



DEPARTMENT OF COMMUNITY DEVELOPMENT

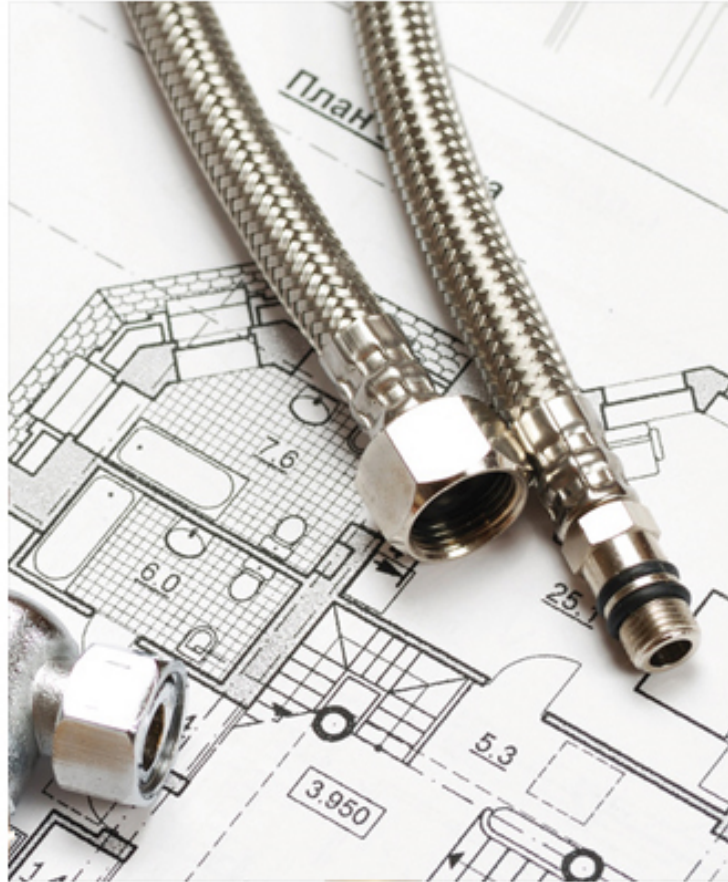
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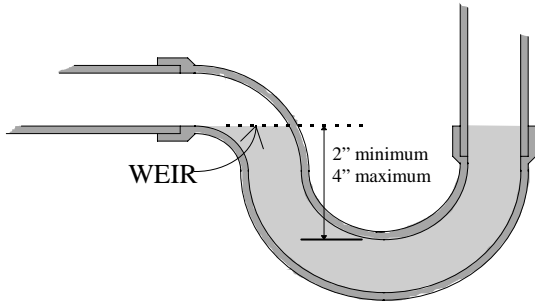
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4DA5: GD7 °* BASIC PLUMBING FOR HOMEOWNERS

