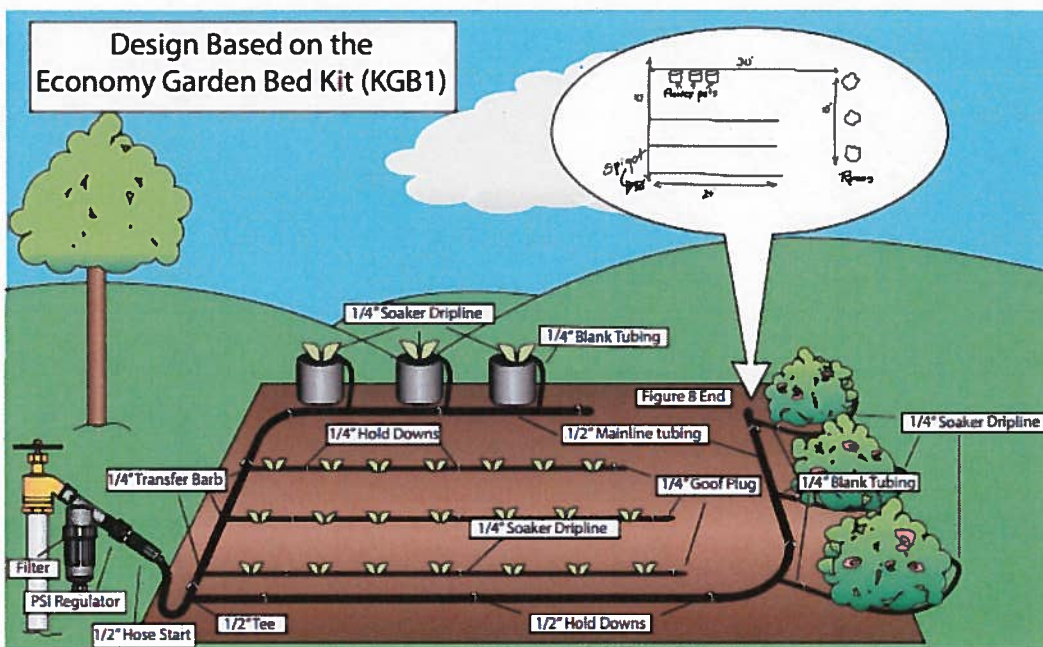


## DRIP IRRIGATION RESOURCES

### VENDORS

1. Dripworks - [www.dripworks.com](http://www.dripworks.com) – 1-800-522-3747
  - Offers the \$60 kit used in this workshop
  - Garden kit options:
    - Small: 3 8'x4' raised beds - \$60
    - Medium: 9 8'x4' raised beds - \$100
    - Large: 18 8'x4' raised beds - \$240
  - Save \$ by purchasing mix and match drip tape, mainline tubing, and connector pieces
  - Larger gardens might consider the Drip Tape Row Crop Kit
    - Small: 10 20' rows or 5 40' rows - \$80
    - Medium: 100 20' rows or 50 40' rows - \$290
  - Helpful customer service can help you figure out which pressure regulator you'll need, if any, and which drip tape to purchase based on how large of an area you'd like to cover with drip irrigation
2. Johnny's Selected Seeds – [www.johnnyseeds.com](http://www.johnnyseeds.com) - 1-877-564-6697
  - 100-Ft. Irri-Gator Kit
    - 4 20' rows or 10 8' rows - \$47
  - 1000-Ft. Irri-Gator Kit
    - 50 20' rows or 125 8' rows - \$195
  - Can purchase additional drip tape and connector pieces as needed
3. Home Depot, Lowes, and other large hardware stores – [www.homedepot.com](http://www.homedepot.com) [www.lowes.com](http://www.lowes.com)
  - Many options, including kits with sprinklers, kits with timers, kits for patios and containers, etc.



