides the fixture inventory for each room and corresponding valve requirements (Attachment D-Fixture Systems). All mixing valves at sinks referenced in Attachment B must supply 140 degree Fahrenheit water to the faucets and fixtures.

1. Provide and install check valves on hot and cold water supply lines at all locations in Attachment B (Fixture Schedule).
2. Reference Attachment C (Sketches) for typical mixing valve installations.
3. Reference Attachment D (Fixture Systems) for fixture grouping systems as designated in attachment B (Fixture Schedule). NOTE: Whenever 'Powers 215 Faucet' is specified in the Fixture Systems identified in Attachment 'D', the Chicago Faucet Spout (626-FCABCP) shall be used in place of the Powers model, TYPICAL.
4. As referenced in Attachment C (Sketches), a hot water by-pass valve shall be provided and installed at all applicable sink locations. This 3/8" by-pass valve must have a locking device that is key operated for sinks or able to be locked via an existing cabinet door. The by-pass valve is required to facilitate thermal eradication of 160 degree Fahrenheit water to the fixture.
5. By-pass must be installed as close to the thermostatic mixing valve as possible to alleviate "dead leg" problems but permit access and future replacement/maintenance.

Clarification #2:

Install eye wash stations where indicated in the Contract Documents. Stations must be piped as per Attachment C, 'SK7' The Contractor shall field verify all eye wash stations provide tepid water. (Tepid Water: In previous versions of the ANSI Z358.1 standard, tepid water was mentioned in the Appendix of the standard. Now in the 2009 standard, tepid water requirements have now been moved into the Definitions section and clearly define a tepid water range of 60°-100°F.) Thermostatic mixing valve for supplying tepid water to emergency fixtures shall feature internal cold-water bypass system to ensure flow in the event of valve failure or loss of hot water supply.

The valve shall be listed to ASSE 1071 and IAPMO UPC, provide precise temperature control over a wide range of flow conditions, and effectively shut down on loss of cold water. The valve shall feature powerful paraffin-based actuation technology and checkstops to prevent cross flow. The valve shall be factory set to 85°F (29°C) with a lockable means of securing the temperature. The Contractor shall verify that the valve is factory set prior to installation. No field modification shall be applied to valve temperature. All eyewash stations shall comply with the OSHA standards.

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Clarification #3:

All Above Ground (Interior) Water Piping shall be Copper Tube, ASTM B88, Type K, Typical.

Clarification #4:

Per VA Infectious Control Protocols, the use of Flexible Tubing (IE Quick Connects, at Eyewashes, General Fixtures, Etc. is no longer permissible, Typical. Exception permitted for Accessible Shower locations only. All other exceptions would need to be reviewed/pre-approved w/ Infectious Control Team, via the COR. Substitute Deck Mounted Eye Wash Stations in lieu of Panel Mounted models where use of Alternate Wall Mounted Fixture (See Attachment B) is not possible. In the event that both use of proposed alternate wall mounted fixture OR relocation is infeasible, VA will entertain an alternate Panel Mounted model without Hose.

Clarification #5:

All Ball Valves shall be Stainless Steel, Typical.

Clarification #6:

Minimize plumbing supply pipe dead-legs. A dead-leg is a length of pipe with one end open to the system and the other end terminating at a cap, valve or fitting, or a plumbing fixture. The maximum dead-leg pipe length, including the line to a plumbing fixture, is limited to a maximum of 10 feet when measured from the connection to the system to the termination as defined above. If this 10 foot length is exceeded, provide a recirculation (return) loop from the individual fixture to the designated return portion of the system, or to the return loop. Do not connect returns to the domestic hot water service. Show all proposed returns as part of the plumbing shop/coordination drawing submission.

Clarification #7:

Provide an isolation valve upstream and downstream of each point of connection to the existing domestic water system. Contractor shall charge the line and sanitize all newly installed piping as part of this project (including the existing piping between the newly installed isolation valves) per American Water Works Association (AWWA) C651, latest version at time of contract. Reference section 4.7. Contractor shall conduct legionella testing and sampling by a third party laboratory to determine level of contamination and pathogens (including legionella). VA will provide direction and acceptance following review and approval of satisfactory test results.

Clarification #8:

Minimize plumbing supply pipe dead-legs. A dead-leg is a length of pipe with one end open to the system and the other end terminating at a cap, valve or fitting, or a plumbing fixture. The maximum dead-leg pipe length, including the line to a plumbing fixture, is limited to a maximum of 10 feet when measured from the connection to the system to the termination as defined above. If this 10 foot length is exceeded, provide a recirculation (return) loop from the individual fixture to the designated return portion of the system, or to the return loop. Do not connect returns to the domestic hot water service. Show all proposed returns as part of the plumbing shop/coordination drawing submission.

Clarification #9:

Provide an isolation valve upstream and downstream of each point of connection to the existing domestic water system. Contractor shall charge the line and sanitize all newly installed piping as part of this project (including the existing piping between the newly installed isolation valves) per American Water Works Association (AWWA) C651, latest version at time of contract. Reference section 4.7; Contractor shall conduct legionella testing and sampling by a third party laboratory to determine level of contamination and pathogens (including legionella). VA will provide direction and acceptance following review and approval of satisfactory test results.

Expansion of the Medical Surgical Clinics Hot Water System

Background

The VA Pittsburgh Healthcare System (VAPHS) has a need to implement a plumbing upgrade project in order to comply with VHA Directive 2009-009 Domestic Hot Water Temperature Limits for Legionella Prevention and Scald Control.

The presence of *Legionella* in the water distribution system of hospitals has been linked to the acquisition of hospital-acquired Legionellosis. Water temperatures exceeding 130 degrees Fahrenheit are necessary in the hot water circulating distribution systems to eliminate presence and growth of *Legionella*. In order to eliminate the risk of scalding of the patients, staff, employees, and visitors, mixing valves at all fixtures are required to reduce temperature to 120 degrees Fahrenheit or below (depending on patient environment).

Scope

This following upgrades / revisions to the Existing Plumbing Related Specifications and Drawings shall be incorporated into your Bid for the "ROB – Addition" Effort.

Clarification #1:

Install Thermal Mixing Control for sinks, eyewash stations and slop sinks as shown on the ROB Fixture Schedule Attachment B. This attachment provides the fixture inventory for each room and corresponding valve requirements (Attachment D-Fixture Systems). All mixing valves at sinks referenced in Attachment B must supply 140 degree Fahrenheit water to the faucets and fixtures.

1. Provide and install check valves on hot and cold water supply lines at all locations in Attachment B (Fixture Schedule).
2. Reference Attachment C (Sketches) for typical mixing valve installations.
3. Reference Attachment D (Fixture Systems) for fixture grouping systems as designated in attachment B (Fixture Schedule). NOTE: Whenever 'Powers 215 Faucet' is specified in the

Fixture Systems identified in Attachment 'D', the Chicago Faucet Spout (626-FCABCP) shall be used in place of the Powers model, TYPICAL.

4. As referenced in Attachment C (Sketches), a hot water by-pass valve shall be provided and installed at all applicable sink locations. This 3/8" by-pass valve must have a locking device that is key operated for sinks or able to be locked via an existing cabinet door. The by-pass valve is required to facilitate thermal eradication of 160 degree Fahrenheit water to the fixture.
5. By-pass must be installed as close to the thermostatic mixing valve as possible to alleviate "dead leg" problems but permit access and future replacement/maintenance.

Clarification #2:

Install eye wash stations where indicated in the Contract Documents.
Stations must be piped as per Attachment C, 'SK7'

The Contractor shall field verify all eye wash stations provide tepid water. (**Tepid Water:** In previous versions of the ANSI Z358.1 standard, tepid water was mentioned in the Appendix of the standard. Now in the 2009 standard, tepid water requirements have now been moved into the Definitions section and clearly define a tepid water range of 60°-100°F.)

Thermostatic mixing valve for supplying tepid water to emergency fixtures shall feature internal cold-water bypass system to ensure flow in the event of valve failure or loss of hot water supply. The valve shall be listed to ASSE 1071 and IAPMO UPC, provide precise temperature control over a wide range of flow conditions, and effectively shut down on loss of cold water. The valve shall feature powerful paraffin-based actuation technology and checkstops to prevent cross flow. The valve shall be factory set to 85°F (29°C) with a lockable means of securing the temperature. The Contractor shall verify that the valve is factory set prior to installation. No field modification shall be applied to valve temperature.

All eyewash stations shall comply with the OSHA standards.

