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Galvanized Steel Downspout Planter

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The following summary is provided to detail the fabrication of a 100 gallon galvanized oval downspout planter for use in residential stormwater management. A list of tools required for construction, summary of materials needed, and the steps to build the planter are provided below.

Tool List

- Power Drill
- Utility knife
- Hole saw (2-3/8)
- Tape Measure
- Safety PPE

- Drill bits (3/8"or larger)
- Pipe wrench
- Jig saw (w/plastic cutting blade)
- Marker and pencil
- PVC hand saw

Material List

Material	Quantity	Cuts Required
stock tank	(1) 100 gallon	NA
2″ sch40 PVC pipe	(1) 4′ pipe	(1) length to be determined during build
4" PVC drainage pipe	(1) 10' pipe	(6) 12"
4" flat PVC caps	6	NA
PVC perforated 3/16" sheet	(1) sheet	(1) cut to fit inside tank
2" female trap adapter	(1)	NA
2" flush cleanout tee	(1)	NA
2" atrium overflow drain	(1)	NA
2" EPDM gasket	(1)	NA
3/4" hose bib ball valve	(1)	NA
sediment fabric	(2) 5' sections	(2)
spray foam can	(1)	NA
Teflon plumbing tape	(1)	NA
PVC glue	(1)	NA
Oval head drilling screw	(12)	NA

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Fabrication Instructions

 Lay perforated PVC sheet on flat surface and place tank bottom side down as a template on the sheet. Using a marker, transfer the template dimensions to the perforated sheet (Figure 1).



Figure 1. Marking sheet to cut

 Cut approximately ¼ to ½ inch inside the line using a jig saw with appropriate blade to reduce melting (designed for cutting plastic).
 Place perforated sheet to the side for use later. Take 4" perforated PVC drainage pipe and cut 12" long sections (6 for 100 gallon tank). Then, using PVC glue, attach 4" cap on one side of each of the sections (Figure 2a).



Figure 2a. 4" pipes and caps

 Begin to attach each 12" section of pipe with flat cap to the bottom of the perforated sheet using (2) ³/₄" oval head stainless steel screws per pipe section (Figure 2b). Pipes should be placed in a similar pattern as shown in Figure 3.



Figure 2b. Perforated sheet attached to pipe

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Figure 3. Orientation of PVC support sections

- Test fit perforated sheet inside stock tank making sure it sits approximately level. If areas are too tight, mark location then remove and trim with the jig saw.
- 6. Determine area where overflow pipe will be located (based on site conditions) and drill hole using 2 3/8" hole saw approximately 20 3/4 " from the bottom of the tank to the midpoint of the hole (Note: Allow 1" gap between the top of the planter and inlet of atrium grate). Some adjustment may be required based on site conditions and tank dimensions.

- Locate side of the tank where overflow will be plumbed and mark perforated sheet with 2" PVC pipe to extend through. Cut along marked line with jig saw or 2 3/8" hole saw and test pipe fitment.
- Measure length of vertical 2" pipe needed for overflow subtracting 2" to allow pipe to float off the bottom of the tank.
- Place all 2" plumbing for overflow into position for test fit. Perforate the 12" bottom portion of the PVC pipe extending through the perforated sheet with approximately 8 evenly spaced holes on 2 sides of the pipe. The hole size should be 3/8" or larger (Figure 4).



Figure 4. Overflow riser and through planter connection

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10. Place EPDM gaskets on either side of the overflow pipe through the tank (Figure 5).



Figure 5a. Overflow riser installed with atrium grate



Figure 5b. Overflow riser installed with atrium grate

- 11. Finally, glue joints once everything has been confirmed for fitment.
- 12. Fit hose bib ball valve into existing threaded bung for drainage. Use Teflon tape on ball valve threads prior to attachment. Ensure

fitting is tight and valve is on top. Set valve opening with 1/8" gap and removed valve handle and replace castle nut

13. Finally, use spray foam to seal edges of perforated sheet to metal tank. For larger gaps, a buildup of foam may be required (Figure 6). Allow 8-10 hours to dry before moving and 24 hours before placing soil mixture.



Figure 6. Perforated sheet with spray foam installed