## CALCULATING WHAT YOU'LL NEED

To calculate how much drip tape you'll need or the maximum area you can cover, you'll need to know how large of an area you're hoping to cover, and what your flow rate is. Here's how you figure that out:

1. How many rows of drip tape, and how long is each row? (ex: 5 raised beds with 2 rows in each)
  - a. Number of rows: \_\_\_\_\_ (ex: 10 rows)
  - b. Length of each row: \_\_\_\_\_ (ex: 8 feet)
  - c. **Total length of drip tape:** \_\_\_\_\_ (ex: 10 rows x 8 feet = 80 total feet)
2. What's your water pressure like? To measure your **flow rate**, turn on the hose all the way and fill up a 1-gallon container. How many seconds until the container is full? (ex: 10 seconds)

Seconds to fill a 1 gallon container	5	6	7	8	9	10	11	12	13	14
Gallons per hour (GPH)	720	600	514	450	400	360	327	300	277	257

Not sure how this works? Check out their online tool: Online tool for calculating your water flow:

[www.dripworks.com/category/calculator-flow](http://www.dripworks.com/category/calculator-flow)

3. What's the maximum amount of drip tape we can use? Different types of drip tape have different flow rates. If you're using drip tape other than the ¼" soaker dripline that we're using in this workshop, call the vendor to help you calculate how much your system can handle, or visit the DripWorks Drip Tape Estimator to compute the maximum amount of drip tape you can use: [www.dripworks.com/resources/calculators/drip-tape-estimator](http://www.dripworks.com/resources/calculators/drip-tape-estimator)

For this workshop, we'll calculate it on our own! Example, continued:

If it took 10 seconds to fill the gallon container, we have 360 gallons per hour (GPH) in our bank. Each emitter releases 0.80 (GPH), according to the website.

$$360 / 0.80 = 450$$

So we can have a total of **450'** of ¼" soaker drip tape with 12" spaced emitters. If we're already using 80', we have **370'** left in our bank, or 296 GPH.

## Before Getting Started

Like all industries, drip irrigation has terms which can be confusing, especially to the beginner. Here are a few common terms you may find in this guide, our catalog, and on our website.

## Glossary of Terms

**Flow:** 1) The amount of water available for the drip system expressed in gallons per hour (GPH) or gallons per minute (GPM). Flow is a determining factor in how many plants (or how large an area) can be watered at one time.

2) The total amount of water moving through the system as it exits emission devices.

**Pressure:** Measured in pounds per square inch, or PSI, pressure is the force pushing the flow of water. Your pressure can be determined by using a pressure gauge.

**Constant Pressure:** In a drip irrigation system, the condition that occurs when the spigot or valve is left open, leaving any downstream devices-timers, filters, regulators, tubing, fittings, and emitters-under constant pressure.

**Dynamic Pressure:** The fluctuating pressure that occurs within a drip irrigation system when valves are opened and closed and emitters turned on and off.

**Water Source:** Where the water originates. This can be a municipal system, a well, a pond, spring, or stream.

**Point of Connection:** Also known as a POC, your point of connection will be a spigot, hydrant, gate valve, or other connection that brings the water into your watering area.

**Filter:** A device used to remove particles from the water that might otherwise clog your emitters. Many water sources, especially municipal systems, are relatively free of debris. However, we still recommend filtration to ensure consistent, trouble-free operation of your system.

**Zoning:** The division of a drip irrigation system into areas that require similar watering rates or that would exceed the available flow of the system if watered together.

**Mainline:** Polyethylene tubing used to carry water from your POC to and throughout your drip system.

**Branch Line:** Polyethylene tubing that attaches to the mainline to bring water to an individual plant or to a zone. Branch tubing is generally ¼" or ½" tubing.

**Pressure Compensating:** (PC) emitters distribute water equally throughout the whole system regardless of row length (within limits) and elevation changes. PC products come as drippers, sprayers, or sprinklers.

For expanded definitions and other drip irrigation terms, visit our [online glossary](#).

