

Free Water Industries:
Rain Water Harvesting System Installation Guide

Please wear the following safety gear;

- i. Gloves
- ii. Goggles
- iii. Safety Shoes

Tools Needed

- i. Power Drill
- ii. ¼ Drill Bit Shank
- iii. 3" Hole Saw
- iv. Screw Driver
 - a. Flat and Philips heads
- v. Hack Saw
- vi. Channel Lock Pliers

Other Materials

- i. 1" by 10 screw with anchor - 1 piece
- ii. ¾" Teflon Tape
- iii. PVC Glue - small can
- iv. PVC Primer - small can
- v. ¾" PVC Male Adapter
- vi. ¾" PVC Elbow SxS
- vii. ¾" PVC Tee SxS
- viii. ¾" PVC Union SxS
- ix. ¾" PVC Female Adapter
- x. ¾" Male Thread Hose Bib
- xi. ¾" PVC SCH 40 Pipe

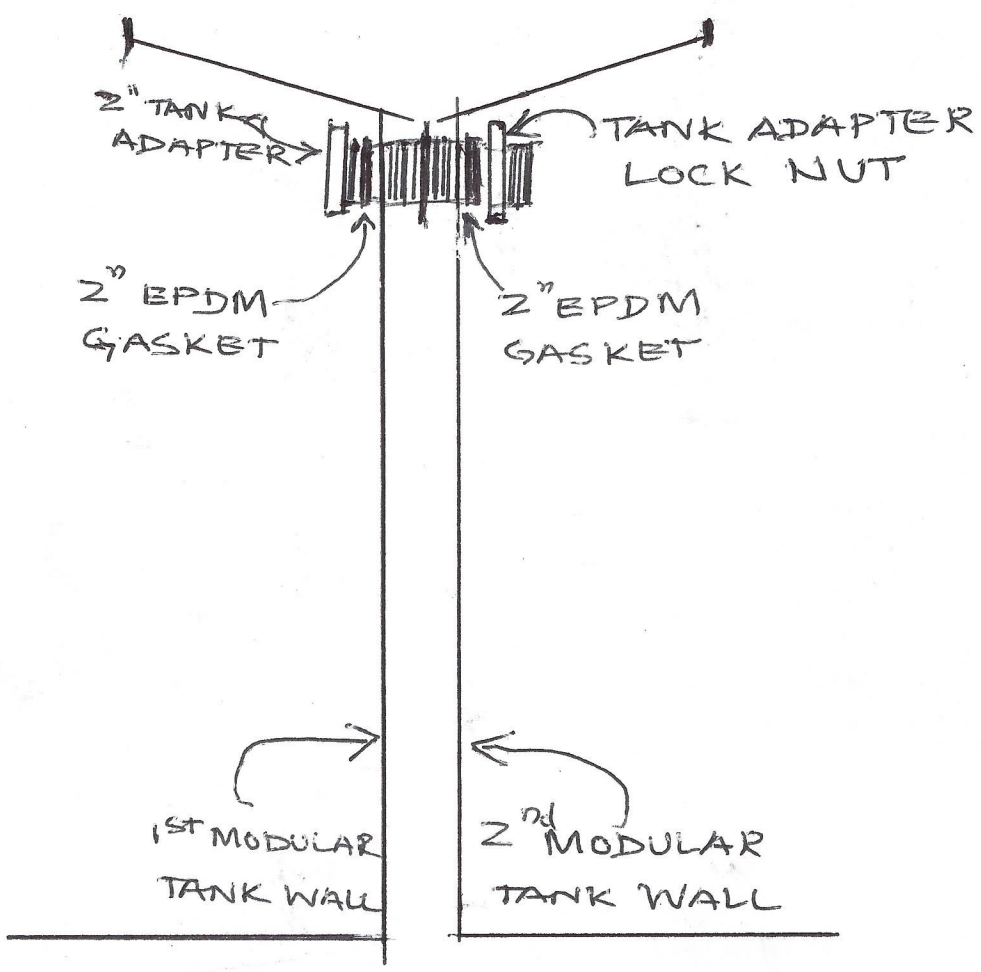
Installation

A. Modular Tank

- i. Choose your location. The best location will be near a rain gutter downspout.
- ii. Prepare a base
Level the ground. Install a base with a minimum height of 6" above the ground level. The base should be 18" wide and the length should be 18" x no. of tanks= in inches. The base must have a good level. The base can be placed on concrete, cinder blocks, or treated lumber. Consider

the weight as a filled tank can be 508 lbs. Please check the building safety code for tank installation and restrain.

- iii. Drill a 3" hole by using a hole saw on the marking at 39 ½" from the bottom of the modular tank on the selected side of the first tank.
- iv. Drill a 3" hole by using a hole saw on the selected side of the second Modular Tank at the 39 ½" making to connect.
- v. Repeat the drilling process for the rest of the tanks in the system.
- vi. Make sure that all of the front sides of the tanks face the same side to install the delivery system.
- vii. Use the 2" double gasket-ed tank adapter to attach the tanks together.



