




Water in Yard Drainage System

List of Tools Needed, Shopping List, and Installation Instructions

 Medium Capacity

 **8-10 Hours**
Total Man Hours

 **\$190-\$230**
Material Costs

 9 Tools Needed

TOOLS NEEDED



Saw



Level



Measuring Tape



Pick



PVC Glue



Shovel



Plastic or Tarp



Trenching Machine
(Optional)



Clear Waterproof
Silicone

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	Description
321 or 421	3" or 4" Pop-up Emitter with Elbow
FWAS24	Flo-Well
FWSD69	Flo-Well Surface Drain
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 drain pipe and Flo-Well. Dry fit (no glue) the entire drainage system from the Flo-Well to the pop-up emitter. The Flo-Well 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.



Step 2:

Install Flo-Well and drain pipe

The Flo-Well should be installed in a low spot in your yard. Knock out the appropriate holes in the side panels of the Flo-Well where the drain pipe will be installed. Assemble the Flo-Well using the interlocking side panels. Slide the drain pipe through the hole in the Flo-Well side panel.



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 3:

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.



Step 4: Install Pop-Up Emitter

Connect the drain pipe exiting the Flo-Well 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 5: 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.