## Garden Bed Kit Assembly Instructions

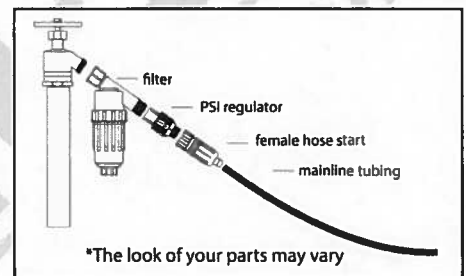
For printable plans using this kit go to: [http://www.dripworks.com/category/gop\\_gb](http://www.dripworks.com/category/gop_gb)

Congratulations on purchasing one of DripWorks' all inclusive kits, the easiest way to get a complete drip irrigation system setup to fit your gardening needs. The kit has two parts; the faucet assembly or system start portion that brings the water to your garden and the emitters that distribute that water to your plantings.

### System Start

This portion of the kit includes the filter, pressure regulator, hose start fitting, and a roll of mainline tubing.

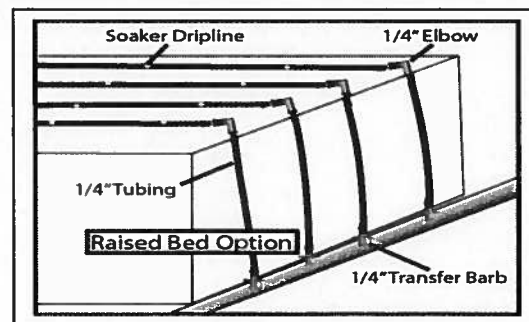
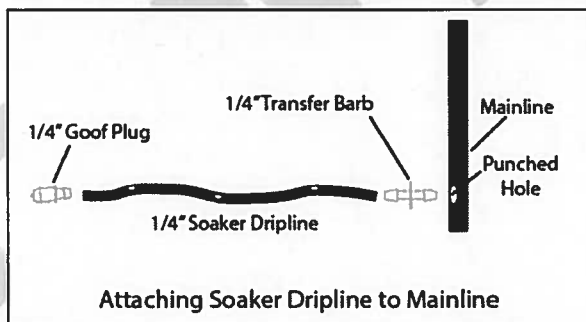
1. Connect the swivel end of the filter to your faucet
2. Connect the pressure regulator to the filter outlet
3. Connect the female hose start to one end of the mainline tubing roll
4. Connect the female hose start to the pressure regulator
5. Unroll the mainline tubing through the garden areas to be watered
6. Close the mainline tubing with an end fitting
7. Stake down the tubing with hold downs