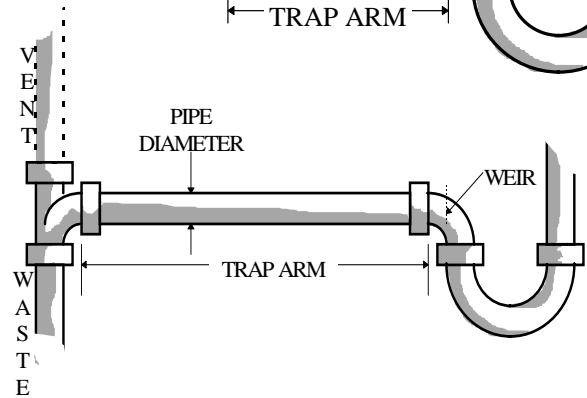
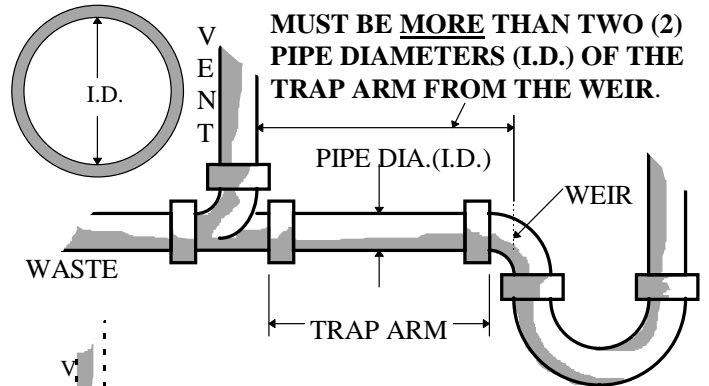
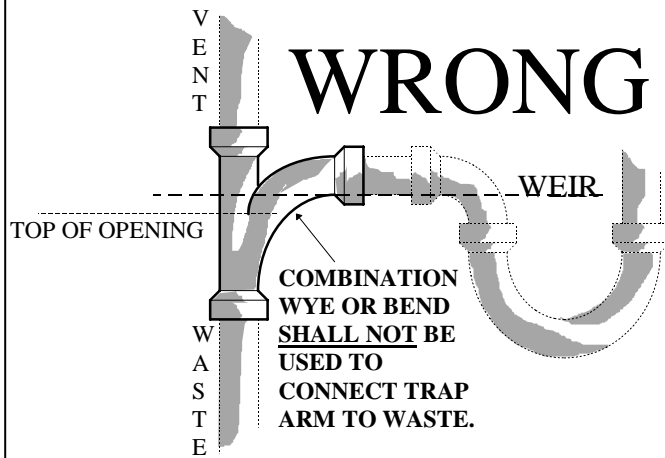
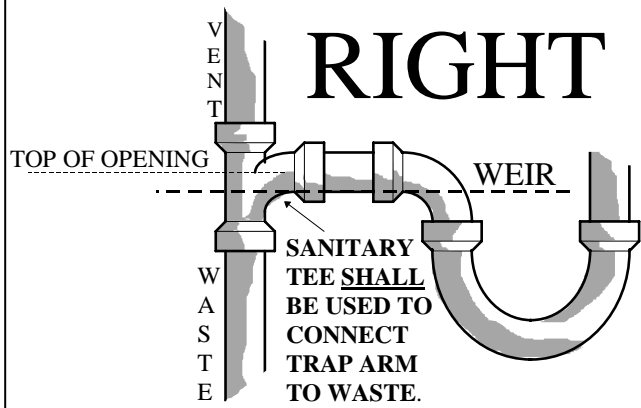


The intent of this handout, Plumbing for Home Owners, is to familiarize the home owner that intends to install their own plumbing with some of the basic theory of household plumbing. This handout covers only a small part of the requirements for household plumbing and can be misunderstood. Please feel free to have the plumbing inspector check your drain plumbing before gluing the fittings together. It may save you a lot of money and time.

P-TRAPS



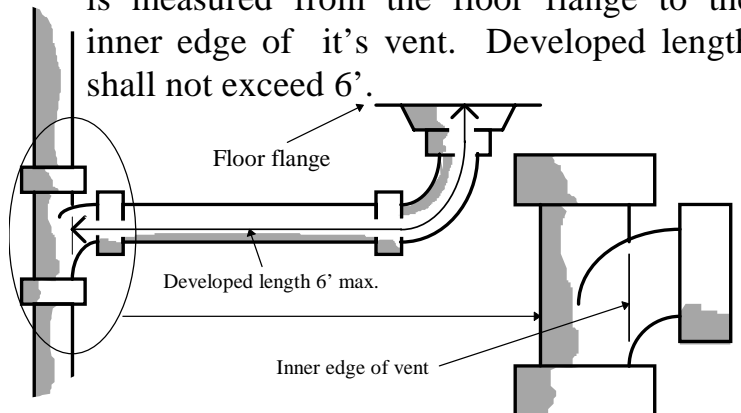
The weir of a p-trap must be below the top of the opening in the fitting that connects it to its vent.

