



# Clallam County Fire District 3

Motto: *Serve, Respect,  
Prevent and Protect*

## Do-it-Yourself Emergency Water Filter

### Description

One of the most common vulnerabilities that citizens face during a disaster is the loss of potable water. The water needed to drink and cook with. Water sources such as community water systems and private wells are normally very reliable water sources. But in a disaster, such as an earthquake, severe storm, tsunami, these sources can easily become contaminated and unsafe.

To address this, a simple yet effective emergency water filter can be assembled as a low cost do-it-yourself project that will get families another important step closer to preparing for a large scale disaster. The emergency water filter is capable of filtering up to one thousand gallons of drinking water.

The filter works by removing particulate contaminants down to 0.2 microns in size. It also uses silver impregnation to kill bacteria on contact. The Schrader™ valve in the lid of the dirty water bucket allows you to pressurize the bucket with a bike pump for faster filtering. Time to assemble is estimated to require approximately 30 minutes.



### Tools Needed

The filter system can be built using common household tools. All that is required is a drill and the following size drill bits 5/16", 1/2", 3/4" and 1".

### Parts List

The following items are listed for identification purposes only. They are not included as a product or vendor endorsement. They are included for the purpose of illustrating what types of components go into building the filter system.

**1 - Schrader™ valve**



**1 - Spigot**



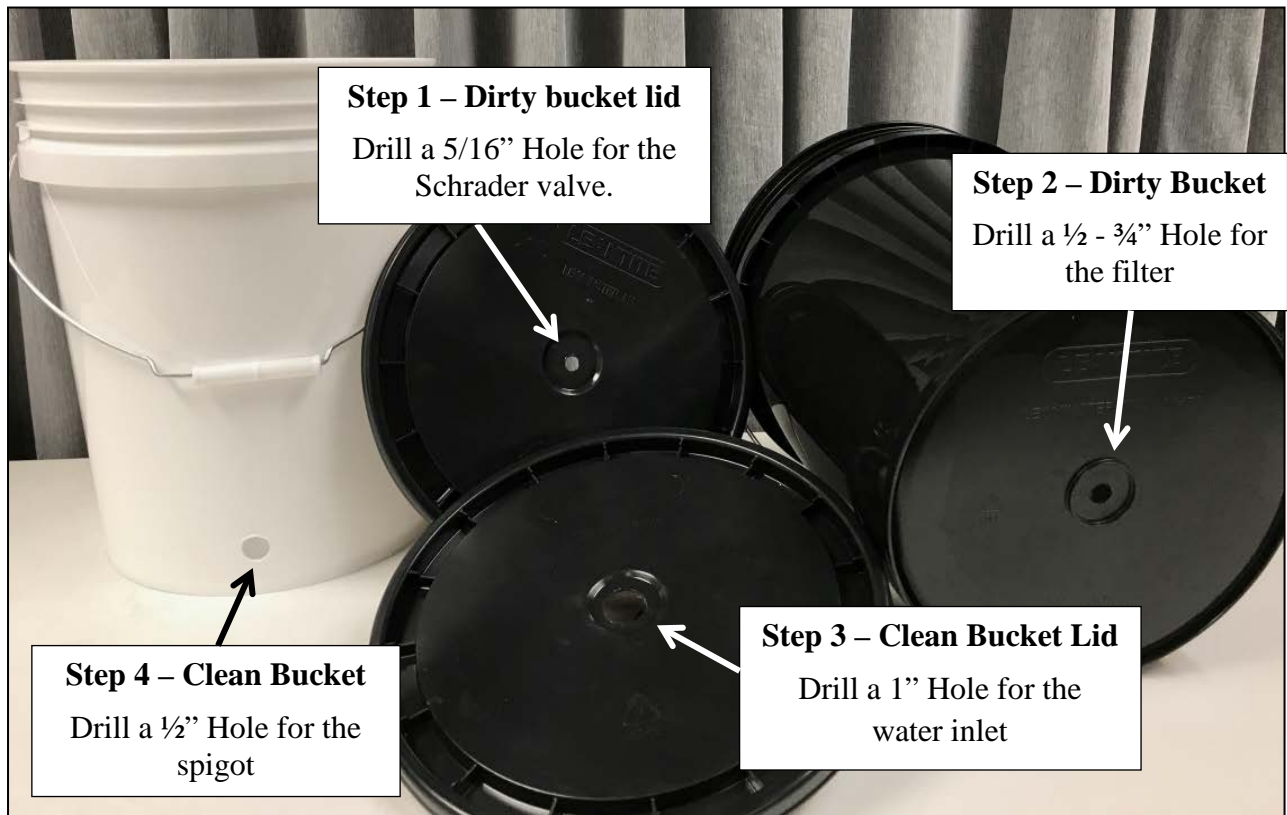
1 or more - Water Filters



2 - Food Grade buckets w/lids



The Build



**Step 1 – Dirty bucket lid**  
Drill a 5/16” Hole for the Schrader valve.

**Step 2 – Dirty Bucket**  
Drill a 1/2 - 3/4” Hole for the filter

**Step 3 – Clean Bucket Lid**  
Drill a 1” Hole for the water inlet

**Step 4 – Clean Bucket**  
Drill a 1/2” Hole for the spigot

**Step 1:** Drill a 5/16” hole in the center of the dirty bucket lid to install the Schrader™ valve. Insert the valve into the dirty water bucket lid, making sure the rubber grommet passes through the hole and can be evenly compressed on both the inside and outside of the lid.

Tighten the washer snugly, without overtightening it. The idea is to seat the gasket without crushing it.



**Step 2:** Drill a ½ to ¾” hole in the center of the dirty bucket bottom to install the water filter. What size hole to drill will depend upon the type of filter is to be installed. Place the filter’s mounting gasket over the filter’s discharge nipple.

Install the water filter to the dirty bucket, passing the discharge nipple through the bottom of the bucket. Secure the filter to the bucket by threading the wingnut onto the filter’s discharge nipple. Tighten the wingnut snugly to seat the gasket without crushing it.



**Step 3:** Drill a 1” hole in the clean bucket lid for the water filter’s discharge nipple to pass through.

**Step 4:** Drill a ½” hole for mounting the spigot at the base of the clean bucket. Insert the spigot through the mounting hole, then from inside the bucket, place the mounting gasket over the spigot so that it can seal against the inside surface of the bucket. Thread the nut onto the spigot, tightening the nut snugly.

