Downspout Water Drainage System
ALL System

List of Tools Needed, Shopping List, and Installation Instructions

Low Capacity

6-8 Hours
Total Man Hours

$75-$95
Material Costs

12 Tools Needed

TOOLS NEEDED


Duct Tape


Hammer


Saw


Level


Measuring Tape


Pick


PVC Glue


Shovel


Plastic or Tarp


Phillips Screwdriver


Wheelbarrow (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.
Refer to drainage calculators on NDSPro.com for pipe & system sizing.

NDS Part Number	escription
321 or 421	3” or 4” Pop-up Emitter with Elbow
3P02 or 4P02	3” or 4” Sewer and Drain Elbow
101	Spee-D Basin
80	6" Atrium Grate (if installed in flower bed with mulch)
40	6" Round Grate (if installed in grass or other landscape area without mulch)
Generic	3" or 4" SDR35 Drain Pipe

INSTALLATION INSTRUCTIONS

Note Before You Dig

Prior to installation, have your local utility companies locate and mark the location of existing utilities. Layout 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 and catch basin. Dry fit (no glue) the entire drainage system from the catch basin to the pop-up emitter. Measure and cut all pipe to necessary lengths. After completing each step, glue parts together if a water tight connection is required.

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

Step 2:
Install Spee-D Basin beneath downspout

Before beginning your installation, check if your downspout has a downspout elbow connected. If not, connect a downspout elbow to your downspout. The Spee-D Basin should be installed in the ground directly beneath the downspout elbow to catch all water draining from the downspout. Connect the drain pipe to the Spee-D Basin. The Spee-D Basin can be used to clean out any debris that may enter the system and also serves as an inlet for surface water. Once installation is complete, place the grate on the Spee-D Basin. A 6” SDR-35 drain pipe can be inserted into the Spee-D basin to raise the elevation of the atrium grate. The Atrium grate will also fit into the“bell” or “hub” end of the pipe or on a 6” sewer and drain coupler.

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, eliminating a potential mosquito breeding area.

Step 3:
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 lawnmower, raise the cutting level of the blades or avoid passing the mower over the Pop-Up Emitter.

Step 4:
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.