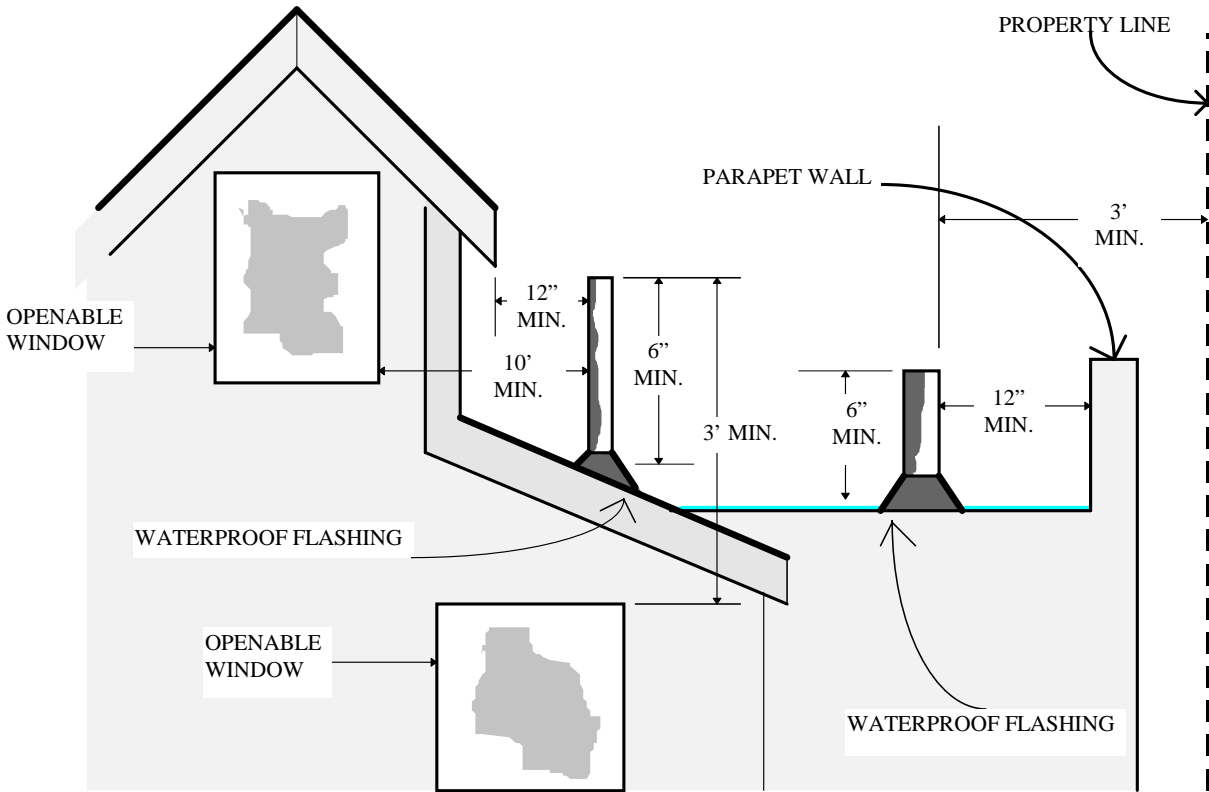
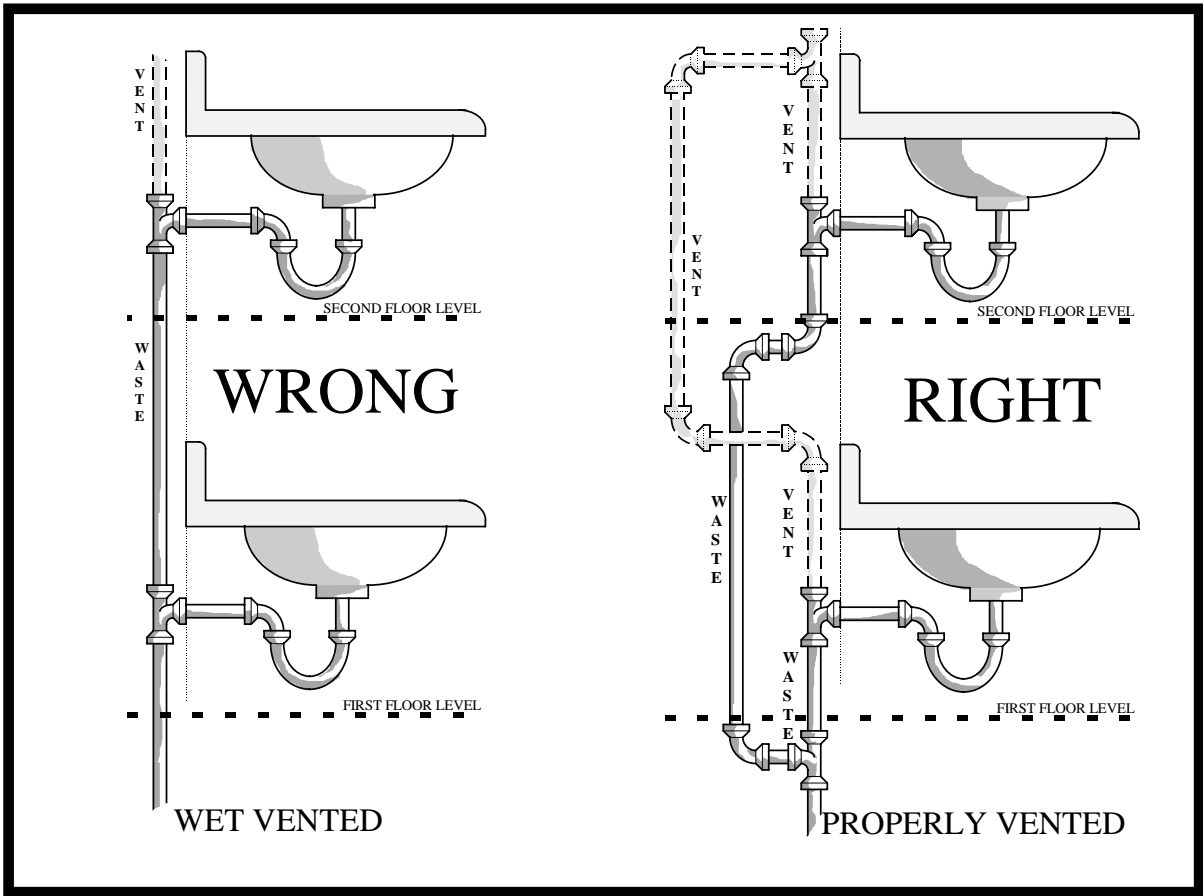