Clarification #3:

All Above Ground (Interior) Water Piping shall be Copper Tube, ASTM B88, Type K, Typical.

Clarification #4:

Per VA Infectious Control Protocols, the use of Flexible Tubing (IE Quick Connects, at Eyewashes, General Fixtures, Etc. is no longer permissible, Typical. Exception permitted for Accessible Shower locations only. All other exceptions would need to be reviewed/pre-approved w/ Infectious Control Team, via the COR.

Substitute Deck Mounted Eye Wash Stations in lieu of Panel Mounted models where use of Alternate Wall Mounted Fixture (See Attachment B) is not possible. In the event that both use of proposed alternate wall mounted fixture OR relocation is infeasible, VA will entertain an alternate Panel Mounted model without Hose.

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Clarification #7:

Provide an isolation valve upstream and downstream of each point of connection to the existing domestic water system. Contractor shall charge the line and sanitize all newly installed piping as part of this project (including the existing piping between the newly installed isolation valves) per American Water Works Association (AWWA) C651, latest version at time of contract. Reference section 4.7. Contractor shall conduct legionella testing and sampling by a third party laboratory to determine level of contamination and pathogens (including legionella). VA will provide direction and acceptance following review and approval of satisfactory test results.

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The End

VAPTH Plumbing Design Guide

- 1) Install check valves on hot and cold water supply pipes on all automatic faucets, janitor sink faucets, tempering/mixing valves or anywhere there is a potential for hot and cold water crossover *in addition to* any integral check valves built into the fixture. (Ref. IPC 604.2).
- 2) Check valves 2" and smaller shall be spring type, ball cone design equal to Apollo 61-100/200 series.
- 3) Install a full port ball valve ahead of check valves for servicing or replacement.
- 4) Clean outs shall be provided on soil/waste/storm stacks at Basement level (where applicable) and Odd numbered floors in addition to the base of the stack and comply with section *IPC 708*.
- 5) VA Pittsburgh valve tagging procedure shall be used.
- 6) In addition to supporting pipe at the proper intervals all pipes shall be supported within 12 inches of each fitting or any changes in Direction (Vert. or Horizon.).
- 7) Contractor provides drawings showing elevation and plan views. (Ref. 22 05 11 H).
- 8) Drawings shall have column lines marked that match the original building column lines.
- 9) Provide 6" walls where drain / vent piping and water piping cross each other in the same wall.
- 10) Drains shall be hydrostatically tested with 5psi (10' of Head) of water for 15 Minutes - Not air tested, unless specifically approved by facility.
- 11) Contractor will provide test documentation that new backflow preventers have been tested.

- 12) Maximum distance of fixture trap from vent:
1-1/4" trap-----2'6"
1-1/2" trap-----3'6"
2" trap-----5'
2-1/2" trap-----5'
3"-----6'
4" and over-----10'
- 13) A check valve shall be installed on the cold water supply to the Heat Exchangers ahead of the hot water return connection.
- 14) Fixtures requiring hot water shall be within 10 Lineal feet of the source of hot water or hot water circulating return loop.
- 15) Air Admittance Vents (AAV) are not permitted.
- 16) Additional lockable medical gas valves shall be installed in order to isolate sections for service and repair.
- 17) All traps smaller than 3" shall be individually vented (no wet venting).
- 18) L-tubing is the minimum wall thickness for copper drains and vents.
- 19) Ball valves on Cold Water lines shall have stainless steel ball and stem.
- 20) Flexible elastomeric cellular thermal pipe insulation shall not be used on piping.
- 21) All fixtures shall be selected from VAPHS Master Fixture Schedule.
- 22) Documentation: Provide an as-built revised layout of the entire building floor plan that incorporates the project's as-built drawings for any floor affected by the design, including valve locations and tag numbers, Typical.
- 23) Update as-built drawings weekly.

- 24) For cast iron pipe '4-band' type heavy duty shielded couplings shall be used. '2-band' type is not permitted.
- 25) Copper water pipe 2 ½" and larger shall be joined by grooved joints (example: Victaulic).
- 26) Thermostatic mixing valves ASSE1016 or ASSE1070 shall be used at all sinks and showers.
- 27) A by-pass from the hot supply to the discharge side of the thermostatic mixing valve shall be installed with a lockable or secured valve for the purpose of performing a heat flush. Refer to Sketch Series within VAPHS Master Fixture Schedule.
- 28) The domestic water heat exchanger system shall be specifically approved and conform to VAPHS Master Fixture Schedule and VAPTH Legionella Standards. For Example: twin water heat exchangers shall be able to produce 160F degree water at all fixture outlets, be sized to handle 100% demand each, use digital mixing valve with manual by-pass installed, a means of remotely monitoring temperatures, pressures, flow, etc.
- 29) If applicable a means of double blocking and bleeding the domestic hot water system must be installed as stated by VA policy.
- 30) Horizontal drains shall be 2" minimum diameter.
- 31) Type-K copper shall be used for domestic water piping.
- 32) All valves, seals, gaskets, o-rings, etc. on the domestic hot water distribution system shall be rated at a minimum of 180F Deg.
- 33) Domestic hot water return loops at each wing shall be provided with a means of verifying flow. Examples flow meter or flow switch.
- 34) All piping shall be installed in a fashion where the pipe type identification can be easily read.

- 35) Install a shut off valve, a spring type check valve and a drain valve within 5ft. of the water supply source serving a wall hydrant or hose bib. If the fixture is located more than 50ft. away add a control valve within 15ft. of the fixture.
- 36) Calcium silicate sleeves shall be used on insulated piping at pipe supports, (example: unistrut, clevis hangers).
- 37) Where Existing PVC Drains are located within the facility, a Quick Connect shall be provided on CW Supply directly adjacent to provide a means for thermal quench (IE, Temper) of superheated water during a Thermal Flush, thereby protecting solvent welds against failure.

Natural Gas:

- 38) Per NFPA 54 (7.9.2.3 Emergency Shutoff Valves). An exterior shutoff valve to permit turning off the gas supply to each building in an emergency shall be provided. The emergency shutoff valves shall be plainly marked as such and their locations posted as required by the authority having jurisdiction.
- 39) Each laboratory space containing two or more Flammable Gas outlets installed on tables, benches, or in hoods in educational, research, commercial, and industrial occupancies shall have a single Emergency Solenoid shutoff valve with Key Reset through which all such gas outlets are supplied. The shutoff valve shall be accessible, located within the laboratory or adjacent to the laboratory's egress door, and identified

Steam System:

- 40) A double block and bleed must be in place on systems feeding steam equipment prior to any work. Coordinate w/ COR & Facility.

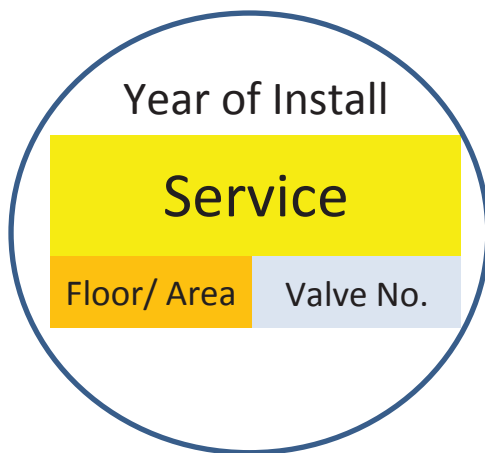
CLARIFICATION- SECTION 22 05 11

COMMON WORK RESULTS FOR PLUMBING

2.7 EQUIPMENT AND MATERIALS IDENTIFICATION

C. Valve Tags and Lists:

1. Plumbing: Provide for all valves (Fixture stops not included).
2. Valve tags: Engraved black filled numbers and letters not less than 13 mm (1/2-inch) high for number designation, and not less than 6.4 mm(1/4-inch) for service designation on 19 gage 38 mm (1-1/2 inches) round brass disc, attached with brass "S" hook or brass chain.
3. Valve lists: Typed or printed plastic coated card(s), sized 216 mm(8-1/2 inches) by 280 mm (11 inches) showing tag number, valve function and area of control, for each service or system. Punch sheets for a 3-ring notebook.
4. Provide detailed plan for each floor of the building indicating the location and valve number for each valve. Identify location of each valve with a color coded thumb tack in ceiling.



