

READ THESE INSTRUCTIONS AND REVIEW THE INSTALLATION VIDEO BEFORE YOU BEGIN YOUR PROJECT

Tools Required: gloves, tape measure, level, shovel, hammer, saw, drill, PVC primer, PVC glue, lubricant

There are three primary stages of the rainwater harvesting installation covered below. Each project will vary based on your individual circumstances. Recommended practices are covered in greater detail by referencing the Rainwater Catchment Design and Installation standards published by the American Rainwater Catchment Systems Association (ARCSA) and The Texas Manual on Rainwater Harvesting published by the Texas Water Development Board.

The tanks and piping are for non-potable (non-drinkable) water use. An illustrated diagram can be found on the reverse side for referencing system components identified in these instructions.

Stage 1 - Tank Foundation

- 1) Position fiberglass gravel ring (E) before you begin.
 - The tank should be located close to a downspout.
 - Make sure you have enough space between the tank and nearby structures.
 - If you are installing multiple tanks measure between tanks for acceptable clearance.
- 2) Bury gravel ring to the appropriate depth to achieve level grade. Correct gravel ring setting requires a minimum of 1" burial around entire ring circumference.
- 3) Level the fiberglass ring before filling with gravel (F).
- 4) Adjust specific areas to help leveling.
- 5) Compact the dirt or soil before filling with gravel.
 - Level fiberglass ring once more before filling.
- 6) Fill fiberglass ring with a minimum of 4" and maximum of 6" of gravel.
 - Proper gravel or crushed stone should be smaller than ½".
 - Stones larger than ½" should be removed.
- 7) Level the gravel at the fiberglass ring top, this is your foundation bed.

Stage 2 - Fiberglass Tank Handling & Installation

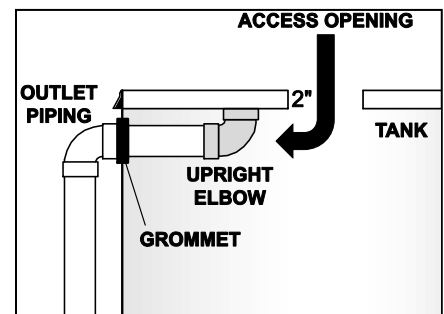
- 1) Most tanks (A) fit in a truck bed and are light enough for two people to unload (tanks weigh between 130 – 290 lbs).
- 2) Care should be taken to avoid potential injury.
- 3) Do not drop the tank from the truck bed. Care should be taken to prevent damaging the top and sides of the tank.
- 4) Place and center tank on the foundation bed.
- 5) Make sure tank is level (level between tanks if you are installing multiple storage tanks).
- 6) If you ordered a Natural Fiberglass tank: (without factory Desert Sand or Forest Green finish)
 - The tank must be painted with an opaque, UV resistant paint to prevent algae growth.
 - "Non-Potable – Do Not Drink" labels must be applied to tank exterior above the bottom fittings (I).
 - "Danger – Confined Space" label must be applied to tank top near the access opening cover (G).

Stage 3 - Piping

Piping is unique for each installation. Precautions should be taken to prevent pests and insects from entering the tank. ARCSA standards require inlets, outlets and access openings to have protective screens with openings no larger than 0.125". Factory supplied inlet and overflow grommets are sized to fit SDR 35 Thin-wall Sewer Pipe. Other types of PVC pipe such as SCH 40 have a larger outside diameter and cannot be used with CSI supplied grommets.

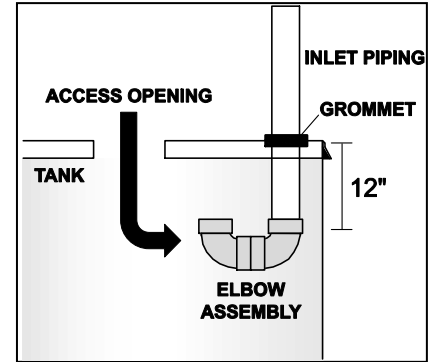
The following represents general steps:

- 1) Determine where the overflow outlet (K) will discharge. (The overflow outlet serves the dual purpose of discharging excess water and venting the tank.)
 - The discharge should be a minimum of 5' (feet) from the house foundation.
 - The overflow outlet must remain open and screened to prevent pests and insects from entering the tank.
- 2) The edge of the PVC pipe to be inserted may be sharp or burred from cut-off, which can cut or groove the tapered seal portion of the grommet during insertion. The pipe end cut outer edge should always be lightly chamfered with sandpaper to eliminate the sharp edge and remove burrs.
- 3) Apply lubricant to overflow rubber grommet (H).
- 4) Slip grommet onto pipe until the pipe end rests on the beveled inside edge of the grommet. (Approx. ½")
- 5) Insert the grommet with pipe into the tank overflow outlet hole.
 - To ensure a watertight connection, DO NOT insert pipe at an angle.
 - The pipe must stick into the tank far enough to attach the inside elbow from the access opening.



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- 6) An elbow installed on the inside of the tank overflow turned in the upright direction (right illustration) will increase storage capacity. Maintain a 2" minimum clearance between the elbow and tank top for proper operation.
 - Dry fit then glue PVC components.
- 7) Disconnect down spout piping and install a leaf /debris rain head (B).
- 8) Install the first flush diverter (D) as directed in the manufacturer's installation instructions.
- 9) Complete PVC connections (C) to leaf/debris rain head, first flush diverter and tank inlet.
- 10) To install the tank inlet pipe assembly (J), determine total length of inlet (pipe and elbow) by measuring the distance from the PVC joint above the tank top to the tank bottom.
 - Lubricate inlet rubber grommet (H) and insert SDR 35 pipe until the pipe end rests on the beveled inside edge of the grommet.
 - Insert the grommet with pipe into the tank inlet hole and push the pipe into the tank approximately 12".
 - Glue (2) PVC 90° elbows together then using the access opening on the tank top, glue the elbow assembly to the inlet pipe inside the tank as shown in illustration (right).
 - Push the inlet pipe down into the tank until the elbow rests on the tank bottom. The inlet pipe assembly will minimize splashing and disturbance of any sediment on tank bottom.
- 11) Piping exposed to sunlight should be primed and painted.



Optional Accessories

Add an optional tank level gauge (M), pumping system (N) and drip irrigation system as needed.

Congratulations, your finished system is ready to collect rain water.

Rainwater Harvesting System Components Reference