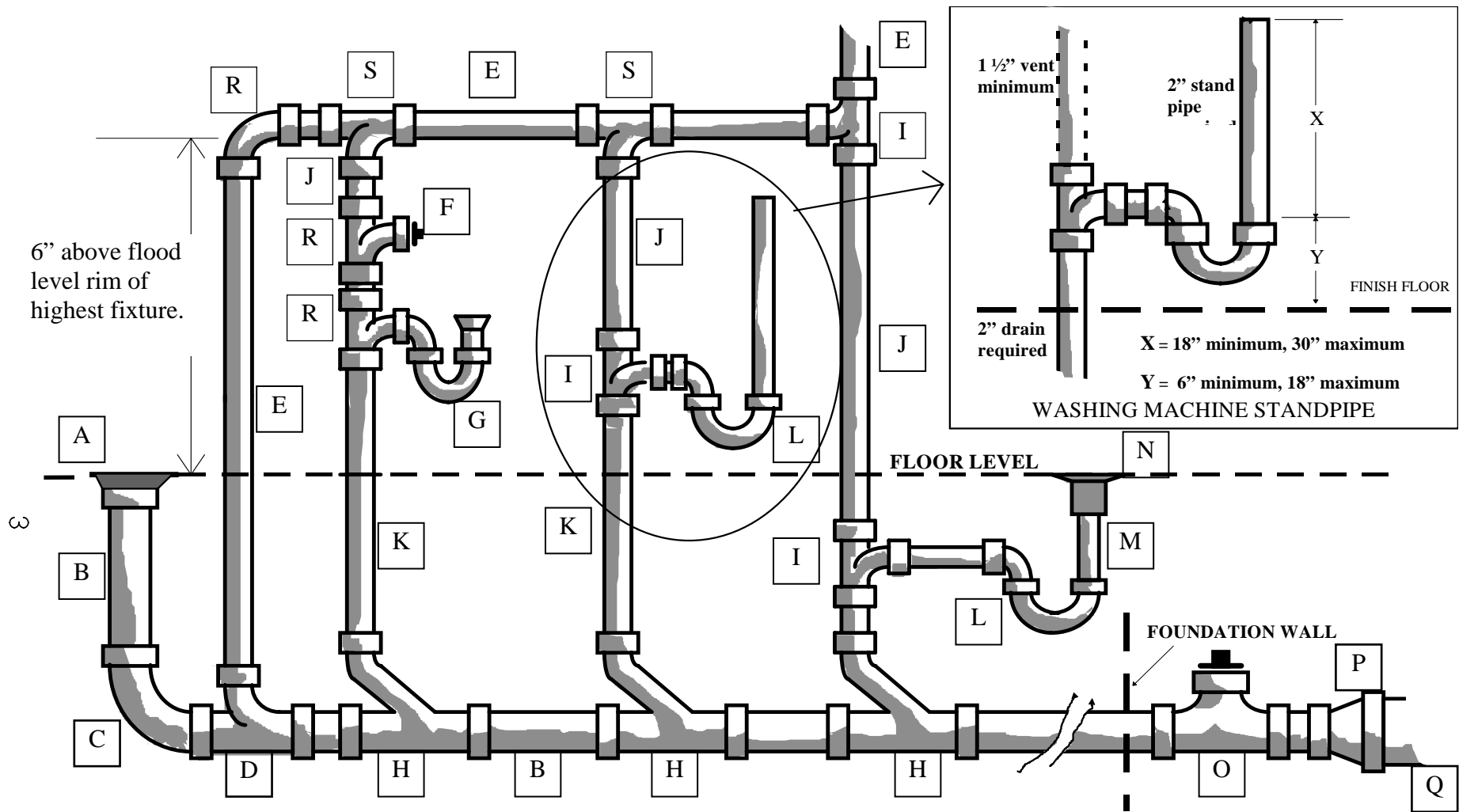
Horizontal Length of Trap Arms (Except for water closets and similar fixtures)*

