

# Site Construction, 12th Elementary School

<b>Category:</b>	Elementary, Pre Schools	<b>Project ID #:</b>	1004743545
<b>Street Address:</b>	315 Flyfoot Dr. Stephenson VA 22656	<b>Staff Estimate Value</b>	\$250,000.00
<b>County:</b>	Frederick	<b>Stage:</b>	BIDDING - Bid Date Set
<b>Bid Date:</b>	7/10/2018 , 02:00PM		
<b>Architect:</b>	Grimm + Parker Architects - Tysons		
<b>Documents Available:</b>	Plans, Specs available in Insight		Plans available from ABC Imaging
<b>Last Update:</b>	6/9/2018		Ascent Engineering Group was added as Plumbing Engineer

## Personal Notes

User	Note	Update Date	Private?
Adam Sweet	1,500 GALLON GREEN TURTLE GREASE INTERCEPTOR	6/11/2018	False

## Project Events

Event	Date	Details
Bid Date	7/10/2018 , 02:00PM	Project has been Re-Bid. Bids shall be received according to the time stamp clock in Room #3, to the attention of Kristy Varda, Purchasing Supervisor, Frederick County Public Schools, Room #3, 1415 Amherst Street, Winchester, VA 22601, at which time they will be opened publicly and read aloud. Bids received after this time will not be accepted. All interested parties are invited to attend.
End Date	5/31/2020	
Pre-Bid Meeting	6/20/2018 , 03:00PM	A pre-bid conference will be held at the Project site located at 315 Flyfoot Drive, Stephenson, VA 22656. This will provide an opportunity to answer questions and explain any items requiring further clarification. In the event of rain, the pre-bid conference will be relocated to the Frederick School Board Office, located at 1415 Amherst Street, Winchester, VA 22601.
Start Date	8/9/2018	Actual Start Date

## Notes

**Scope** Site work for an educational facility in Stephenson, Virginia. Completed plans call for site work for a 84,375-square-foot educational facility. You are invited to bid on a general contract for the 12th Elementary School Sitework located at 315 Flyfoot Drive, Stephenson, VA 22656 for the Frederick County School Board. The project consists of all sitework for the new 12th Elementary School. All bids shall be on a lump sum basis. Payment is non-refundable. Bids shall be accompanied by a bid guarantee of not less than 5% of the amount of the bid, which may be a certified check or cashier's check, or a bid bond of the amount of the bid, made payable to Frederick County School Board. A performance bond and a material and labor bond will be required and the cost shall be included in the bid price. Bidders are required under Title 54.1, Chapter 11, Code of Virginia (1950), as amended, to be licensed as a "Class A Contractor" before submitting a bid of one hundred twenty thousand (\$120,000) dollars or more; or to be licensed as a "Class B Contractor" before submitting a bid of seven thousand five hundred (\$7,500) dollars or more but less than one hundred twenty thousand (\$120,000) dollars. Each Bidder will be required to give their State Registration Number on their proposal. All non-resident contractors and subcontractors bidding the work described herein shall register with the Department of Labor and Industry under the provisions of Section 40.1-30 of the Code of Virginia. The Owner reserves the right to waive irregularities and to reject any or all bids. Bids shall be binding for a period of sixty (60) days from the date on which bids are opened.

**Notes** Bid Date: 07/10/2018 02:00PM Project has been Re-Bid. Bids shall be received according to the time stamp clock in Room #3, to the attention of Kristy Varda, Purchasing Supervisor, Frederick County Public Schools, Room #3, 1415 Amherst Street, Winchester, VA 22601, at which time they will be opened publicly and read aloud. Bids received after this time will not be accepted. All interested parties are invited to attend. Pre-Bid Meeting: 06/20/2018 03:00PM A pre-bid conference will be held at the Project site located at 315 Flyfoot Drive, Stephenson, VA 22656. This will provide an opportunity to answer questions and explain any items requiring further clarification. In the event of rain, the pre-bid conference will be relocated to the Frederick School Board Office, located at 1415 Amherst Street, Winchester, VA 22601. Development include(s): Site Work

**Details** [Division 2]: Hazardous Material Abatement, Clearing, Earthwork, Grading, Slope Protection & Erosion Control, Paving & Surfacing, Water Systems, Sewerage & Drainage, Landscaping. [Division 3]: Architectural Concrete. [Division 4]: Clay Unit Masonry, Stone, Marble. [Division 5]: Structural Steel, Metal Joists, Metal Decking, Cold Formed Metal Framing, Metal Fabrications, Metal Stairs, Metal Railings, Expansion Joints. [Division 6]: Rough Carpentry, Finish Carpentry, Architectural Woodwork, Custom Casework. [Division 7]: Waterproofing, Insulation, Fireproofing, Firestopping, Manufactured Roofing & Siding, Membrane Roofing. [Division 8]: Metal Doors, Wood Doors, Plastic Doors, Coiling Doors and Grilles. Sectional Overhead Doors. Entrances & Storefronts. Hardware. Glass & Glazing.

[Division 9]: Ceiling Suspension Systems, Drywall/Gypsum, Tile, Acoustical Ceilings, Acoustical Walls, Wood Flooring, Resilient Flooring, Carpet, Painting, Wall Coverings. [Division 10]: Visual Display Boards, Compartments & Cubicles, Louvers & Vents, Wall & Corner Guards, Flagpoles, Directories, Interior Signs, Lockers, Protective Covers, Storage Shelving, Toilet & Bath Accessories. [Division 11]: Audio-Visual Equipment, Parking Control Equipment, Loading Dock Equipment, Food Service Equipment, Athletic Equipment. [Division 12]: Manufactured Casework, Window Treatment, Rugs & Mats. [Division 13]: Ground Storage Tanks, Elevated Storage Tanks, Underground Storage Tanks. [Division 14]: Elevators, Wheelchair/People Lifts. [Division 15]: Mechanical Insulation, Fire Protection Systems, Plumbing Piping, Plumbing Fixtures, Steam & Steam Condensate Piping, Boilers, Cooling Towers, Heat Pumps, Air Handling, Ductwork, Testing & Balancing. [Division 16]: Service/Distribution, Interior Lighting, Exterior Lighting, Standby Power Generator Systems, Alarm & Detection Systems, Clock/Program Systems, Voice & Data Systems, Public Address Systems, Television Systems.