Required Tag Format



Sample Valve Tag

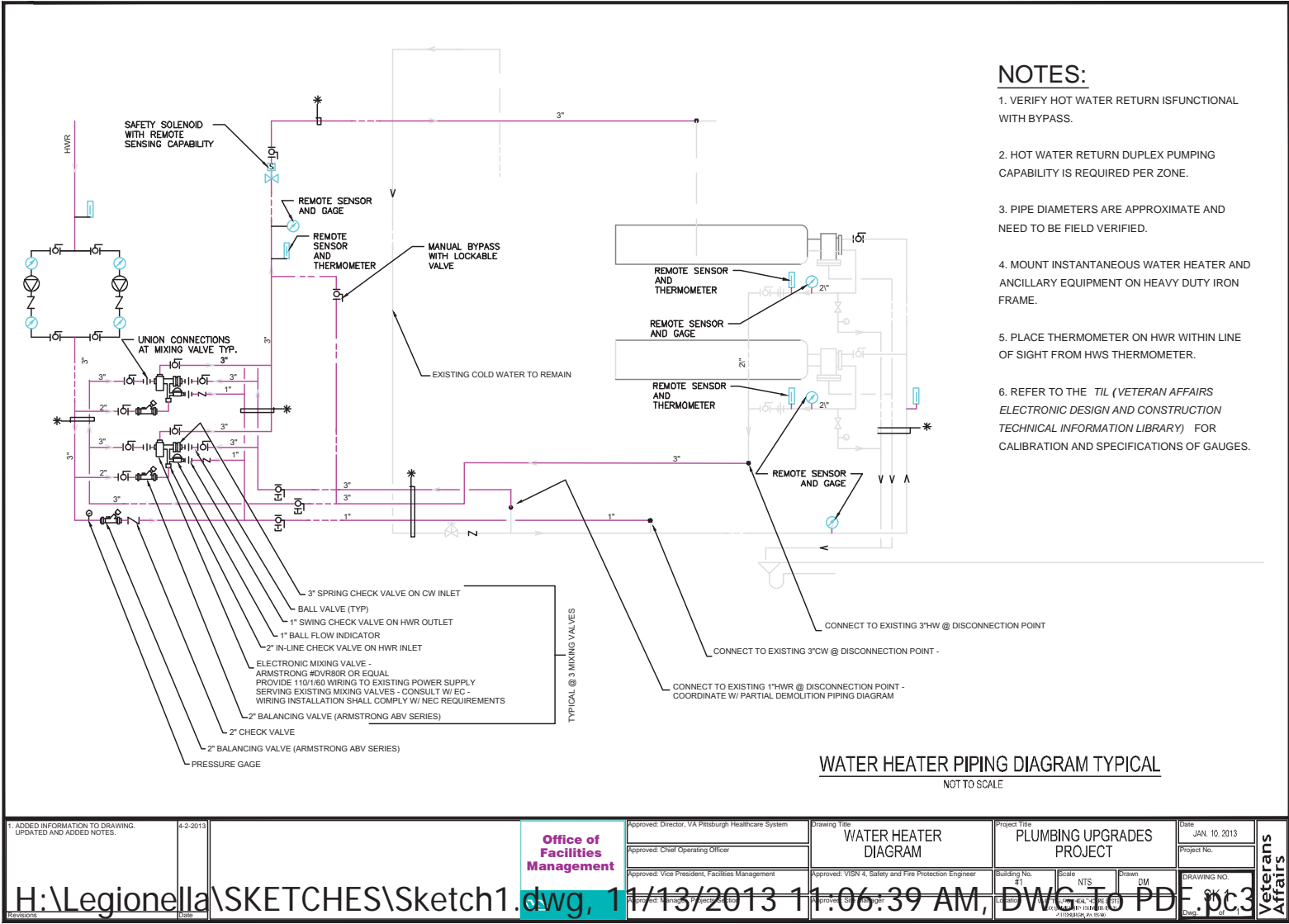
Service	
DCW	Domestic Cold Water
DHW	Domestic Hot Water
DHWR	Domestic Hot Water Return

Floor	As Located
Area	
E	East
W	West
NE	Northeast
NW	Northwest
C	Center
M	Main

Valve No.
000-299
300-599
600-649
650-699
700-849
850-999

Notes:

1. COTR determines "Area" designations based on building layout and assign to contractor. Above Areas conform to Pittsburgh VA UD Building No. 1.
2. COTR determines "Number" ranges based on the relative number of valves to be tagged in each of the Areas, and assign to contractor. Above Numbers conform to Pittsburgh VA UD Building No. 1.
3. Contractor to use even numbers, e.g. 650, 652, etc., to tag valves in sequence. Odd numbers reserved for future use.



NOTES:

- 1. VERIFY HOT WATER RETURN ISFUNCTIONAL WITH BYPASS.
- 2. HOT WATER RETURN DUPLEX PUMPING CAPABILITY IS REQUIRED PER ZONE.
- 3. PIPE DIAMETERS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
- 4. MOUNT INSTANTANEOUS WATER HEATER AND ANCILLARY EQUIPMENT ON HEAVY DUTY IRON FRAME.
- 5. PLACE THERMOMETER ON HWR WITHIN LINE OF SIGHT FROM HWS THERMOMETER.
- 6. REFER TO THE *TIL (VETERAN AFFAIRS ELECTRONIC DESIGN AND CONSTRUCTION TECHNICAL INFORMATION LIBRARY)* FOR CALIBRATION AND SPECIFICATIONS OF GAUGES.

WATER HEATER PIPING DIAGRAM TYPICAL
NOT TO SCALE

1. ADDED INFORMATION TO DRAWING. UPDATED AND ADDED NOTES.

4-2-2013

**Office of
Facilities
Management**

Approved: Director, VA Pittsburgh Healthcare System

Approved: Chief Operating Officer

Approved: Vice President, Facilities Management

Approved: Managing Director, Construction

Drawing Title

**WATER HEATER
DIAGRAM**

Approved: VISM 4, Safety and Fire Protection Engineer

Approved: Safety Manager

Project Title

**PLUMBING UPGRADES
PROJECT**

Building No.

Scale

NTS

Drawn

DM

DRAWING NO.

001

Sheet

1 of 1

Date

JAN. 10. 2013

Project No.