Trap Arm Pipe Size (I.D.)	Distance Trap to Vent	
	Max.	Min.
1-1/4"	2' 6"	2 1/2"
1-1/2"	3' 6"	3"
2"	5'	4"
3"	6'	6"
4"	10'	8"

* The length of Water closet (toilet) trap arms is measured from the floor flange to the inner edge of its vent. Developed length shall not exceed 6'.







A. 3" closet flange (toilet)

B. 3" drain

C. 3" bend

D. 3" x 3" x 2" san-t

E. 2" vent

F. 1 1/2" cleanout

G. 1 1/2" p-trap

H. 3" x 3" x 2" combination wye and 1/8 bend

I. 2" san-t

J. 1 1/2" vent

K. 2" drain for kitchen sinks, 1 1/2" drain for lavatory

L. 2" p-trap for showers & laundry, 1 1/2" p-traps for bath tubs & sinks

M. 2" drain

N. 2" shower drain with strainer

O. 3" two way clean-out tee

P. 3" to 4" adapter (if needed)

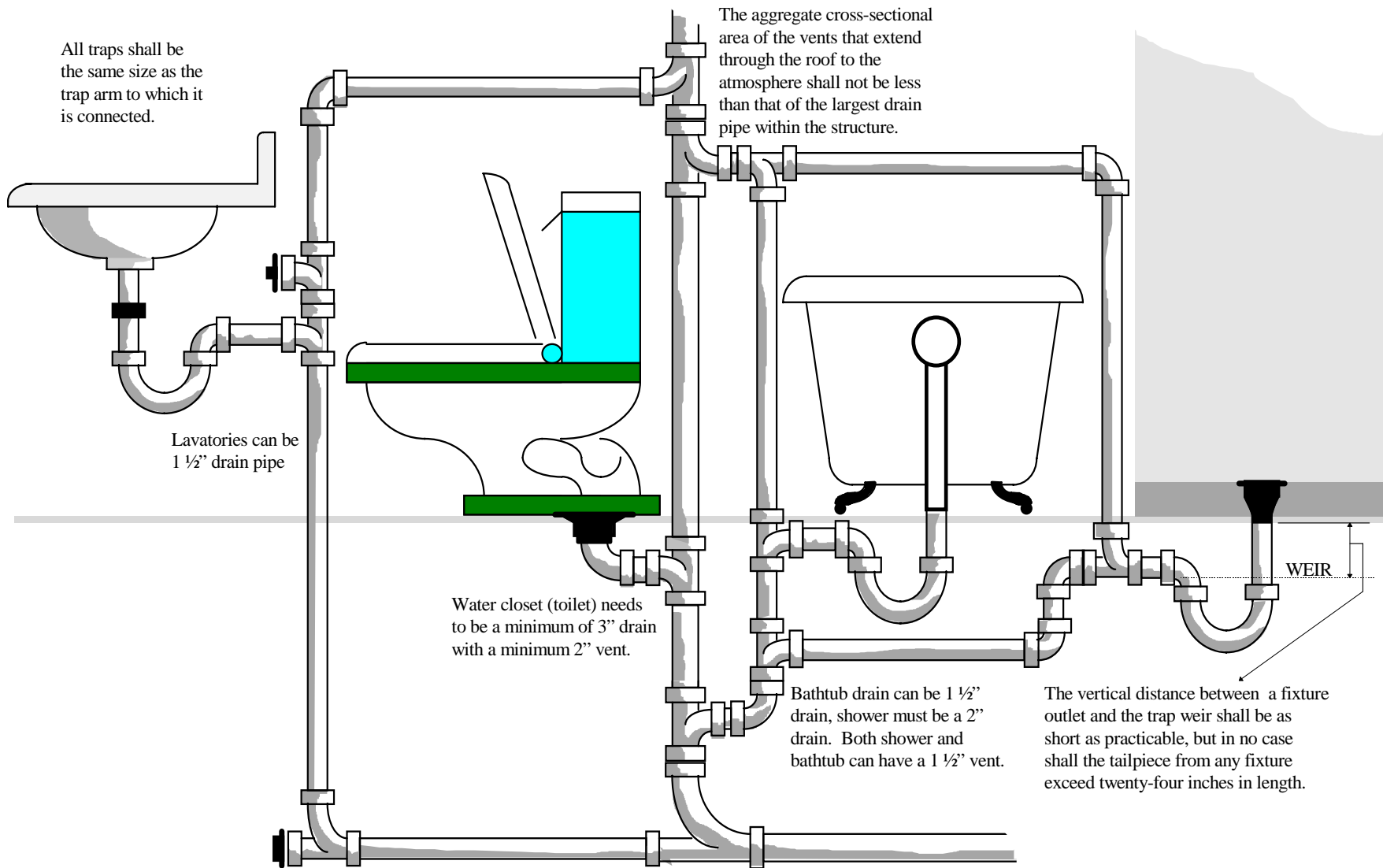
Q. 3" or 4" drain line to sewer or septic tank