## Additional Details

<u>Listed On:</u>	4/20/2018	<u>Floor Area:</u>	84,375 Square Feet
<u>Contract Type:</u>		<u>Work Type:</u>	Alteration
<u>Stage Comments 1:</u>		<u>Floors Below Grade:</u>	
<u>Stage Comments 2:</u>		<u>Owner Type:</u>	City
<u>Bid Date:</u>	7/10/2018	<u>Mandatory Pre Bid Conference:</u>	
<u>Invitation #:</u>	18018, 034-56-00-100, 07-16-0271,21566	<u>Commence Date:</u>	8/9/2018
<u>Structures:</u>	1	<u>Completion Date:</u>	5/31/2020
<u>Single Trade Project:</u>		<u>Site Area:</u>	
<u>Floors:</u>		<u>LEED Certification Intent:</u>	
<u>Parent Project ID:</u>		<u>Units:</u>	
<u>Parking Spaces:</u>			

## Project Participants

Company Role	Company Name	Contact Name	Address	Phone	Email	Fax
Consultant	Food Service Consultants Studio		9432 Atlee Commerce Blvd #L, Ashland, VA 23005	(804) 550-2090		
Mechanical Engineer	CMTA, Inc - Lexington		2429 Members Way , Lexington, KY 40504	(859) 253-0892		(859) 231-8357
Plans Representative	ABC Imaging		8474 Tyco Rd. c. , Vienna, VA 22182	(703) 848-2997		
Plumbing Engineer	Ascent Engineering Group		5228 Valleypointe Pkwy, Suite 4, Roanoke, VA 24019	(540) 265-4444		(540) 265-4445
Owner	Frederick County Public Schools	David Sovine	1415 Amherst St. , Winchester, VA 22604	(540) 662-3888	<a href="mailto:sovined@email.frederick.k12.va.us">sovined@email.frederick.k12.va.us</a>	(540) 722-2788
Architect	Grimm + Parker Architects - Tysons	David Wolf	8609 Westwood Center Dr. Suite 425, Tysons, VA 22182	(703) 903-9100	<a href="mailto:dwolf@gparch.com">dwolf@gparch.com</a>	(703) 903-9755
Structural Engineer	Lynch Mykins - Richmond Office	Garrett Braun	1503 Santa Rosa Rd Suite 210, Richmond, VA 23229	(804) 346-3935		(804) 346-1171
Geotechnical Consultant	Triad Engineering Inc.	Randy Moulten	200 Aviation Dr. , Winchester, VA 22602	(540) 667-9300		(540) 667-2260
Civil Engineer	Pennoni Associates Inc. / Winchester	Ronald A. Mislowsky	117 E. Piccally St. Ste. 200, Winchester, VA 22601	(540) 667-2139		(540) 665-0493

## Bidders

Company Name	Contact Name	Added Date	Address	Phone	Email	Bidding Role	Bid Rank	Bid Value	Fax Number
Perry Engineering	Denise Rudolph	4/30/2018	1945 Millwood Pike, Winchester, VA 22602	(540) 667-4310	<a href="mailto:drudolph@perryeng.com">drudolph@perryeng.com</a>	Prospective Bidder - General Contractor			(540) 667-7618
Laurita, Inc.	Ott Meale	4/30/2018	302 Dents Run Road , Morgantown, WV 26501	(304) 296-7531	<a href="mailto:ott@laurita.com">ott@laurita.com</a>	Prospective Bidder - General Contractor			(304) 292-4606
Centennial Contractors	Kyle Conklin	4/30/2018	11111 Sunset Hills Road.	(703) 885-4600	<a href="mailto:kconklin@cc-inc.com">kconklin@cc-inc.com</a>	Prospective Bidder -			(703) 885-4601

Enterprises Inc.			Suite 350, Reston, VA 20190			General Contractor			
Pine Knoll Construction	Ron Whitfield	4/30/2018	115 Jeffs Way, Clear Brook, VA 22624	(540) 667-3092	<a href="mailto:ron@pineknollconstruction.com">ron@pineknollconstruction.com</a>	Prospective Bidder - General Contractor			
J. R. Caskey, Inc	Ginger Caskey	4/30/2018	P. O. Box 305, Oilville, VA 23129	(804) 784-8001	<a href="mailto:gec@ircaskey.com">gec@ircaskey.com</a>	Prospective Bidder - General Contractor			(804) 784-8003
DeBorn Construction Inc.	Debbie Munoz	4/30/2018	3743 Wertz Dr. , Dale City, VA 22193	(703) 298-7642	<a href="mailto:debornconstruction@verizon.net">debornconstruction@verizon.net</a>	Prospective Bidder - General Contractor			(703) 580-0793
Kiewit Building Group	Andrew Grimball	4/30/2018	1765 Greensboro Station Place, Tower 1, Suite 400, McLean, VA 22102	(703) 415-2689	<a href="mailto:andrew.grimball@kiewit.com">andrew.grimball@kiewit.com</a>	Prospective Bidder - General Contractor			(703) 414-9869
Howard Shockey & Sons, Inc.	Karen Butler	4/30/2018	1057 Martinsburg Pike, Winchester, VA 22603	(540) 667-7700	<a href="mailto:kbutler@howardshockey.com">kbutler@howardshockey.com</a>	Prospective Bidder - General Contractor			(540) 678-3450
Kanawha Stone Company	Eileen Prosser	4/30/2018	9986 Spotswood Trail, McGaheysville, VA 22840	(540) 289-1414	<a href="mailto:estimating@kanawhastone.com">estimating@kanawhastone.com</a>	Prospective Bidder - General Contractor			(540) 289-1415
Pastore Construction	Matthew Pastore	4/30/2018	115 Greystone Drive, Front Royal, VA 22630	(540) 671-4772	<a href="mailto:matt@pastoredev.com">matt@pastoredev.com</a>	Prospective Bidder - General Contractor			

## Planholders

Company Name	Contact Name	Address	Phone	Email	Fax
Graybar - Charleston	Susan Pastor	1010 Young St. , Charleston, WV 25301	(304) 206-3600		(304) 344-0324
Viola Engineering	Tim Price	172-2 Imboden Drive, Winchester, VA 22603	(540) 313-4270		(540) 313-4217
Branch Civil	Molly Roland	1100 Boulders Parkway Suite 600, Richmond, VA 23225	(804) 625-8333	<a href="mailto:molly.roland@branchcivil.com">molly.roland@branchcivil.com</a>	
B F Wise & Sons	Lisa Lane	3890 Ridgeview Rd , Reva, VA 22735	(540) 547-2918		

## Contracts

Classification	Conditions	Bonding	Bid Date	Bids To	Bid Type
General Contractor		Bid:5.00%,Perf:100.00%,Pay:100.00%	7/10/2018	Owner	Open Bidding

## History

User	Viewed	First Viewed Date	Currently Tracked?	Date Tracked
Adam Sweet	True	6/11/2018	True	6/11/2018