001

Drawn

DM

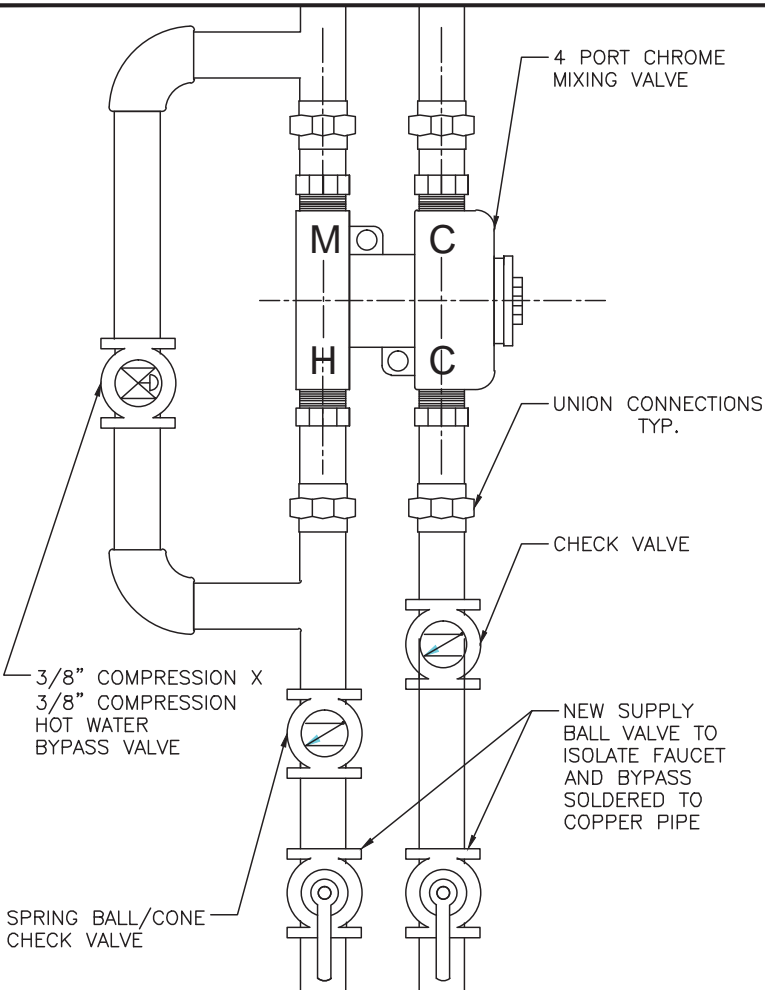
001

Sheet

1 of 1

**Veterans
Affairs**

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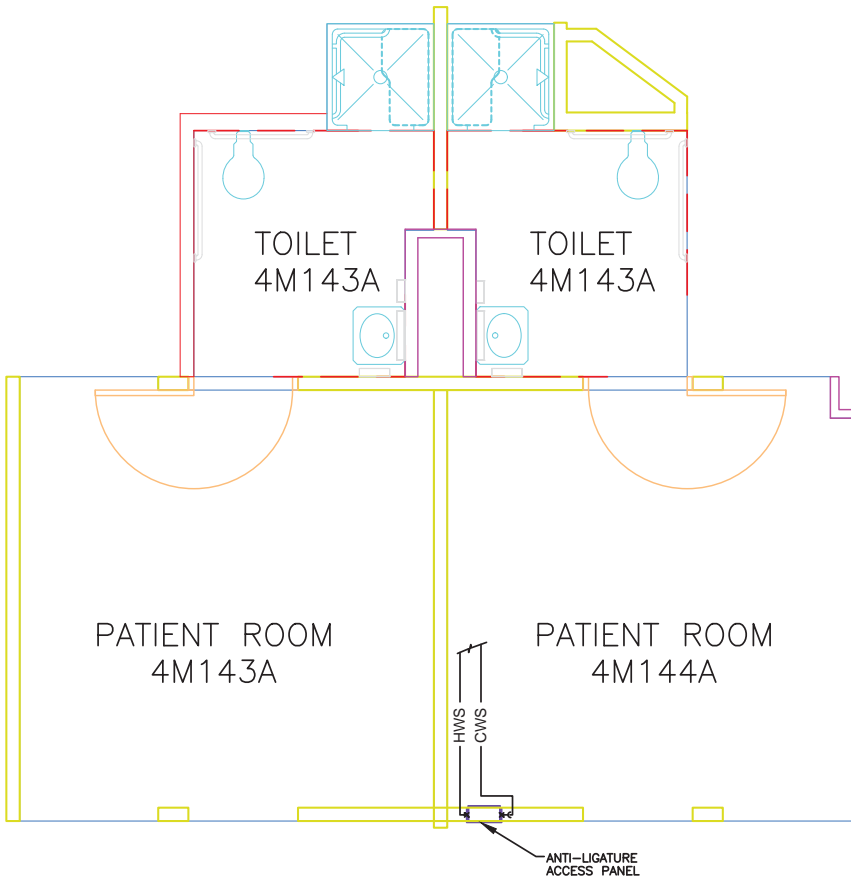
NOTES:

1. 3/8" BYPASS IN LOCKED CABINETS - USE A QUARTER TURN STOP. ALL PIPING SHALL BE RIGID AND SECURE.
2. 3/8" BYPASS EXPOSED - USE A LOOSE KEY CHROME STOP. ALL PIPING SHALL BE RIGID AND SECURE.
3. VERIFY SPRING BALL/CONE TYPE CHECK VALVES ARE USED (NOT SWING TYPE).
4. MIXING VALVES ARE TO BE CHROME PLATED IN ALL APPLICATIONS.
5. REFER TO PLUMBING SYSTEMS MANUAL AND SCHEDULE TO COORDINATE SYSTEMS INSTALLATION WITH EACH LOCATION THAT REQUIRES A SPECIALIZED APPLICATION.

SERIES USG-B=M2

3/8" (10mm) compression and Quick-Connect fitting thermostatic mixing valve maintains and limits hot water to desired selectable temperature between 80°F and 120°F (27°C and 49°C) with flow rates as low as 0.5 gpm (3/8" (10mm) compression fitting thermostatic mixing valves maintain and limit hot water to desired selectable temperature between 80 degrees Fahrenheit and 120 degrees Fahrenheit (27 degrees Celsius and 49 degrees Celsius) with flow rates as low as 0.5 gpm (1.9 lpm) and as high as 2.5 gpm (9.5 lpm). The mixing valve is listed to ASSE Standards 1070 for single fixture applications. The USG-B series uses a double throttling design to control both the hot and cold water supply to the mixed outlet. The superior flow characteristics of this valve provide accurate temperature control (± 3 degrees Fahrenheit) with low pressure drop. As an added feature, the USG-B-M1 incorporates dual check valves to protect against cross-flow and integral screens to filter out debris. Insulate all plumbing.

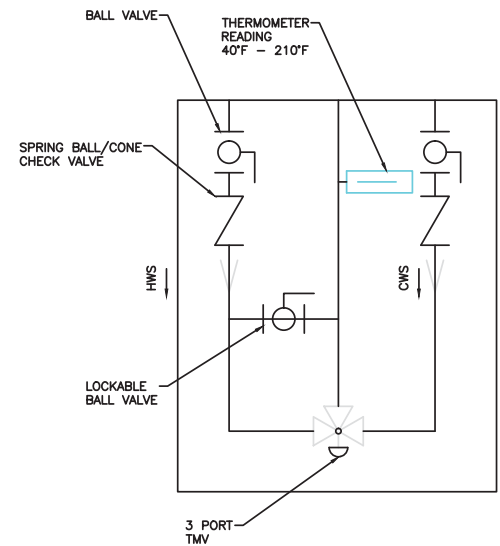
<div>Revisions</div> <div>Date</div>	<div>Office of Facilities Management</div> <div> </div>	Approved: Director, VA Pittsburgh Healthcare System	Sketch Title	Project Title			Date
		Approved: Chief Operating Officer	4-PORT MIXING VALVE	PLUMBING UPGRADES PROJECT			JAN. 10. 2013
		Approved: Vice President, Facilities Management	Approved: VISM 4, Safety and Fire Protection Engineer	Building No. #1	Scale	Drawn	Project No.
		Approved: Manager, Projects Section	Approved: Site Manager	NTS	DM	DRAWING NO.	
		Location			<div>VAHFTSUSG-B=M2-CHROME SYSTEM</div> <div>3/8" (10mm) COMPRESS 1000000 8/10/13</div> <div>4/10/2013 09:00:00 AM</div>		
			<div>SK 2</div> <div>1 of 1</div>			<div>Veterans Affairs</div>	



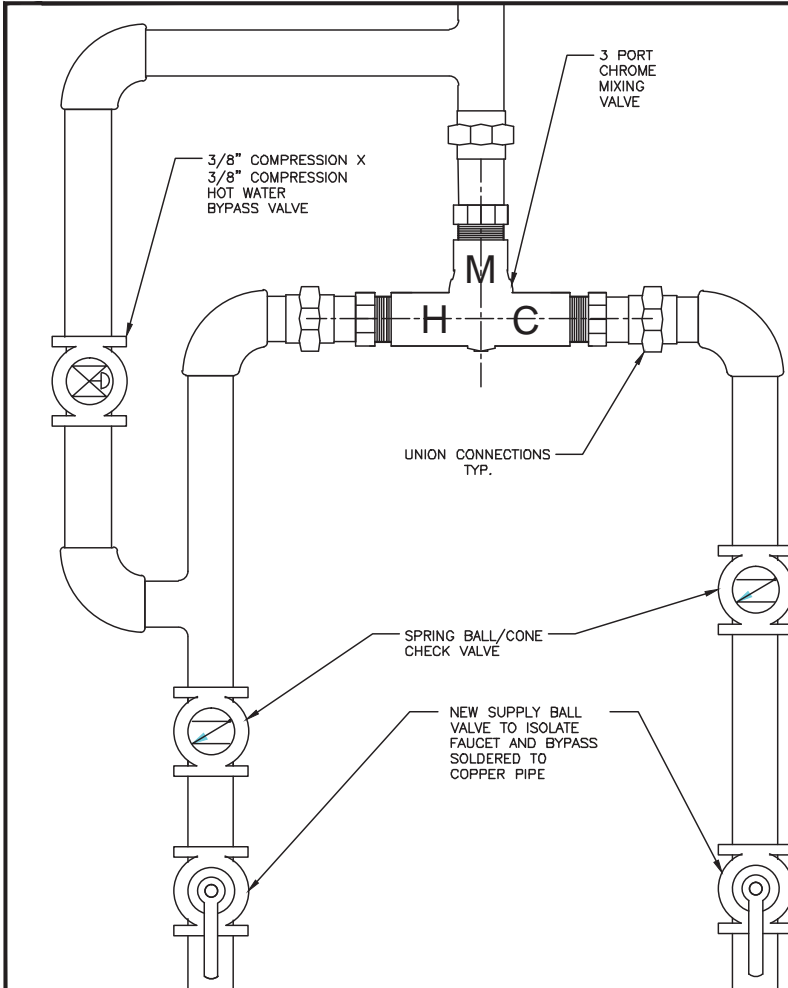
BUILDING 29 TYPICAL

NOTES:

1. INSTALL A THREE PORT MIXING VALVE THAT CONTAINS A HOT WATER BYPASS WITH A CHECK VALVE ON THE HOT AND COLD WATER SIDE, ON THE EXTERIOR WALL OF THE CORRIDOR AREA WITH AN ANTI-LIGATURE ACCESS PANEL AS IDENTIFIED.
2. LOCATION IS NOT INDICATIVE OF ALL POSSIBLE CASES. CONTRACTOR TO FIELD VERIFY SUPPLY LINE ENTRANCE LOCATIONS.
3. NO MORE THAN 2 PATIENT ROOMS PER ANY 3 PORT THERMOSTATIC MIXING VALVE. (SEE DETAIL BELOW)
4. INSTALL LED LIGHT OR SIGNALING DEVICE ON BYPASS THAT INDICATES IT IS IN THE ON POSITION.



Revisions Date	Office of Facilities Management 	Approved: Director, VA Pittsburgh Healthcare System	Drawing Title	Project Title	Date	
		Approved: Chief Operating Officer	MIXING VALVE ASSEMBLY	PLUMBING UPGRADES PROJECT	JAN. 10, 2013	
		Approved: Vice President, Facilities Management	Approved: VISO 4, Safety and Fire Protection Engineer	Building No. #1	Scale NTS	Drawn DM
		Approved: Manager, Projects Section	Approved: Site Manager	Location	VA PITTSBURGH HEALTHCARE SYSTEM 600 UNIVERSITY DRIVE SOUTH PITTSBURGH, PA 15261	DRAWING NO. SK 3 Dwg. 1 of 1



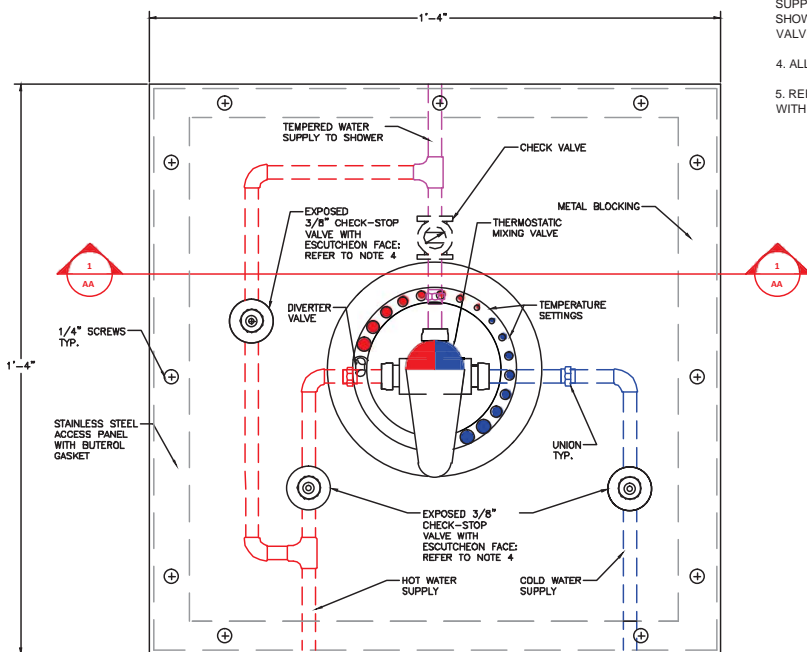
NOTES:

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2. 3/8" BYPASS EXPOSED- USE A LOOSE KEY CHROME STOP. ALL PIPING SHALL BE RIGID AND SECURE.
3. VERIFY SPRING BALL/CONE TYPE CHECK VALVES ARE USED (NOT SWING TYPE).
4. MIXING VALVES ARE TO BE CHROME PLATED IN ALL APPLICATIONS.
5. REFER TO PLUMBING SYSTEMS MANUAL AND SCHEDULE TO COORDINATE SYSTEMS INSTALLATION WITH EACH LOCATION THAT REQUIRES A SPECIALIZED APPLICATION.

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3/8" (10mm) compression and Quick-Connect fitting thermostatic mixing valve maintains and limits hot water to desired selectable temperature between 80°F and 120°F (27°C and 49°C) with flow rates as low as 0.5 gpm (3/8" (10mm) compression fitting thermostatic mixing valves maintain and limit hot water to desired selectable temperature between 80 degrees Fahrenheit and 120 degrees Fahrenheit (27 degrees Celsius and 49 degrees Celsius) with flow rates as low as 0.5 gpm (1.9 lpm) and as high as 2.5 gpm (9.5 lpm). The mixing valve is listed to ASSE Standards 1070 for single fixture applications. The USG-B series uses a double throttling design to control both the hot and cold water supply to the mixed outlet. The superior flow characteristics of this valve provide accurate temperature control (±3 degrees Fahrenheit) with low pressure drop. As an added feature, the USG-B-M1 incorporates dual check valves to protect against cross-flow and integral screens to filter out debris. Insulate all plumbing.

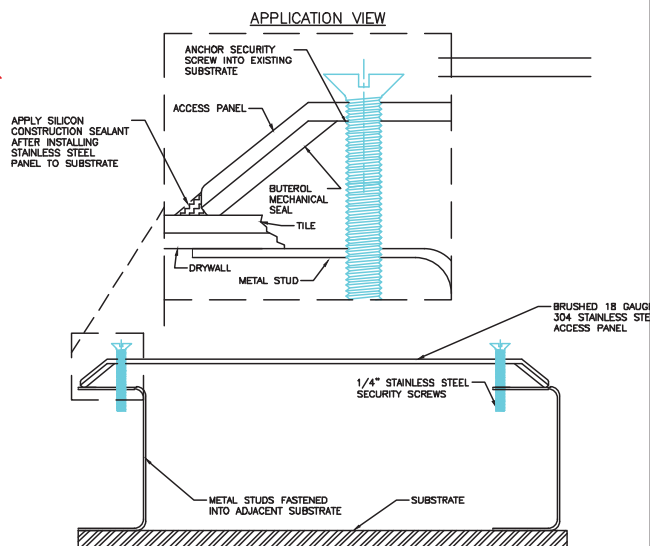
<div> <div>Revisions</div> <div>Date</div> </div>	<div> <div>Office of Facilities Management</div> <div> </div> </div>	<div>Approved: Director, VA Pittsburgh Healthcare System</div>	<div>Sketch Title</div> <div>3-PORT MIXING VALVE</div>	<div>Project Title</div> <div>PLUMBING UPGRADES PROJECT</div>	<div>Date</div> <div>JAN. 10. 2013</div>	<div> <div>Veterans Affairs</div> </div>
		<div>Approved: Chief Operating Officer</div>	<div>Project No.</div>			
		<div>Approved: Vice President, Facilities Management</div>	<div>Approved: VISION 4, Safety and Fire Protection Engineer</div>	<div>Building No. #1</div> <div>Scale NTS</div> <div>Drawn DM</div>	<div>DRAWING NO.</div> <div>SK 4</div>	
		<div>Approved: Manager, Projects Section</div>	<div>Approved: Site Manager</div>	<div>Location</div> <div>VAHFTS-215H-4E-C-10-RE-SYSTEM 1111 MARKET STREET, SUITE 1010 PITTSBURGH, PA 15228</div>	<div>Sheet 1 of 1</div>	



DASHED LINES ARE TO SHOW HIDDEN EQUIPMENT BEHIND ACCESS PANEL.

NOTES:

1. INSULATE ALL PIPING AND VALVES THAT ARE EXPOSED DURING CONSTRUCTION.
2. FIELD VERIFY THAT ALL PLUMBING WORK IS SECURED AND RIGID TO BLOCKING SUBSTRATE.
3. SKETCH SHOWS SUPPLY LINE AT THE UNDERSIDE OF THE SHOWER CONTROL MIXING VALVE. SUPPLY LINES ALSO ARE LOCATED ABOVE AND TO THE SIDE OF THE MIXING VALVES AT OTHER SHOWERS. CONTRACTOR SHALL FIELD VERIFY SUPPLY LINE LOCATIONS AND LOCATE THE T-STOP VALVE ACCORDINGLY, PRIOR TO BEGINNING CONSTRUCTION AT EACH SHOWER.
4. ALL EXPOSED VALVES ARE TO HAVE SECURITY SCREWS WITH CAPS.
5. REFER TO PLUMBING SYSTEMS MANUAL AND SCHEDULE TO COORDINATE SYSTEMS INSTALLATION WITH EACH LOCATION THAT REQUIRES A SPECIALIZED APPLICATION.



