




Downspout Water Drainage System

List of Tools Needed, Shopping List, and Installation Instructions














 **Medium Capacity**

 **8-10 Hours**
Total Man Hours

 **\$225 - \$270**
Material Costs

 **13 Tools Needed**

Tools Needed

 Duct Tape	 Hammer	 Saw	 Level	 Measuring Tape
 Pick	 PVC Glue	 Shovel	 Plastic or Tarp	 Phillips Screwdriver
 Wheel Barrow Optional	 Geotextile Fabric Optional	 Trenching Machine Optional		

Shopping List

Quantity needed of each part will vary based on several factors specific to your project including system length, rainfall intensity, and number of problem areas. Pipe and fittings are offered in two sizes: 3" and 4". Size availability will vary based on region and store. Ensure that component sizes are consistent throughout your drainage system.

NDS Part Number	Description	Purchase Online
321 or 421	3" or 4" Pop-up Emitter with Elbow	Buy online
FWAS24	Flo-Well	Buy online
FWSD69	Flo-Well Surface Drain	Buy online
900BLKIT	9" Catch Basin Kit	Buy online
Generic	3" or 4" Drain Pipe	
981	9" Atrium grate	Buy online

Installation Instructions

Note Before You Dig

Prior to installation, have your local utility companies locate and mark the location of existing utilities. Lay out your drainage system and mark the location of trenches and individual parts to be installed with marking paint before digging. Carefully remove grass or plants that are located where the trench will be dug so they can be replanted after installation. Trenches should be dug such that they slope a minimum of 1% away from your house. Place all excavated dirt on a tarp so that it can be used later to backfill.

To speed up installation, a trenching machine can be used to dig all trenches, especially in areas with particularly hard soil. NDS drainage products have been designed to be installed in any soil type. Due to the variety of pipe types and sizes, double check that all pipe connection points are the correct size. Please follow all installation directions included with the individual parts of your drainage system. To create watertight connections between products, apply a bead of waterproof silicone to both parts and connect.

This system requires that the elevation of the Pop-Up Emitter be lower than the elevation of the area drain or the system will not drain

Step 1: Lay out system, dig trenches and holes

Dig holes and trench for pipe, catch basin, Flo-Well, and EZ-Drain. Dry fit (no glue) the entire drainage system from the catch basin to the pop-up emitter. The Flo-Well and EZ-Drain should be installed at least 10' away from any existing structure. Measure and cut all pipe to necessary lengths. After completing each step, glue parts together.

DOWNSPOUT RUNOFF: BEST SOLUTION - STEP 1



LAY OUT SYSTEM, DIG TRENCHES AND HOLES

TIP: If installing the drain in an existing concrete area, a wet concrete saw will be required to cut the concrete prior installation. .

Step 2: Install Catch Basin beneath downspout

DOWNSPOUT RUNOFF: BEST SOLUTION - STEP 2



INSTALL CATCH BASIN BELOW DOWNSPOUT

Before beginning your installation, check if your downspout has a downspout elbow connected. If not, connect a downspout elbow to your downspout. If needed, connect the Catch Basin Universal Outlets to the Catch Basin by inserting the Outlet into the Catch Basin and twisting to lock in place. One of the outlets should have a plug. This plug must be inserted into the outlet that will not have a drain pipe connected. The Catch Basin can be used to clean out any debris that may enter the system and also serves as an inlet for surface water. It should be installed in the ground directly beneath the downspout elbow to catch all water draining from the downspout. Place the atrium grate on the Catch Basin and screw in place. Connect the drain pipe to the Catch Basin using the Catch Basin Universal Outlet.

TIP: Dig the hole for the basin an additional 6" deeper than needed. Place 6" of gravel in the bottom of the hole. Drill small holes in the bottom of the basin to prevent standing water in the bottom of the basin.

Step 3: Install Flo-Well and EZ-Drain

DOWNSPOUT RUNOFF: BEST SOLUTION - STEP 3



INSTALL FLO-WELL AND EZ-DRAIN

Watch a video of this step
[Click here now](#)



Run drain pipe from other end of Catch Basin to the Flo-Well. Knock out the appropriate holes in the side panels of the Flo-Well where the drain pipe and EZ-Drain will be installed. Assemble the Flo-Well using the interlocking side panels. Slide the Drain Pipe and EZ-Drain through the holes in the Flo-Well side panels.

TIP: Lay the Flo-Well panels on bricks or other hard surfaces and use a hammer to knock out the holes in the side panels.

Step 4: Connect Flo-Well Surface Inlet

Knock out the center hole of the Flo-Well lid. Place the lid on the Flo-Well side panels then place the Flo-Well Surface Inlet onto the Flo-Well lid.



CONNECT FLOW-WELL SURFACE INLET

Step 5: Install Pop-Up Emitter



INSTALL POP-UP EMITTER

Using a Corrugated Pipe Adapter, connect the EZ-Drain to an elbow with a weep hole. The elbow should be installed with the weep hole on the horizontal side of the elbow. Slide the Pop-up Emitter onto the elbow. An additional length of pipe can be used to bring Pop-up emitter to the surface.

TIP: To avoid damaging your Pop-Up Emitter with your lawn mower, raise the cutting level of the blades or avoid passing the mower over the Pop-Up Emitter

Step 6: Backfill and Replant



BACKFILL AND REPLANT

Backfill and replace any grass or plants that were removed.

TIP: DO NOT BACKFILL WITH SOIL WITH HIGH CLAY CONTENT. Water must be able to easily pass through the backfilled soil.



Have Questions?

Call 1-877-412-7467 or visit us on the web NDSPPro.com