### DRAIN SCHEDULE

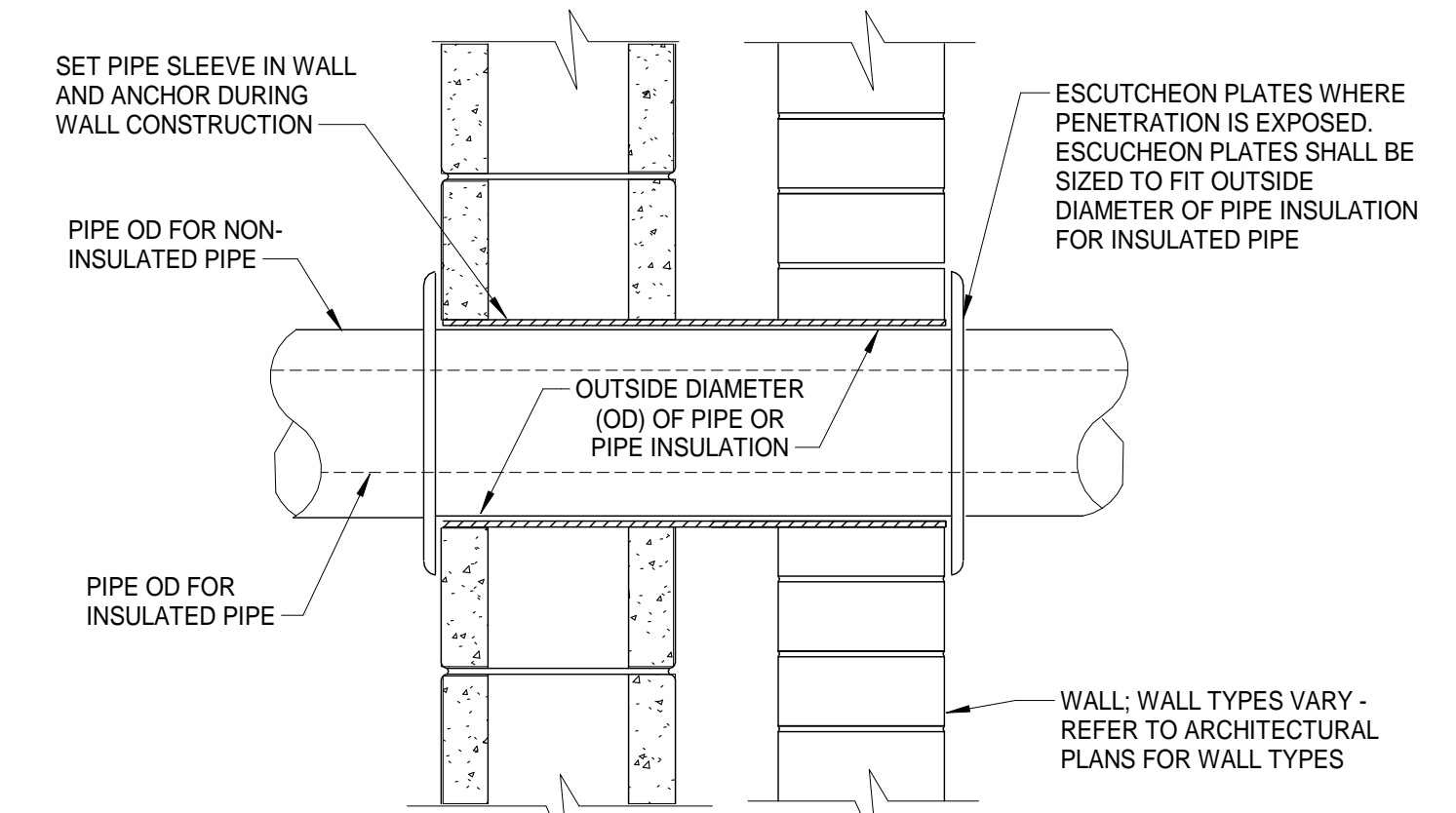
TAG	EQUIPMENT DESCRIPTION	STRAINER SIZE (INCHES)	BASIS OF DESIGN		SCHEDULE NOTES
			MANUFACTURER	MODEL #	
FD-A	FLOOR DRAIN, GENERAL USE	8" ROUND	JOSAM	30000-8A	(1)
FD-B	FLOOR DRAIN, GENERAL USE	8" ROUND	JOSAM	30000-8A-F4	(1), (8)
FD-C	FLOOR DRAIN, EQUIPMENT USE	12" ROUND	JOSAM	32100-TG	(1), (3)
FD-D	FLOOR DRAIN, EQUIPMENT USE	12" SQUARE	JOSAM	37830-7	(1), (2)
FSA	FLOOR SINK, KITCHEN AREA	12" SQUARE	JOSAM	49680A-LF-NB-43	(1), (7)
FS-B	FLOOR SINK, KITCHEN AREA	8" SQUARE	JOSAM	49620A-LF-NB-43	(1), (7)
FSC	FLOOR SINK, KITCHEN AREA	18" x 24"	ADVANCE TABCO	FTG-1824	(1)
RD-A	ROOF DRAIN	15" ROUND DOME	JOSAM	21500-AE-22	(4)
RD-B	ROOF DRAIN	12" ROUND DOME	JOSAM	22010-1-66	(4)
SRD	SECONDARY ROOF DRAIN	15" ROUND DOME	JOSAM	21500-AE-16-22	(4), (5)
OSD	OPEN SITE DRAIN	9" ROUND EXT RIM	JOSAM	30000-9E1-J	(1), (6)

**SCHEDULE NOTES:**  
 (1) SET DRAIN GRATE FLUSH WITH FINISHED ELEVATION OF SLOPED FLOOR LOW POINT.  
 (2) PROVIDE REMOVABLE SEDIMENT BUCKET.  
 (3) PROVIDE DOUBLE DRAINAGE FLANGED TRACTOR GRATE.  
 (4) PROVIDE INSTALLATION AS REQUIRED TO MAINTAIN ROOFING SYSTEM WARRANTY.  
 (5) PROVIDE 2" INTERNAL WATER DAM.  
 (6) PROVIDE ADJUSTABLE STRAINER BACKWATER VALVE.  
 (7) PROVIDE ACID RESISTANT INTERNAL DOME STRAINER.  
 (8) PROVIDE 4" ROUND FUNNEL ATTACHED TO DRAIN GRATE. TERMINATE INDIRECT WASTE TO FUNNEL THROUGH AIR GAP.  
 (9) PROVIDE NO-HUB SIDE OUTLET CONNECTION.