1
AA
ACCESS PANEL DETAIL TYPICAL
DETAIL AA: NTS

1. CHANGED PLUMBING LINE-UP

4-3-2013

Office of
Facilities
Management



Approved: Director, VA Pittsburgh Healthcare System

Approved: Chief Operating Officer

Approved: Vice President, Facilities Management

Approved: Manager, Projects Section

Drawing Title
**SHOWER CONTROL AND
BYPASS DETAIL**

Approved: VISN 4, Safety and Fire Protection Engineer

Approved: Site Manager

Project Title
**PLUMBING UPGRADES
PROJECT**

Building No.
#1

Scale
NTS

Drawn
DM

Location
U.S. AIR FORCE MEDICAL CENTER
SEVEN EIGHT ZERO
PITTSBURGH, PA 15206

Date
MAR. 27, 2013

Project No.

DRAWING NO.

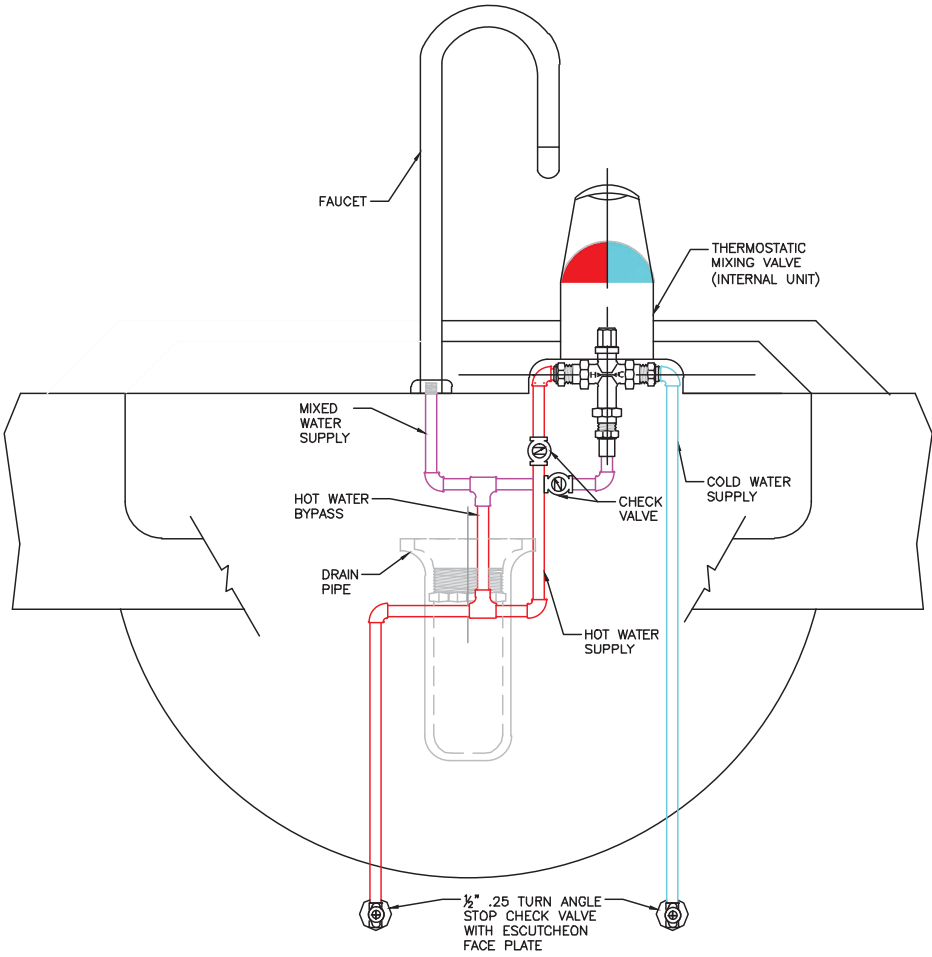
SK 5

Date 1 of 1

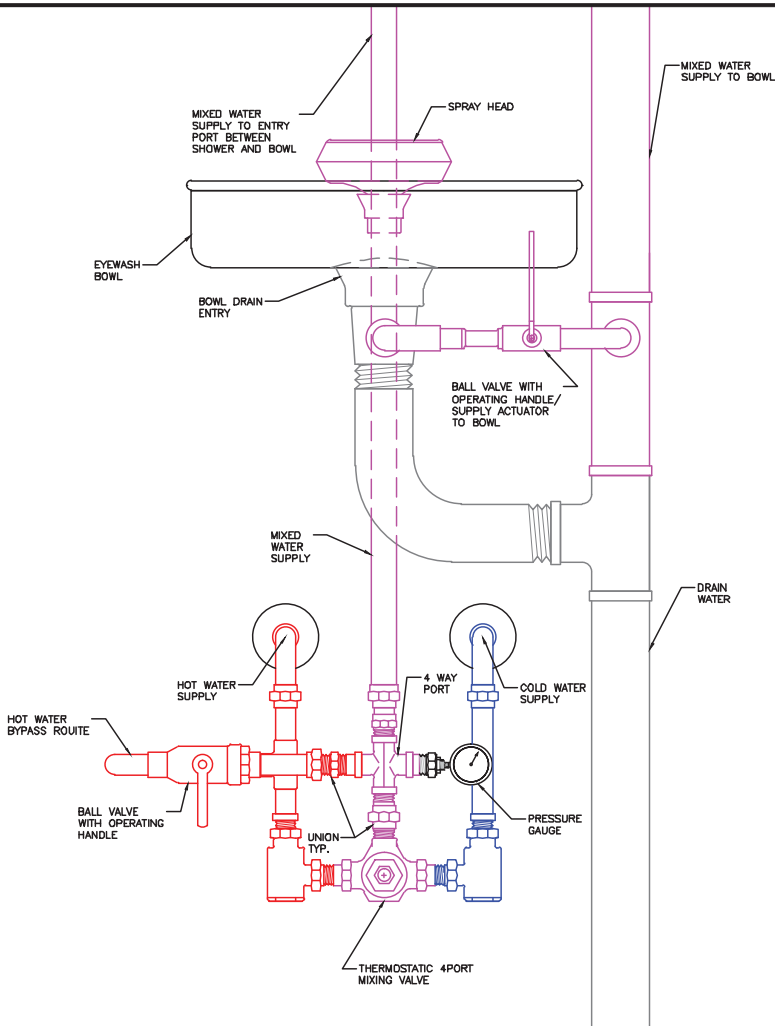
Veterans
Affairs

NOTES:

- 1. INSULATE ALL PIPING AND VALVES THAT ARE EXPOSED DURING CONSTRUCTION.
- 2. FIELD VERIFY THAT ALL PLUMBING WORK IS SECURE AND RIGID TO BLOCKING SUBSTRATE.
- 3. REFER TO PLUMBING SYSTEMS MANUAL AND SCHEDULE TO COORDINATE SYSTEMS INSTALLATION WITH EACH LOCATION THAT REQUIRES A SPECIALIZED APPLICATION.



1. CHANGED PLUMBING LINE-UP.	4-1-2013	<div>Office of Facilities Management</div>	Approved: Director, VA Pittsburgh Healthcare System	Drawing Title	Project Title		Date
			Approved: Chief Operating Officer	SINK CONTROL AND BYPASS DETAIL	PLUMBING UPGRADES PROJECT		MAR. 27, 2013
			Approved: Vice President, Facilities Management	Approved: VISN 4 Safety and Fire Protection Engineer	Building No. #1	Scale NTS	Drawn DM
			Approved: Manager, Projects Section	Approved: Site Manager	Location	VA PITTSBURGH HEALTHCARE SYSTEM 307 ALLEGHENY DRIVE, EXT. 1 PITTSBURGH, PA 15261	
Revisions	Date						DRAWING NO. SK 6
							Page 1 of 1



NOTES:

1. REFER TO PLUMBING SYSTEMS MANUAL AND SCHEDULE TO COORDINATE SYSTEMS INSTALLATION WITH EACH LOCATION THAT REQUIRES A SPECIALIZED APPLICATION.
2. CONTRACTOR MUST VERIFY ALL FIELD CONDITIONS PRIOR TO WORK START AND AFTER WORK COMPLETION.