### Emitters

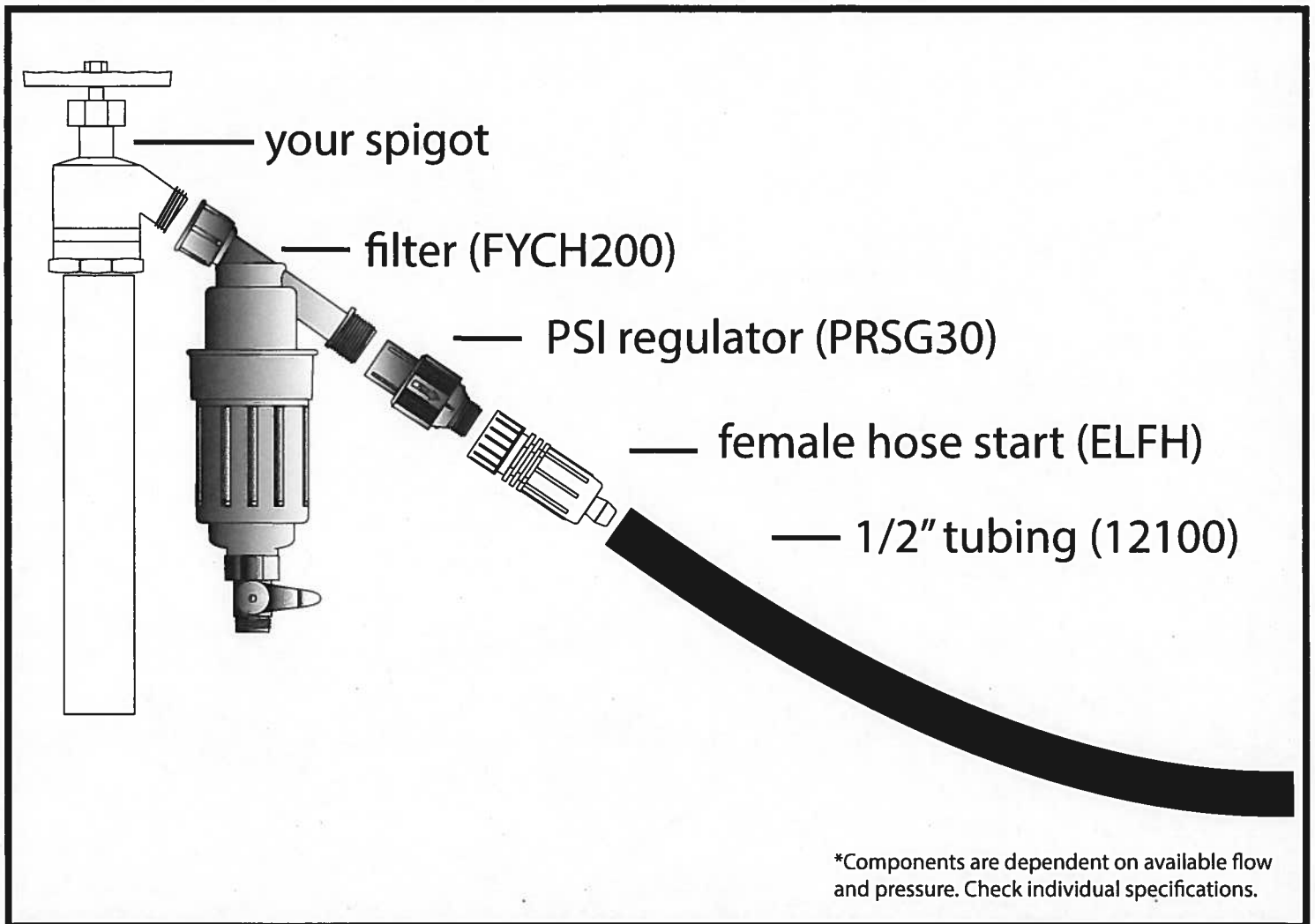
The Garden Bed Kit uses Soaker Dripline, 1/4" polyethylene tubing with built-in emitters spaced every 12". In addition, the kit includes 1/4" transfer bars, goof plugs, 1/4" elbows, hold downs, a repair coupler, a punch, and a roll of 1/4" tubing.

1. Punch a hole in the mainline at the point where you want to branch off
2. Insert a 1/4" transfer barb into the end of the Soaker Dripline
3. Insert the other end of the transfer barb into the hole you punched
4. Unroll the Soaker Dripline to the length desired (28' maximum)
5. Cut the Soaker Dripline (between emitters) and insert a goof plug in the line
6. Secure the tubing with hold downs
7. Repeat for all Soaker Dripline runs
8. Turn the water on and check to be sure all emitters are working