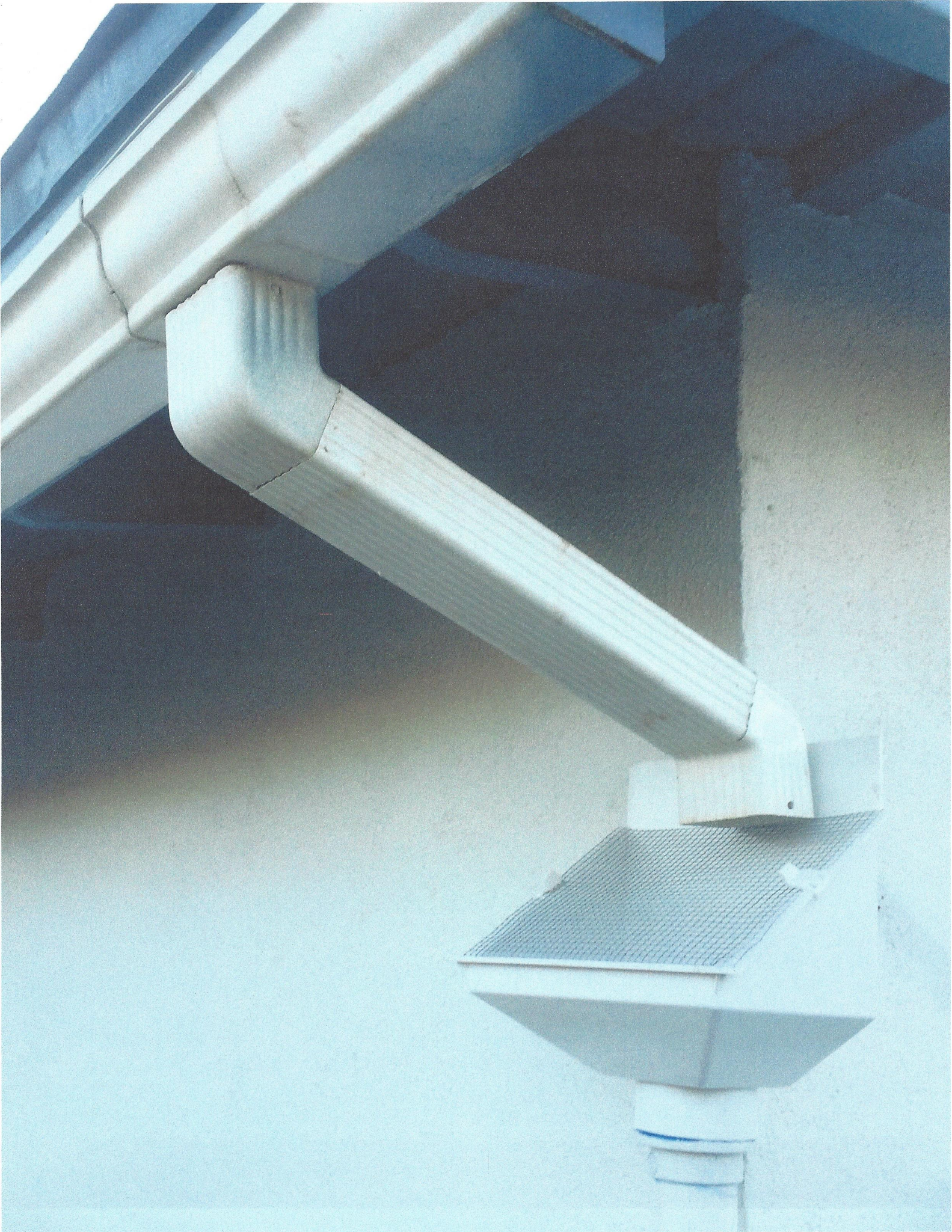
B. In and Over-Flow Component Installation Guide

- i. Drill a 3" hole on the selected side of the first modular tank to connect the In and Over-Flow Component.
- ii. Remove the rain gutter downspout mounting brackets.
- iii. Cut downspout pipe at the height of 63" from the bottom of the tank.
- iv. Drill a 1/4" hole on 2" board on the filter assembly. Attach the filter assembly at the existing part of the downspout so the water will fall from the rain gutter.
- v. Install the 2" tank adapter to the drilled hole in the modular tank.
- vi. Screw the 2" male adapter with check valve to the tank adapter. Only use the Teflon tape. Do not use any other substance to connect the adapter.
- vii. Align the "Y" assembly to connect the check valve and filter assembly.
- viii. Glue the filter assembly with the 45° on the "Y" assembly.
- ix. Use the extra 45° elbow if you need to get a fine alignment. Glue the fitting. Screw the filter assembly to the wall.
- x. Attach the downspout pipe to the In and Over-Flow Component to drain the over flow of rain water to the drain.
- xi. Attach the downspout brackets to the wall.
- xii. Install the vent to the 3/4" threaded outlet on the top of the tank.