<div> <div>Revisions</div> <div>Date</div> </div>		<div> <div>Office of Facilities Management</div> <div></div> </div>	Approved: Director, VA Pittsburgh Healthcare System	Drawing Title	Project Title	Date
			Approved: Chief Operating Officer	EYEWASH WITH SHOWER CONTROL BYPASS DETAIL	PLUMBING UPGRADES PROJECT	APR. 1, 2013
			Approved: Vice President, Facilities Management	Approved: VSN & Safety and Fire Protection Engineer	Building No. #1	Project No.
			Approved: Manager, Projects Section	Approved: Site Manager	Scale NTS	Drawn DM
					Location	DRAWING NO.
					VA PITTSBURGH HEALTHCARE SYSTEM	SK 7
					3070 ALVEIGHT DRIVE, ENCL: 1	Draw 1 of 1
					PITTSBURGH, PA 15160	

Plumbing Fixture Standards

Mark	Fixture - Existing	Fixture - Required	Comment
P-103			NC
P-116			NC
P-117			NC
P-202			NC
P-414	Wall Mtd Lav	D	Add Chicago Spout
P-420	Countertop LAV	D	Add Chicago Spout
P-502	Floor Mtd Service Sink	B	
P-505	Wall Mtd Clinic Sink	C	
P-524	SS Double Bowl drop in sink	D	No Chicago Faucet
P-528	Exam Room Sink - Single Bowl	D	Add Chicago Spout
P-610	Drinking Fountain	Bubbler	
FD-C			NC
TP-1			NC

Fixture can not be > 10 LF from the HW circulating return / Supply loop

Names in Spec must match schedule

626-FCABCP

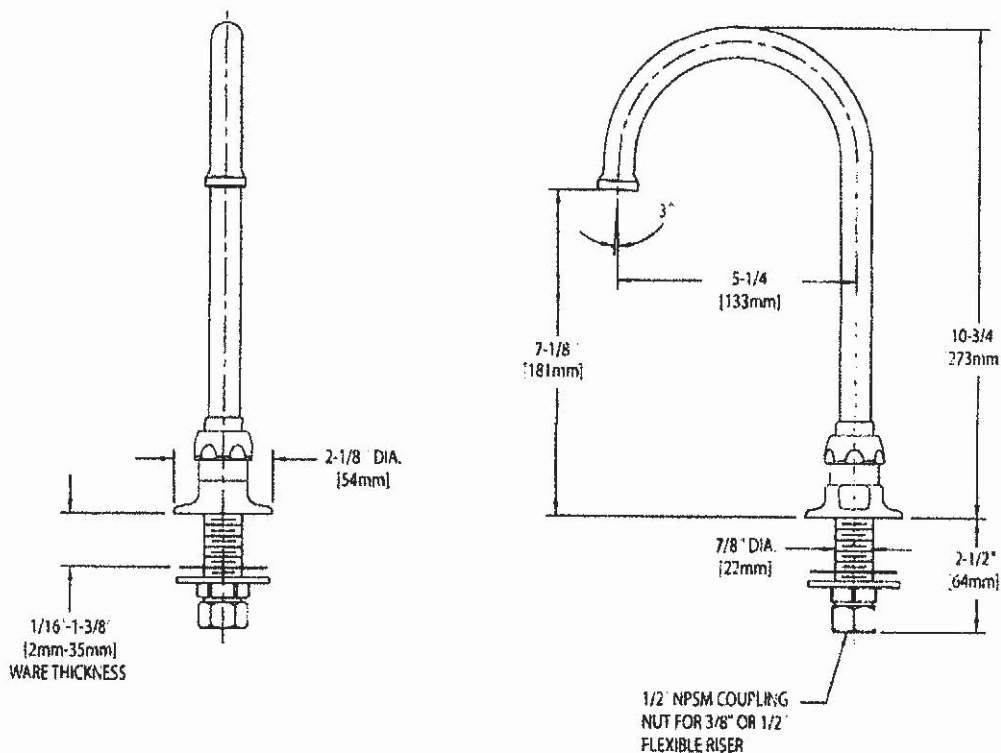
Remote Spouts and Valves

**CHICAGO
FAUCETS**


a Geberit company

Architect/Engineer Specification

Chicago Faucets No. 626-FCABCP, Remote Rigid/Swing Gooseneck Spout with Flow Control, Chrome Plated solid brass construction. 5-1/4" Center to Center Flow Control Rigid / Swing Gooseneck Spout. 1.5 GPM (5.7 L/min) Laminar Flow Control Insert in Spout Inlet. 1/2" NPSM Supply Inlets and Coupling Nut for 3/8" or 1/2" Flexible Riser. ECAST® construction with less than 0.25% lead content by weighted average. CALGreen Compliant. This product is tested and certified to industry standards: ASME A112.18.1/CSA B125.1, Certified to NSF/ANSI 61, Section 9 by CSA, California Health and Safety Code 116875 (AB1953-2006), Vermont Bill S.152, NSF/ANSI 372 Low Lead Content, and California Green Building Standards Code (CALGreen).



Operation and Maintenance

Installation should be in accordance with local plumbing codes. Flush all pipes thoroughly before installation. After installation, remove spout outlet or flow control and flush faucet thoroughly to clear any debris. Care should be taken when cleaning the product. Do not use abrasive cleaners, chemicals or solvents as they can result in surface damage. Use mild soap and warm water for cleaning and protecting the life of Chicago Faucet products. For specific operation and maintenance refer to the installation instructions and repair parts documents that are located at www.chicagofaucets.com.

Chicago Faucets, member of the Geberit Group, is the leading brand of commercial faucets and fittings in the United States, offering a complete range of products for schools, laboratories, hospitals, office buildings, food service, airports and sport facilities. Call 1.800.TECTRUE or 1.847.803.5000 Option 1 for installation or other technical assistance.



2100 South Clearwater Drive
Des Plaines, IL
P: 847/803-5000
F: 847/803-5454
Technical: 800/TEC-TRUE
www.chicagofaucets.com

MECHANICAL FAUCETS

626-FCABCP

**CHICAGO
FAUCETS**

a Geberit company

Remote Spouts and Valves

Product Type

Remote Rigid/Swing Gooseneck Spout with Flow Control

Features & Specifications

- Deck Mount
- 5-1/4" Flow Control Rigid / Swing Gooseneck Spout
- 1/2" NPSM Supply Inlets and Coupling Nut for 3/8" or 1/2" Flexible Riser
- 1.5 GPM (5.7 L/min) Laminar Flow Control Insert in Spout Inlet
- ECAST® design provides durable brass construction with total lead content equal to or less than 0.25% by weighted average
- CFNow! Item Ships in 5 Days

Performance Specification

- Rated Operating Pressure: 20-125 PSI
- Rated Operating Temperature: 40-140°F

Warranty

- Lifetime Limited Faucet Warranty
- 5-Year Limited Cartridge Warranty
- 1-Year Limited Finish Warranty

Codes & Standards

- ASME A112.18.1/CSA B125.1
- Certified to NSF/ANSI 61, Section 9 by CSA
- California Health and Safety Code 116875 (AB1953-2006)
- Vermont Bill S.152
- NSF/ANSI 372 Low Lead Content
- CALGreen

Job Name _____

Item Number _____

Section/Tag _____

Model Specified _____

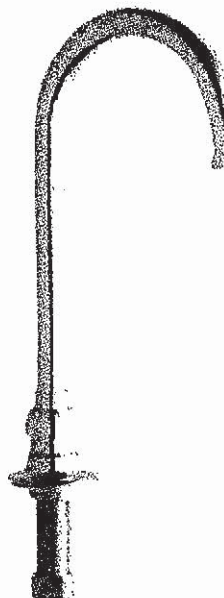
Architect _____

Engineer _____

Contractor _____

☐ Submitted as Shown ☐ Submitted with Variations

Date _____



ECAST

ECAST products are intended for installation where state laws and local codes mandate lead content levels or in any location where lead content is a concern.



