Water in Basement Crawl Space Drainage
ALL System

List of Tools Needed, Shopping List, and Installation Instructions

All Capacity

5/5 Hours
Total Man Hours

$915-$1100
Material Costs

15 Tools Needed

TOOLS NEEDED


Duct Tape


Hammer


Saw


Level


Measuring Tape


Pick


PVC Glue


Shovel


Plastic or Tarp


Phillips Screwdriver


Wheelbarrow (Optional)


Plastic Cable Ties


Geotextile Fabric (Optional)


Clear Waterproof Silicone


Trenching Machine (Optional)

SHOPPING LIST

Quantity needed of each part will vary based on several factors specific to your project including systemlength, rainfall intensity, and number of problem areas. Pipe and fittings are offered in two sizes: 3" and4". 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	Description
EZ-0702F or EZ-0802F	7" or 8" EZ-Drain Bundle with 3" or 4" Pipe
3C05 or 4C07	3" or 4" Corrugated Couple
3C06 or 4C06	3" or 4" Corrugated End Cap
351 or 451	3" or 4" Corrugated Adapter
321 or 421	3" or 4" Pop-up Emitter with Elbow
Generic	3" or 4" Corrugated Wye Fitting
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, catch basin, Flo-Well, and EZ-Drain. Dry fit (no glue) the entire drainage system from the EZ-Drain 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 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:
Connect EZ-Drain and place in trench

Connect the EZ-Drain sections together using internal corrugated couplings and place the EZ-Drain bundles next to the footing or wall. Bundles can be held in place by wedging the bundles between a wooden stake and the foundation or basement wall. Additional aggregate only bundles can be stacked on the piped section as needed. Aggregate only bundles allow water to easily reach the piped sections so it can be quickly carried away.

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 between the elbow and Pop-Up Emitter to bring the Pop-up emitter to the surface. The Pop-Up Emitter fits on the "bell" or "hub" end of the pipe or a pipe coupler.

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.