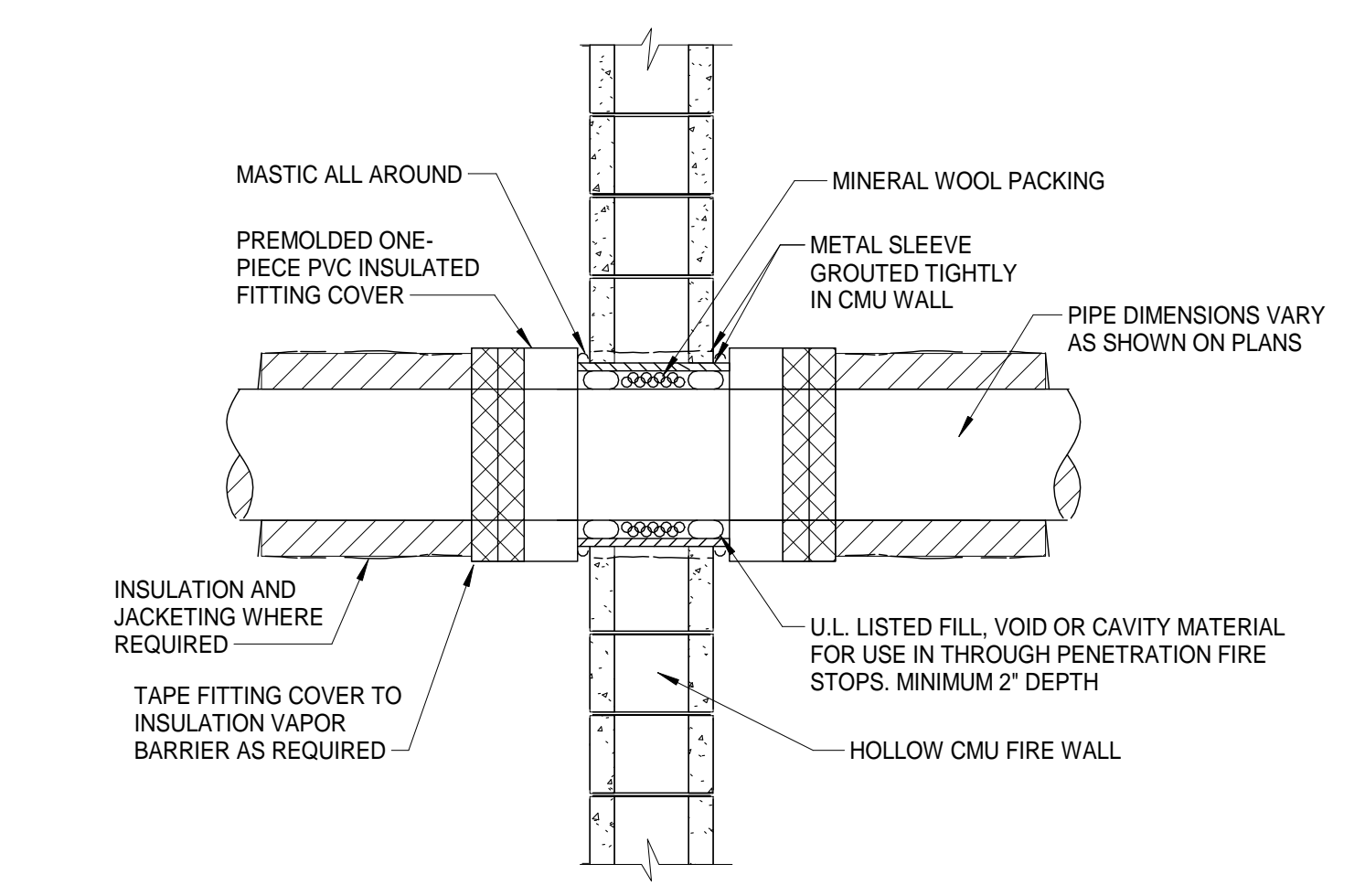
### PUMP SCHEDULE

TAG	LOCATION	SYSTEM	BASIS OF DESIGN		PUMP TYPE	FLOW RATE (GPM)	TOTAL HEAD (FEET)	SUCTION SIZE (IN)	DISCHARGE SIZE (IN)	MOTOR DATA				SCHEDULE NOTES	
			MANUFACTURER	MODEL #						SPEED (RPM)	POWER	VOLTS	PHASE		HERTZ
CP-1	B117 MECHANICAL	HWR	GRUNDFOS	MAGNA3 32-100 (N)	INLINE	14	30	1"	1"	N/A	1/5 HP	115	1	60	-
CP-2 / CP-3	B117 MECHANICAL	STORAGE	LAARS	(1)	INLINE	-	-	1-1/2"	1-1/2"	-	-	-	-	-	(1)
SP-1	ELEVATOR PIT	SUMP PUMP	STANCOR	SE-50	SUBMERSIBLE	50	22	N/A	2"	3450	0.5 HP	115	1	60	(2), (3)

**SCHEDULE NOTES:**  
 (1) STORAGE TANK CIRCULATING PUMPS ARE PROVIDED AS A PART OF THE WATER HEATER PACKAGE.  
 (2) COMPONENTS OF THE SUMP PUMP SYSTEM OTHER THAN THE DISCHARGE PIPE MUST BE LOCATED IN THE PIT SUMP BELOW THE SUMP GRATE OR COVER.  
 (3) OIL SENSING PROBE MAY BE OMITTED IF APPROVED BY THE AHJ. PROVIDE CONTROL PANEL AND ALARM SYSTEM EQUAL TO BASIS OF DESIGN SYSTEM PACKAGE.



**NON-RATED WALL PIPE SLEEVE DETAIL**  
NO SCALE



**FIRE WALL PIPE PENETRATION DETAIL**  
NO SCALE

### BACKFLOW PREVENTER SCHEDULE

TAG	DEVICE TYPE	MANUFACTURER	MODEL #	CONNECTION SIZE (IN)	PEAK DESIGN PRESSURE DROP (PSI)	PEAK DESIGN FLOW RATE (GPM)	SCHEDULE NOTES
BFP-1	RPZ	WATTS	957Z	4	8	220	(1), (2)
BFP-2	RPZ	WATTS	LF909M1QT	1 1/2"	8	45	(1), (2)
BFP-3	RPZ	WATTS	LF909QT	1"	12	20	(1), (2)

**SCHEDULE NOTES:**  
 (1) ASSE 1013 COMPLIANT.  
 (2) PROVIDE MANUFACTURER'S AIR GAP FITTING, AND ROUTE INDIRECT WASTE LINE FULL SIZE FROM AIR GAP OUTLET TO NEAREST FLOOR DRAIN OR AS INDICATED.

### TRAP PRIMER SCHEDULE

TAG	DEVICE TYPE	MANUFACTURER	MODEL #	CONNECTION SIZE (IN)	ACTION PRESSURE DROP (PSI)	ELECTRICAL	SCHEDULE NOTES
TP-1	ELECTRIC	PPP	SMP-500	1/2"	N/A	120V / 1PH PLUS & GROUND	(1), (2), (3), (4)
TP-2	ELECTRIC	PPP	PTS-6	3/4"	N/A	120V / 1PH HARDWIRED	(1), (2), (4)

**SCHEDULE NOTES:**  
 (1) ASSE 1044 COMPLIANT.  
 (2) MOUNT ABOVE CEILING UNLESS NOTED OTHERWISE. PROVIDE ACCESS DOOR EQUAL TO JAY R. SMITH #4782 FOR MAINTENANCE ACCESS AS REQUIRED.  
 (3) PROVIDE PPP HDL-4422 DISTRIBUTION UNIT TO PRIME MULTIPLE 'P' TRAPS.  
 (4) LABEL EACH PRIMER OUTLET TUBE IDENTIFYING WHICH TRAP IT PRIMES.

### INTERCEPTOR SCHEDULE

TAG	EQUIPMENT DESCRIPTION	INLET & OUTLET SIZE (INCHES)	TANK VOLUME (GALLONS)	MAXIMUM FLOW RATE (GPM)	GREASE / SOLIDS CAPACITY (GALLONS)	TANK CONSTRUCTION MATERIAL	BASIS OF DESIGN	SCHEDULE NOTES
G-1	PASSIVE GREASE INTERCEPTOR, BURIED	4	1500	200	819 / 540	FIBERGLASS	GREEN TURTLE	GMC1500 (1)

**SCHEDULE NOTES:**  
 (1) PROVIDE BEDDING, CONCRETE BASE, AND ANTI FLOAT ANCHORING ASSEMBLY IN STRICT COMPLIANCE WITH THE MANUFACTURER'S DOCUMENTATION.