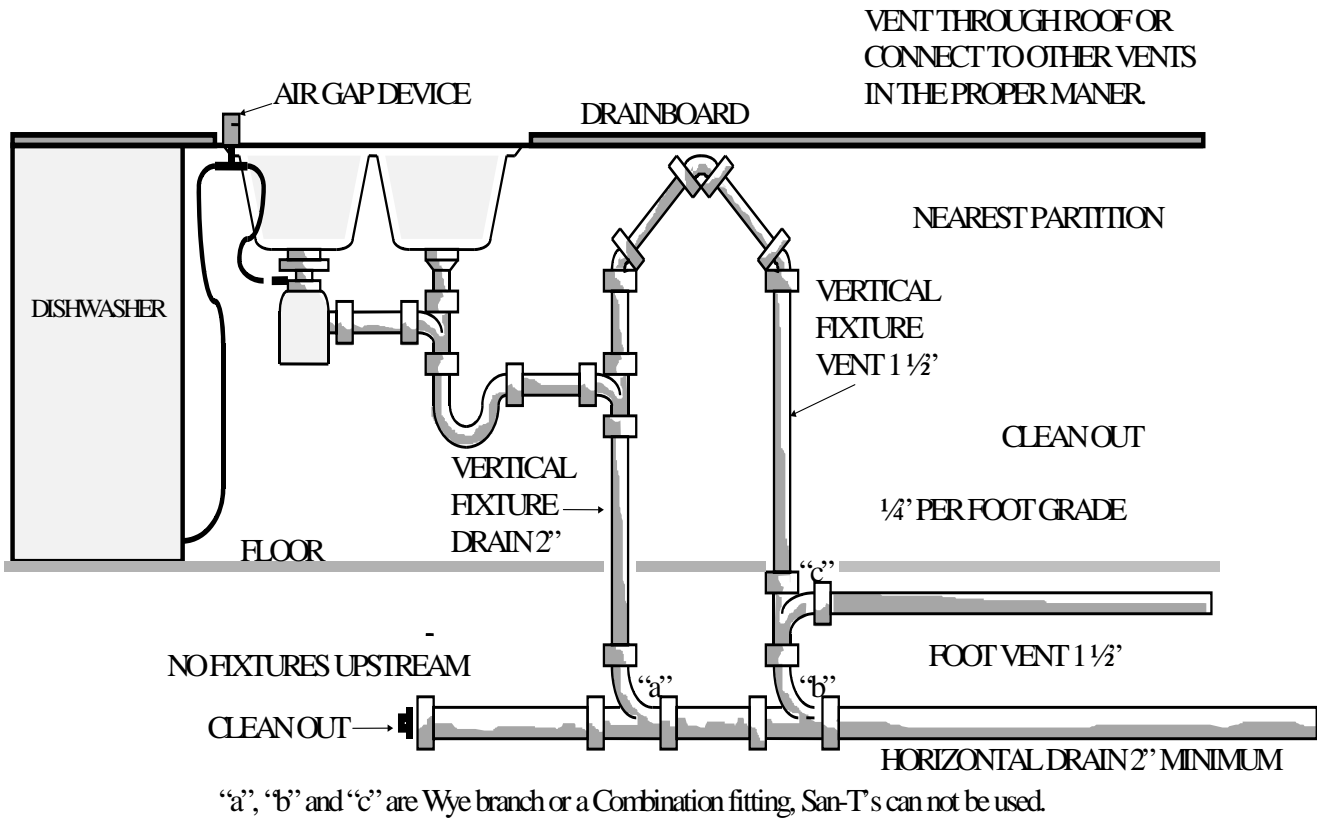
R. 1 1/2" san-t

S. 2" x 2" x 1 1/2" san-t

The aggregate cross-sectional area of the vents that extend through the roof to the atmosphere shall not be less than that of the largest drain pipe within the structure.

Note: Different suppliers use different names for their parts.





SPECIAL VENTING FOR ISLAND FIXTURES

Traps for island sinks and similar equipment shall be roughed in above the floor and may be vented by extending the vent as high as possible, but not less than drain board height. The vent is then returned downward and connected to the horizontal sink drain immediately downstream from the vertical fixture drain.

The returned vent shall be connected to the horizontal drain through a wye-branch fitting (see “b” in figure above) and shall in addition be provided with a foot vent taken off the vertical fixture vent by means of a wye-branch fitting immediately below the floor. This foot vent extends to the nearest partition and thence through the roof to the open air, or may be connected to the other vents at a point not less than six (6) inches above the flood level rim of the fixture served.

DOMESTIC DISHWASHING MACHINE

No domestic dishwashing machine shall be directly connected to a drainage system or food waste disposer without the use of an approved dishwasher **airgap device** or fitting on the discharge side of the dishwashing machine. Listed airgaps shall be installed with the flood level (FL) marking at or above the flood level of the sink or drainboard, whichever is higher.

WATER SUPPLY

Water Distribution (within the building)

1. Water pipe and fittings shall be of brass, copper, cast iron, galvanized malleable iron, galvanized wrought iron, galvanized steel, or other approved materials. CPVC and PB water pipe and tubing may be used for hot and cold water distribution systems within a building. All materials used in the water supply system, except valves and similar devices shall be of a like material, except where otherwise approved by the Administrative Authority.
2. **Do not use PVC water pipe for water supply inside the structure.** Supply piping shall convert to the proper approved piping before entering any part of the building.