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Des Plaines, IL
P: 847/803-5000
F: 847/803-5454
Technical: 800/TEC-TRUE
www.chicagofaucets.com

For Residential and Commercial Applications

Job Name _____ Contractor _____
 Job Location _____ Approval _____
 Engineer _____ Contractor's P.O. No. _____
 Approval _____ Representative _____

Series USG-B Under Sink Guardian®

The USG-B-M2 Under Sink Guardian® 3/8" (10mm) compression and Quick-Connect fitting thermostatic mixing valves maintain and limit hot water to desired selectable temperature between 80°F and 120°F (27°C and 49°C) with flow rates as low as 0.5 gpm (1.9 lpm) and as high as 2.25 gpm (8.5 lpm). The mixing valve is listed to ASSE Standard 1070 for single fixture applications and IAPMO cUPC. The superior flow characteristics of these valves provide temperature control with low pressure drop. As an added feature, the USG-B-M2 incorporates dual check valves to protect against cross-flow and integral screens to filter out debris.

Features

- Installs easily between the stop valves and faucet
- Includes tamper resistant locking nut to prevent accidental mis-adjustment
- Built-in check valves prevent migration of hot water to cold and cold water to hot water piping
- Provided with cap for three port application
- Integral strainer with 40 mesh stainless steel screens to filter out debris

Applications

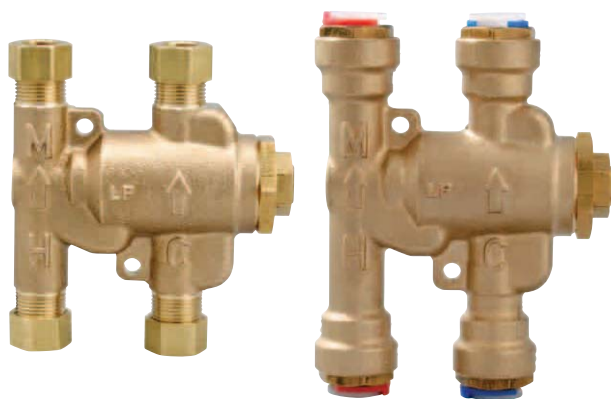
The unit is intended for under sink installation to control the hot water temperature and minimize the occurrence of accidental scalding. The water temperature must be adjusted by the installer using a thermometer to measure the hot water temperature at the faucet outlet. Maximum temperature of 105°F (41°C) is recommended.

Specifications

A Thermostatic Mixing Valve shall be installed on the hot water supply to the fixture. The valve shall be ASSE Standard 1070 and IAPMO cUPC listed and control the temperature of the hot water. It shall have a bronze 4-port, "H" pattern body and shall include integral check valves, integral screens and an adjustment nut with locking feature. The valve shall be provided with 3/8" (10mm) male compression or Quick-Connect fittings. The valve shall be Watts Series USG-B.

For satin chrome finish specify – SC

Noryl® is a registered trademark of SABIC Innovative Plastics®.



USG-B-M2

USG-B-QC-M2

ASSE 1070 and cUPC Listed

Materials

Body: Bronze
 Spring: Stainless steel
 Thermostat: Copper
 O-rings: EPDM
 Piston: Noryl®

Approval



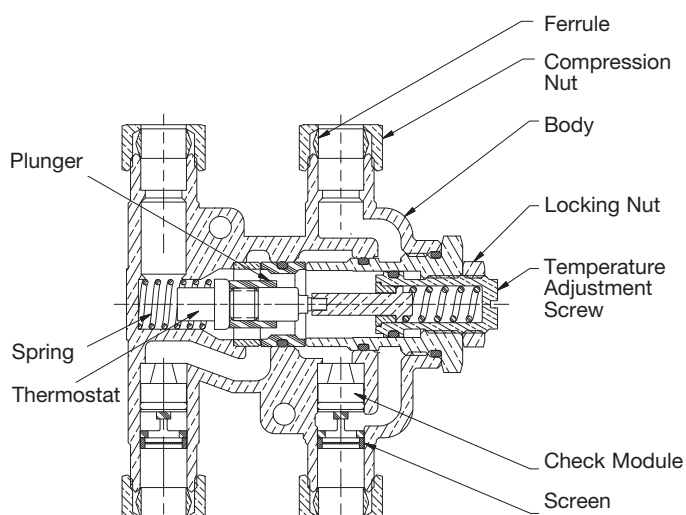
Listing: ASSE 1070, IAPMO cUPC

Approval Standards: ASSE 1070, CSA B125.3

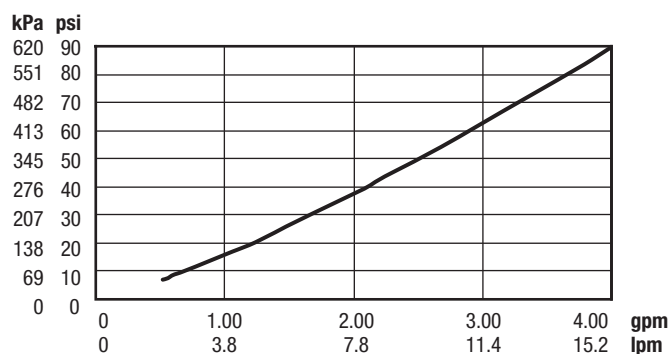
Pressure – Temperature

Minimum supply pressure: 30psi (207 kPa)
 Hot inlet temperature: 120°F-180°F (49°C-82°C)
 Cold inlet temperature: 39°F-80°F (3.8°C-27°C)
 Minimum inlet temperature differential: 5°F (2.8°C)
 Temperature range: 80°F-120°F (27°C-49°C)
 Maximum pressure: 150psi (10.3 bar)
 Minimum flow: 0.5 gpm (1.9 lpm)

Basic Construction

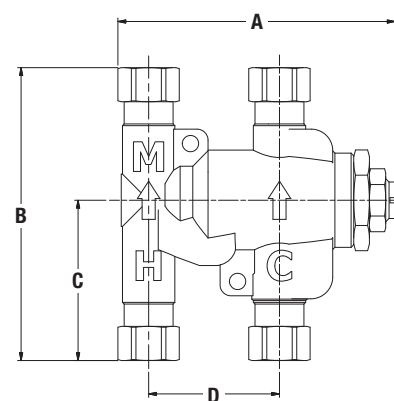


Flow Capacity



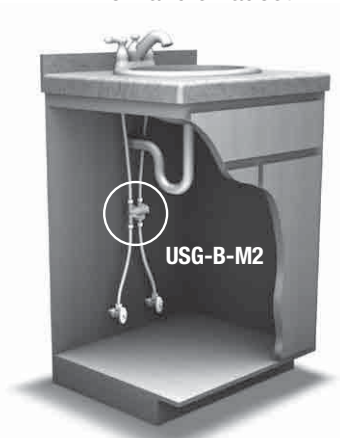
Dimensions – Weights

MODELS	SIZE	DIMENSIONS								WEIGHT	
		A		B		C		D			
		in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
USG-B-M2	3/8" Comp.	3 1/16	81	3 3/8	85	1 13/16	47	1 1/2	38	.82	.37
USG-B-SC-M2	3/8" Comp.	3 1/16	81	3 3/8	85	1 13/16	47	1 1/2	38	.82	.37
USG-B-QC-M2	3/8" Quick-Connect	3 1/4	83	4	102	2 1/4	57	1 1/2	38	1.05	.48
USG-B-QC-SC-M2	3/8" Quick-Connect	3 1/4	83	4	102	2 1/4	57	1 1/2	38	1.05	.48

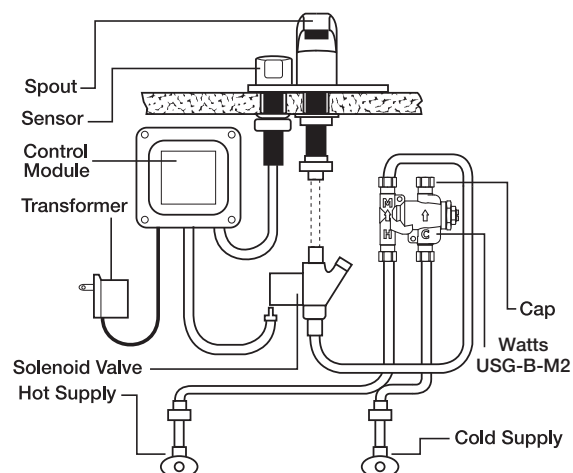


Typical Installations

Two Handle Faucet



Sensor Faucet



NOTE: This information 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.



A Watts Water Technologies Company



ISO 9001-2008
CERTIFIED

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Canada: Tel. (905) 332-4090 • Fax: (905) 332-7068 • www.wattscanada.ca