### WATER SOFTENER SCHEDULE

TAG	EQUIPMENT DESCRIPTION	INLET & OUTLET SIZE (INCHES)	FLOW RATE (GPM)	PRESSURE DROP (PSI)	BINE TANK SALT FILL (LBS)	SOFTENING CAPACITY (GPM)	POUNDS SALT PER REGENERATION	BASIS OF DESIGN	SCHEDULE NOTES		
WS-1	DUPEX ALTERNATING WATER SOFTENER WITH FLOW METER	3	158 / 212	15 / 25	2200	450K	300K	225	90	WATTS	M4112TA-39NT (1)

**SCHEDULE NOTES:**  
 (1) ROUTE SOFTENER SYSTEM DRAIN FULL SIZE TO FLOOR DRAIN, TERMINATE THROUGH AIR GAP.

### MIXING VALVE SCHEDULE

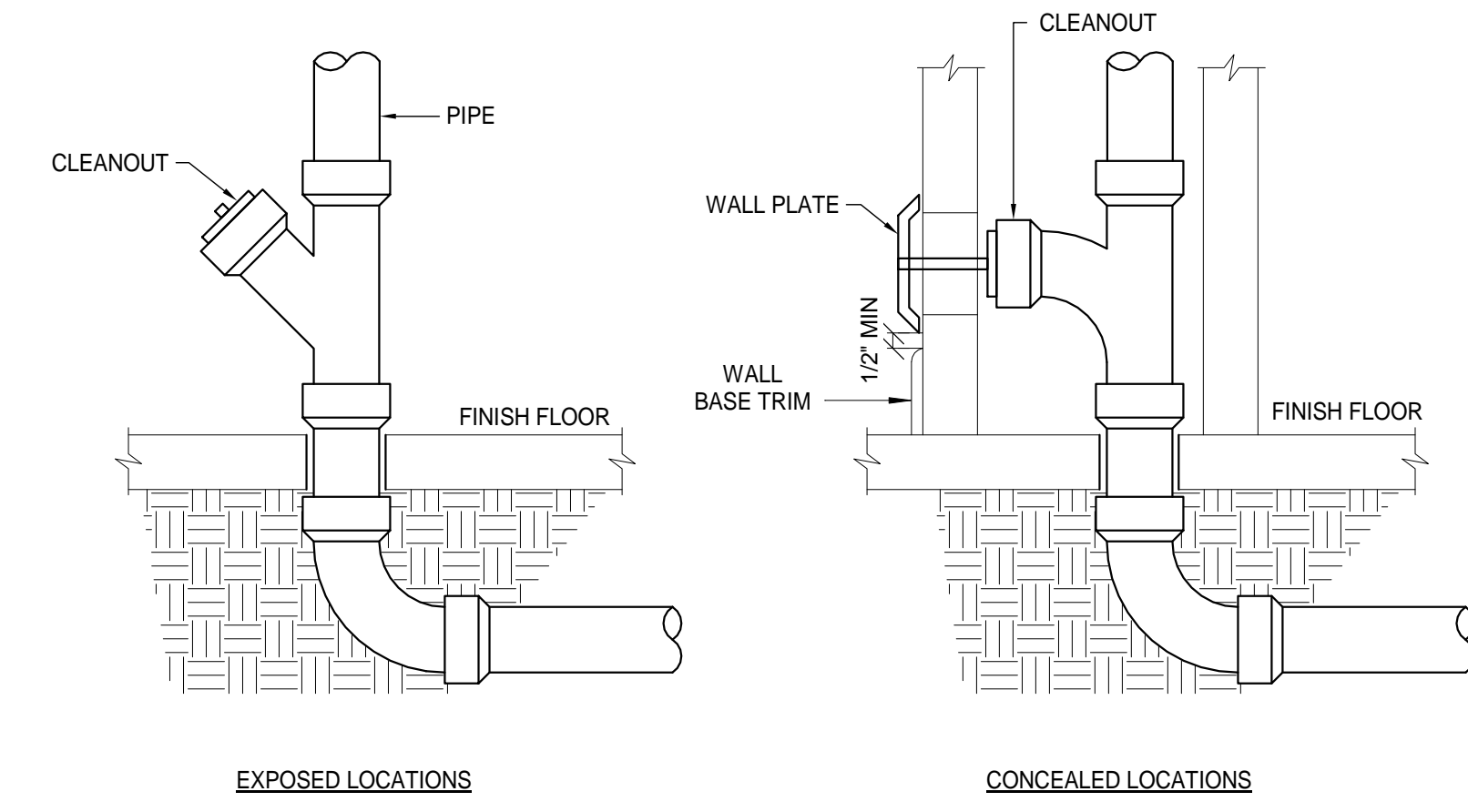
TAG	LOCATION	SYSTEM	TYPE	OUTLET TEMPERATURE SETTING	PRESSURE LOSS (PSI)	CONNECTIONS	BASIS OF DESIGN	SCHEDULE NOTES	
MV-1	B117 MECHANICAL ROOM	HW / HWR	ELECTRONIC	125 °F	48 / 70	5 / 10	1 1/2" 1 1/2" 1"	ARMSTRONG	DRV40R (1)
MV-2	GENERAL POINT OF USE	TW	THERMOSTATIC	105 °F	3.5	5	1/2" 1/2" 1/2"	LEONARD	270LF-STSTLREC-BV-DT (2)
MV-3	EMERGENCY SHOWERS	TW	THERMOSTATIC	85 °F	22	5	1" 1" 1 1/4"	BRADLEY	S19-2000-EFX8-R-0-SS-W (3)