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IN AND OVER FLOW COMPONENT





RAIN GUTTER.

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DOWN SPOUT

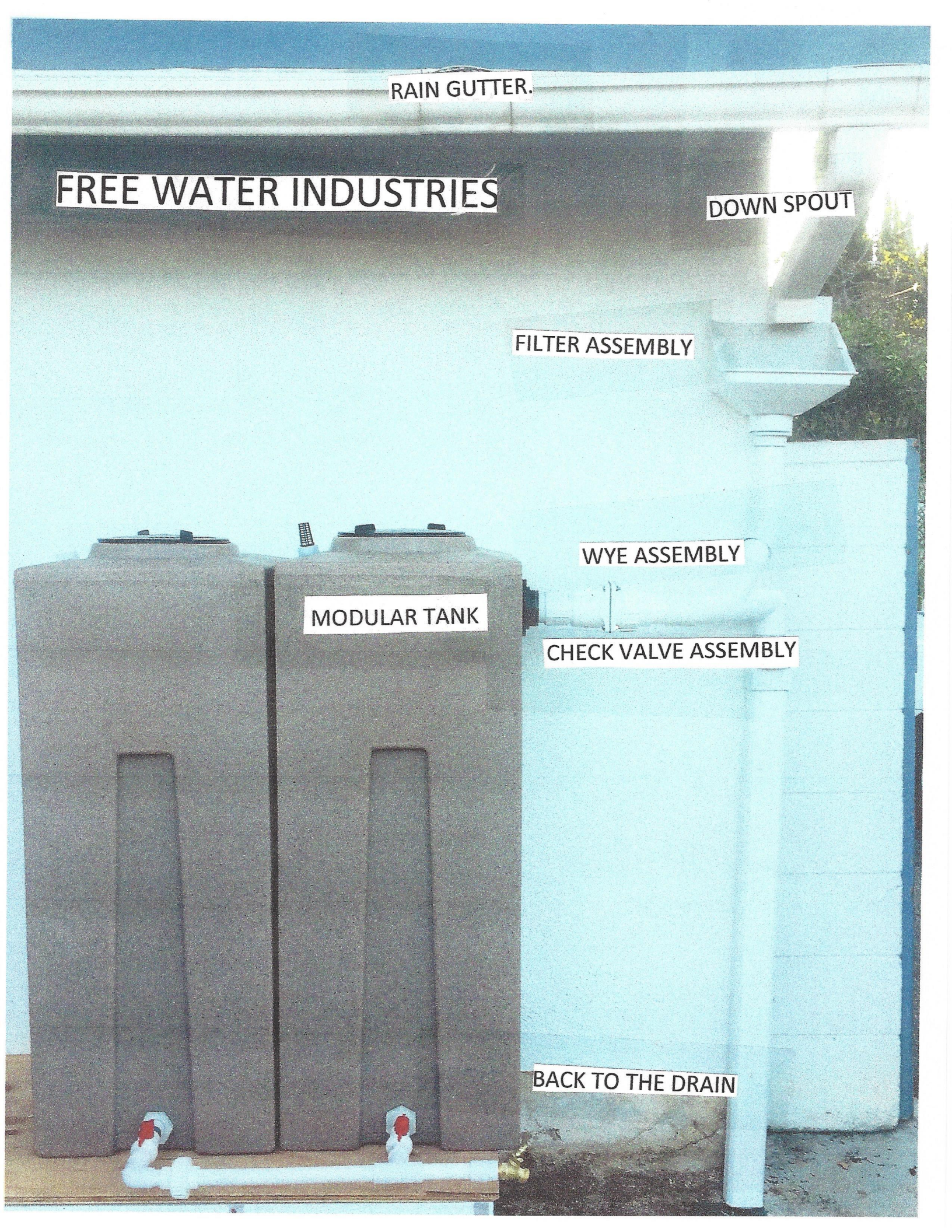
FILTER ASSEMBLY

WYE ASSEMBLY

MODULAR TANK

CHECK VALVE ASSEMBLY

BACK TO THE DRAIN



C. Installing the Delivery System

- i. Remove all of the threaded plugs from the $\frac{3}{4}$ " outlets from the bottom of the tank(s).
- ii. Install the $\frac{3}{4}$ " PVC male adapter with Teflon tape.
- iii. Glue a 3" PVC pipe to the male adapter.
- iv. Glue a $\frac{3}{4}$ " PVC SxS 90° elbow to the last modular tank in the rain harvesting system.
- v. Glue a $\frac{3}{4}$ " PVC tee to the rest of the tanks in the system.
- vi. Glue a $\frac{3}{4}$ " PVC SxS union to connect all tees and elbows. The length should be in between two tanks, including with the union is ± 18 ".
- vii. Glue a $\frac{3}{4}$ " PVC pipe (length according to your convenience) with a $\frac{3}{4}$ " female adapter to the first $\frac{3}{4}$ " tee.
- viii. Install a $\frac{3}{4}$ " male threaded hose bib to the female adapter.