3. Piping and tubing which has previously been used for any purpose other than for potable water systems shall not be used.

Valves

1. A **fullway valve controlling all outlets** shall be installed on the **discharge side of each water meter and on each unmetered water supply.** (The valve on the meter will not fulfill this requirement.)
2. A fullway valve shall be installed on the cold water supply pipe to each water heater at or near the water heater and shall be accessible.
3. A control valve shall be installed immediately ahead of each water supplied appliance and immediately ahead of each slip joint or nonmetallic fixture supply or appliance supply.

Backflow Prevention

Potable water outlets with hose attachments, other than water heater drains, boiler drains, and clothes washer connections, shall be protected by a non-removable hose-bibb-type vacuum breaker, or by an atmospheric vacuum breaker installed not less than six inches above the highest point of usage located on the discharge side of the last valve. In climates where freezing temperatures occur, a listed self-draining frost-proof hose bibb with an integral backflow preventer or vacuum breaker shall be used.

Unions

1. Unions shall be installed in the water supply piping within twelve (12) inches of regulating equipment, water heating, conditioning tanks, and similar equipment which may require service by removal or replacement in a manner which will facilitate its ready removal.

Inspections

1. No water supply system or portion thereof, shall be covered or concealed until it first has been tested, inspected, and approved by the inspector.

Testing

1. Upon completion of the entire hot and cold water supply system, it shall be tested and proven tight under a water pressure not less than the working pressure under which it is to be used. The water used for tests shall be obtained from potable source of supply. Fifty (50) pound per square inch air pressure may be substituted for the water test using an approved air gauge. In either method of test, the piping shall withstand the test without leaking for a period of not less than fifteen (15) minutes. The test shall be verified by the inspector.