**SCHEDULE NOTES:**  
 (1) ASSE 1017 COMPLIANT.  
 (2) ASSE 1070 COMPLIANT.  
 (3) ANSI Z358.1 COMPLIANT.

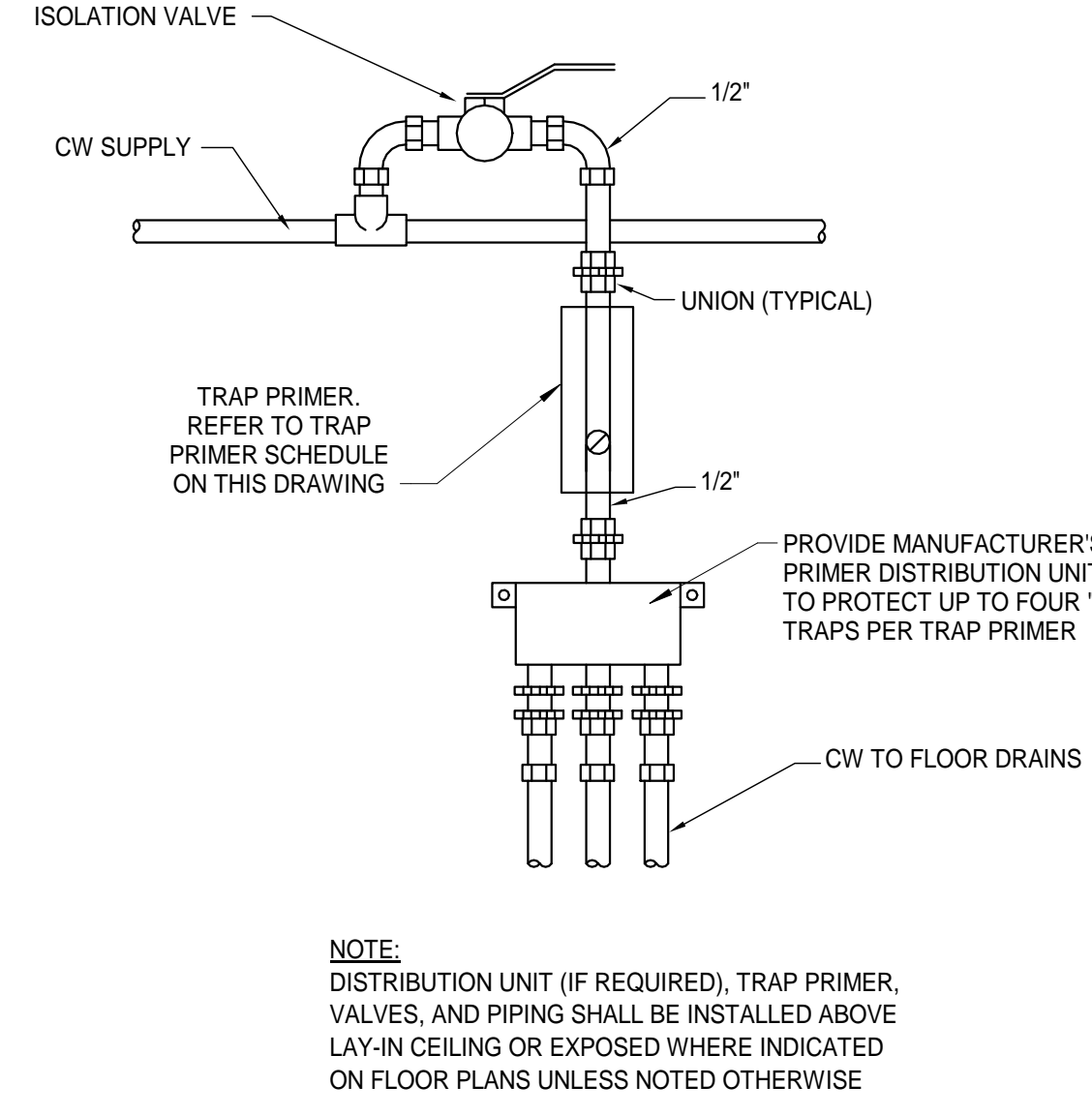
### WATER HEATER SCHEDULE

TAG	EQUIPMENT LOCATION	EQUIPMENT DESCRIPTION	STORAGE CAPACITY (GALLONS)	RECOVERY (GPH @ 100F RISE)	STORAGE TEMP (F)	CONNECTION SIZES	COMBUSTION AIR SIZES	NATURAL GAS INPUT	ELECTRIC INPUT	BASIS OF DESIGN	SCHEDULE NOTES			
QWH-1	MECHANICAL ROOM B117	GAS FIRED INDIRECT CONDENSING WATER HEATER, 95% EFFICIENT	N/A	327	140	2" 2" - 3/4" 3/4"	4" 4"	285	12" wc	8.0 FL AMPS	120	1	LAARS	NVT 285 (1), (2), (3), (4)
QWH-1	MECHANICAL ROOM B117	GAS FIRED INDIRECT CONDENSING WATER HEATER, 95% EFFICIENT	N/A	327	140	2" 2" - 3/4" 3/4"	4" 4"	285	12" wc	8.0 FL AMPS	120	1	LAARS	NVT 285 (1), (2), (3), (4)
ST-1	MECHANICAL ROOM B117	ASME GLASS LINED STORAGE TANK, RIGID FOAM INSULATION, ACRYLIC TOPCOAT	432	-	140	3" (x2) 2 1/2" 1 1/4" 1"	- - -	- - -	- - -	- - -	- - -	- - -	LAARS	STVGH-36090-MCS (5)
ET-1	MECHANICAL ROOM B117	THERMAL EXPANSION TANK, ASME, DIAPHRAM	-	-	-	3/4"	- - -	- - -	- - -	- - -	- - -	- - -	AMTROL	ST-42V-C (6)

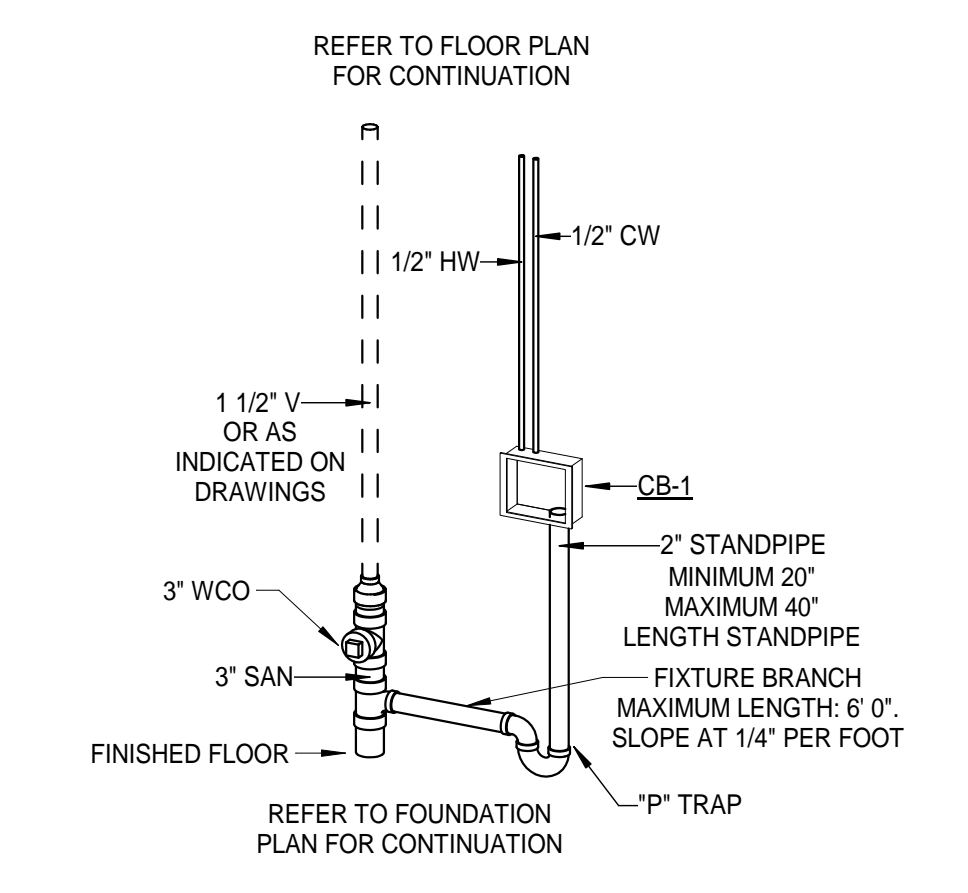
**SCHEDULE NOTES:**  
 (1) PROVIDE MANUFACTURER'S NEUTRALIZER KIT AND CONDENSATE DRAIN ASSEMBLY PER MANUFACTURER'S DOCUMENTATION. SLOPE CONDENSATE DRAIN TO NEAREST FLOOR DRAIN AND TERMINATE THROUGH AIR GAP.  
 (2) PROVIDE 4" SCHEDULE 40 CPVC COMBUSTION AIR INTAKE AND 4" SCHEDULE 40 CPVC EXHAUST PIPING ACCORDING TO MANUFACTURER'S DOCUMENTED VERTICAL VENTING CONFIGURATION.  
 (3) PROVIDE WATER HEATER STORAGE CIRCULATING PUMP (PROVIDED WITH BASIS OF DESIGN WATER HEATERS), AND FIELD WIRING FOR WATER HEATER EQUIPMENT POWER AND CONTROLS.  
 (4) PROVIDE WATER HEATER STORAGE TANK PIPING MANIFOLD ACCORDING TO MANUFACTURER'S DOCUMENTATION INCLUDING VALVES, PIPING ACCESSORIES AND EQUIPMENT.  
 (5) MAINTAIN CLEARANCE FOR ACCESS TO TANK MANWAY.  
 (6) FLOOR MOUNTED 18 GALLON TANK, 0.61 ACCEPTANCE FACTOR, 16" DIAMETER x 24" TALL. VALVES THAT ISOLATE THERMAL EXPANSION TANK FROM WATER HEATER PIPING MANIFOLD ARE PROHIBITED.