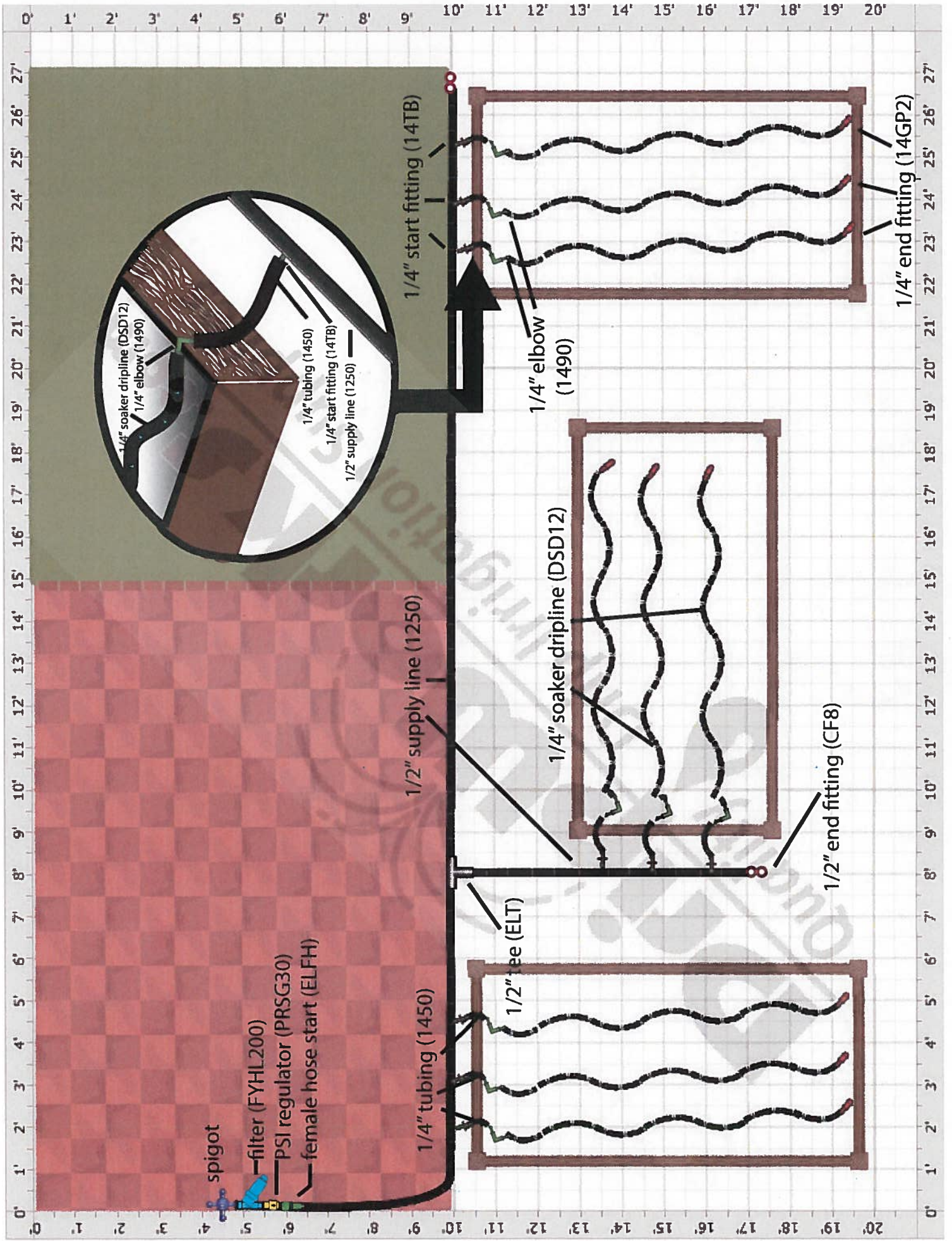
If you have any further questions about our products, or installing your drip system, please contact us at 800-522-3747 or via email at [support@dripworks.com](mailto:support@dripworks.com) or visit our store at DripWorks, 190 San Hedrin Circle, Willits, CA 95490

## Most Common Drip Irrigation System Start Using Hose Threaded Components



This easy to install setup is most commonly used in small to medium backyard garden situations. Because this system start uses hose threaded components it requires no Teflon tape or pipe dope on the threads and no tools for installation. The system can be easily automated by inserting a hose threaded battery timer between the spigot and the filter. DripWorks sells complete kits that include a hose threaded system start.





spigot

filter (FYHL200)

PSI regulator (PRSG30)

female hose start (ELFH)

1/4" tubing (1450)

1/2" tee (ELT)

1/4" soaker dripline (DSD12)

1/2" end fitting (CF8)

1/4" elbow (1490)

1/4" start fitting (14TB)

1/4" end fitting (14GP2)

1/4" soaker dripline (DSD12)

1/4" elbow (1490)

1/4" tubing (1450)

1/4" start fitting (14TB)

1/2" supply line (1250)