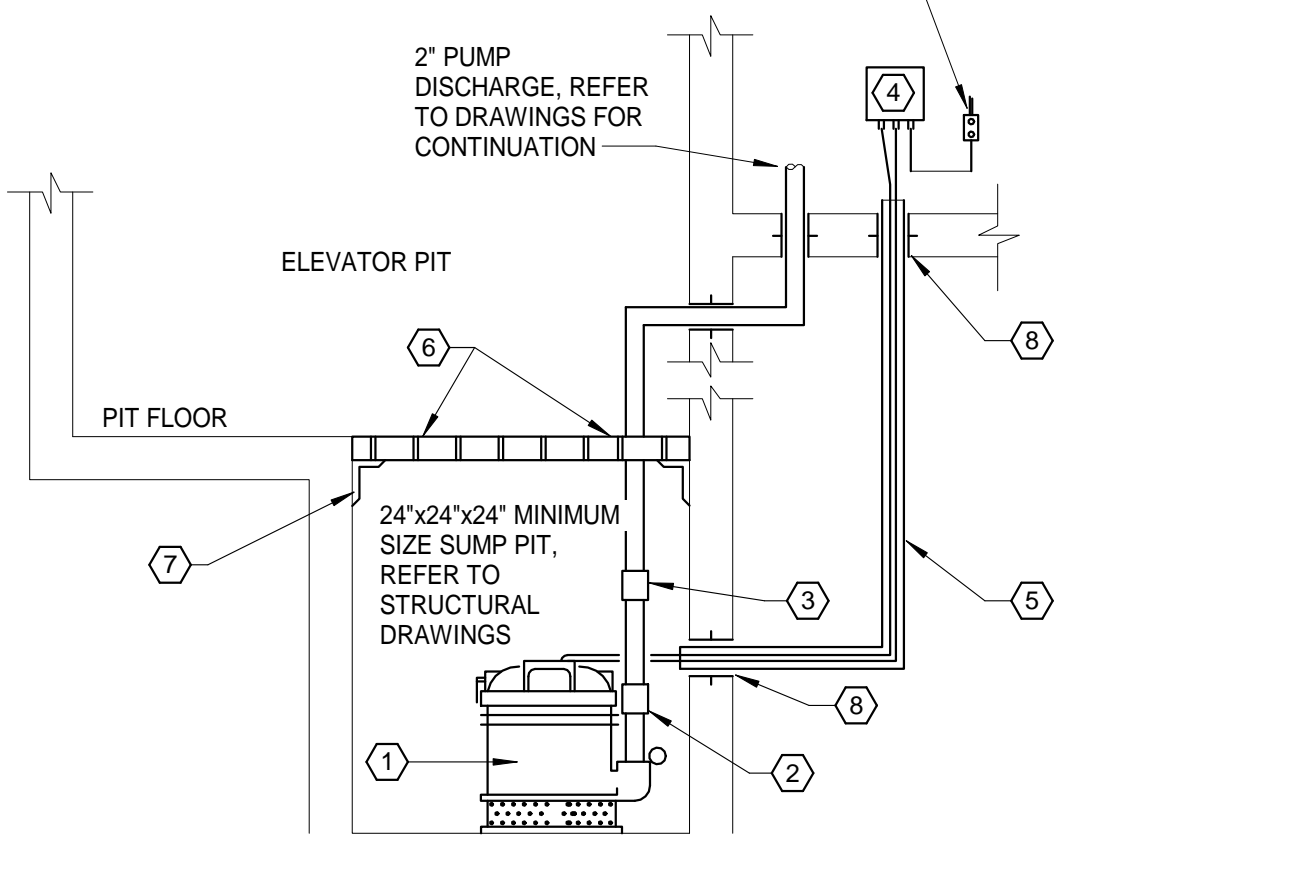
**CLEANOUT NEAR BASE OF STACK**  
NO SCALE



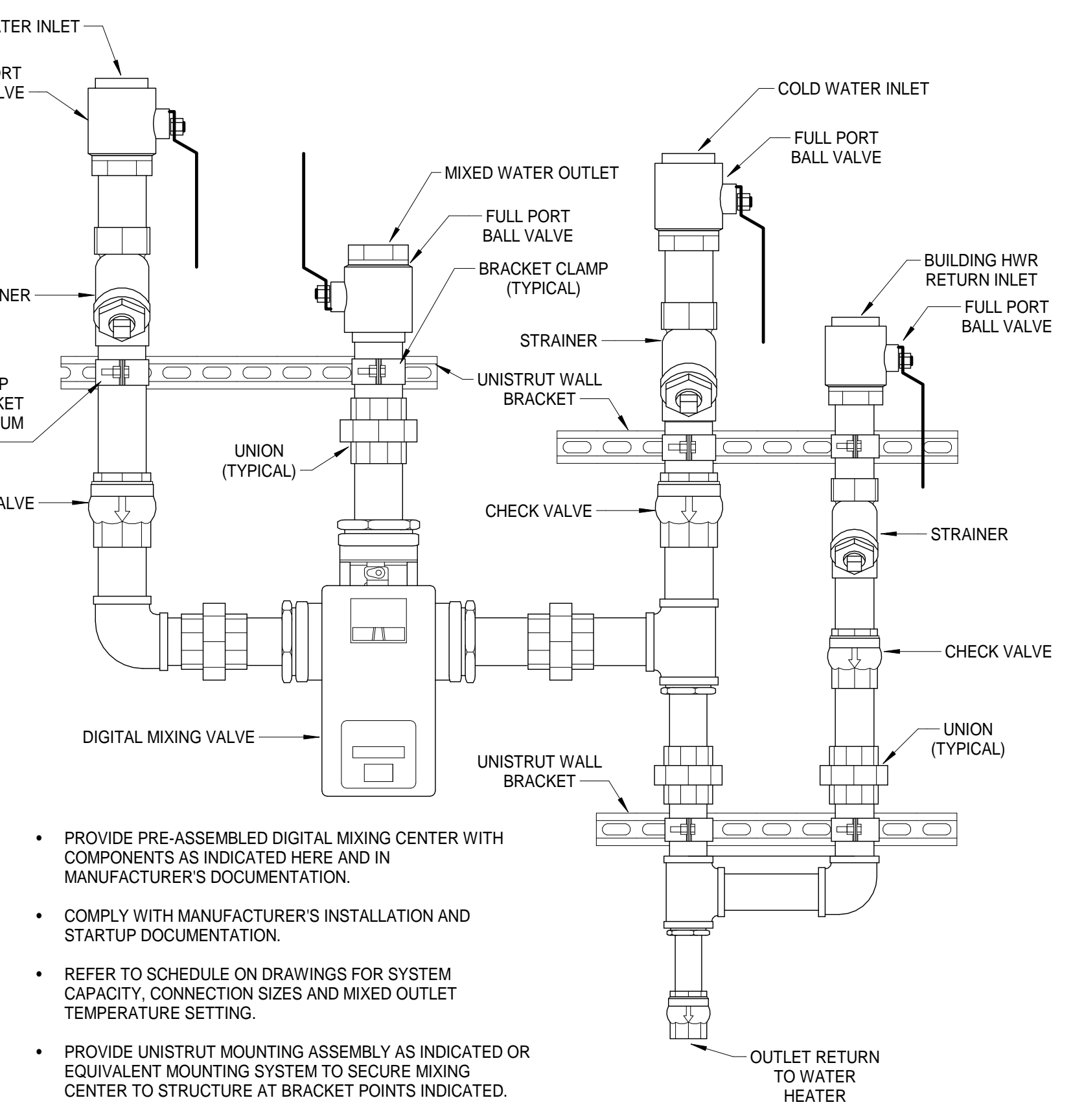
**TYPICAL TRAP PRIMER ASSEMBLY DETAIL**  
NO SCALE



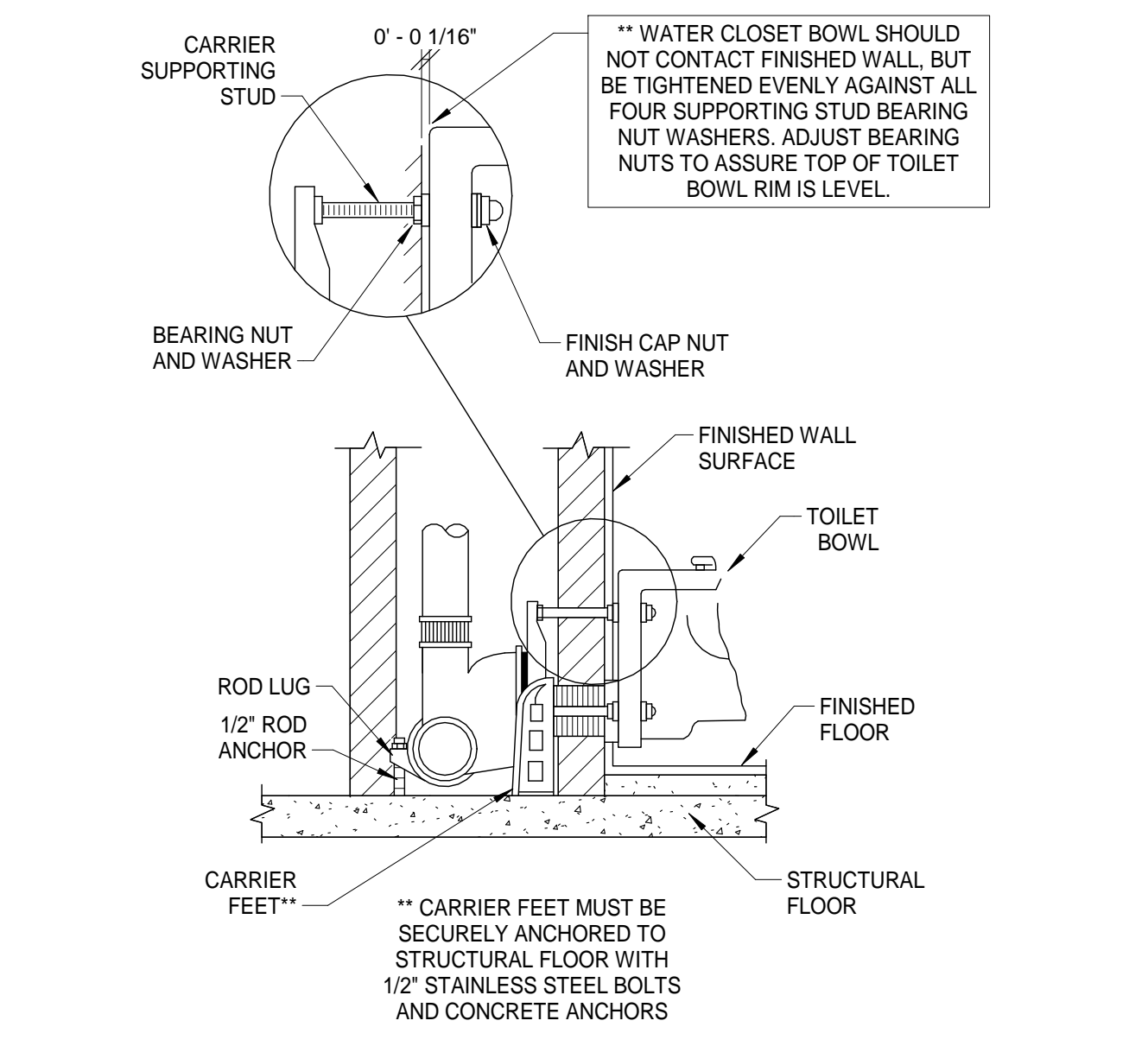
**CLOTHES WASHER CONNECTION BOX**  
NO SCALE



**ELEVATOR SUMP PUMP DETAIL**  
NO SCALE



**DIGITAL MIXING VALVE (MV-1) DETAIL**  
NO SCALE



**WALL MOUNTED WATER CLOSET CARRIER DETAIL**  
NO SCALE

- DETAIL NOTES**
- SUMP PUMP, REFER TO PUMP SCHEDULE
  - CHECK VALVE
  - GATE VALVE
  - ALARM PANEL WITH AUDIBLE ALARM, INDICATOR LIGHTS AND REMOTE MONITORING CIRCUIT
  - 3" PVC CONDUIT FOR POWER AND ALARM CABLES. PROVIDE LONG RADIUS BENDS
  - 1" GRATING TO FIT SUMP OPENING, PROVIDE CUT-OUT IN GRATING FOR DISCHARGE PIPING AS REQUIRED
  - PROVIDE 1 1/2" ANGLE IRON BOLTED TO STRUCTURAL CONCRETE PIT WALL WITH 1/2" BOLTS AND CONCRETE ANCHORS FOR GRATE SUPPORT, OR FORM 1 1/2" SHELF AT TOP OF SUMP PIT CONCRETE POUR FOR GRATE SUPPORT
  - WATER TIGHT PIPE SLEEVE (TYPICAL)
  - POWER SUPPLY, REFER TO ELECTRICAL DRAWINGS
  - 2" PUMP DISCHARGE, REFER TO DRAWINGS FOR CONTINUATION
  - 24"x24"x24" MINIMUM SIZE SUMP PIT, REFER TO STRUCTURAL DRAWINGS
  - 2" STANDPIPE MINIMUM 20" MAXIMUM 40" LENGTH STANDPIPE
  - 3" WCO
  - 3" SAN
  - FINISHED FLOOR
  - REFER TO FOUNDATION PLAN FOR CONTINUATION
  - 1 1/2" HW
  - 1/2" CW
  - 1 1/2" V OR AS INDICATED ON DRAWINGS
  - 3" WCO
  - 3" SAN
  - FINISHED FLOOR
  - REFER TO FOUNDATION PLAN FOR CONTINUATION
  - "P" TRAP