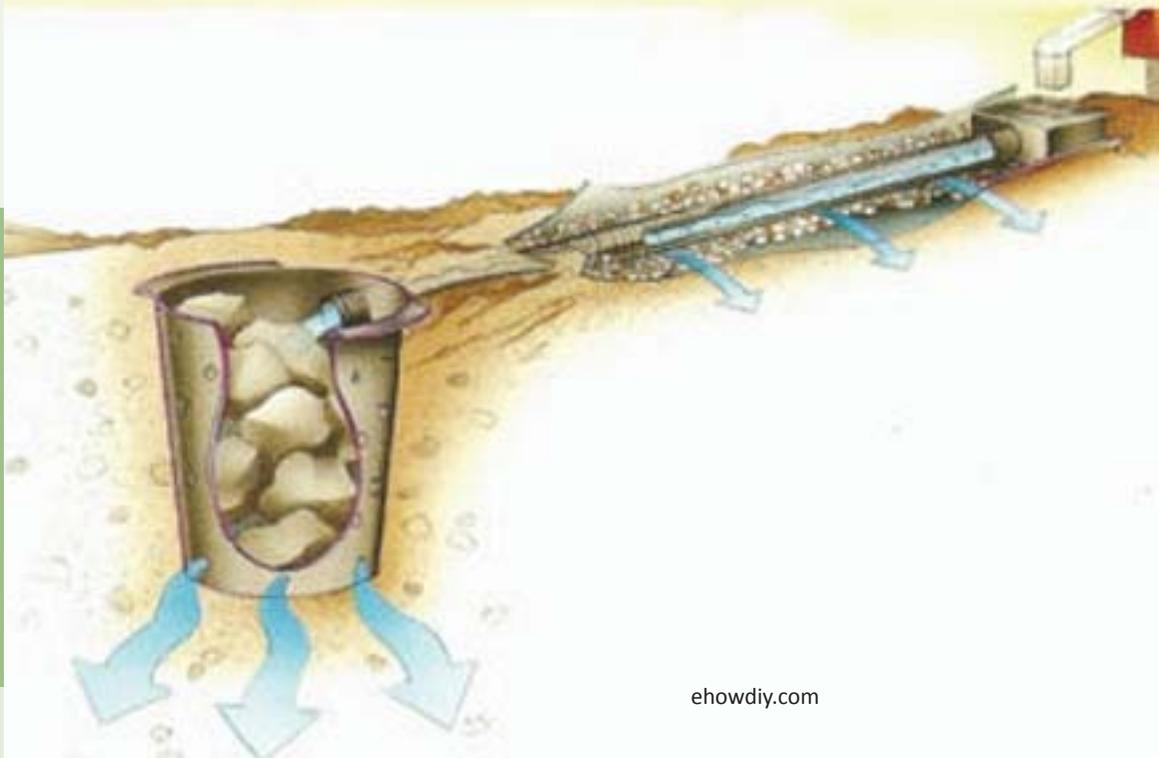


Dry Wells

Does Your Yard Flood Frequently?

A dry well is an underground structure that dissipates runoff rainwater. A dry well is composed of a perforated pipe that directs roof runoff into garbage can or metal tube in a small pit lined with gravel. This pit helps filter harmful chemicals.



ehowdiy.com



<http://www.tincancabin.com/>



**Fairbanks
Green
Infrastructure Group**

A dry well is a simple way to channel excess water out of low-lying or water-laden areas. A dry well system typically consists of a buried drain pipe underneath a downspout that carries the water to a dry well fashioned from either a plastic trash can or a metal culvert. The runoff water then percolates into the soil.

Cold Climate Considerations:

The dry well must be disconnected from the downspout in the fall to prevent ice dams from forming in the gutters.

Materials:

- 4-6" (10.2-15.2cm) diameter section of perforated PVC pipe with a length equal to the distance between your drainage point and the holding container.
- 2 PVC connection rings, same diameter as pipe
- Silicone Caulking
- Grated catch basin
- Large covered holding container (garbage can 30+ gallons) with lid.
- Gravel or landscape rock. enough have 2inches on the bottom of hole for holding container and to line the trench from drainage pipe.
- Geotextile or weed blocking landscape fabric

Tools:

- Shovel
- Hole saw
- Drill with .5 in bit
- Heavy duty Scissors (to cut landscape fabric)
- Tape measure

Grated Catch Basin

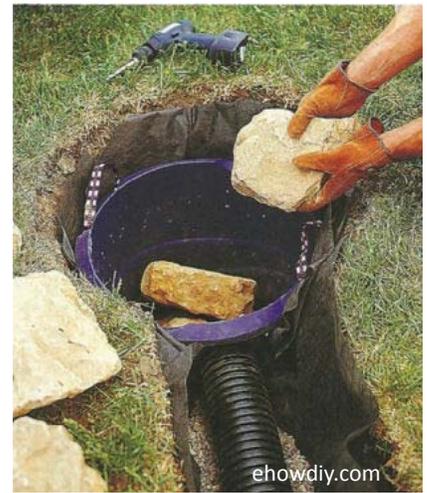


PVC Connection Ring

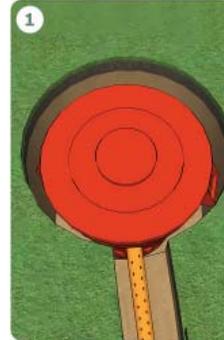


Steps:

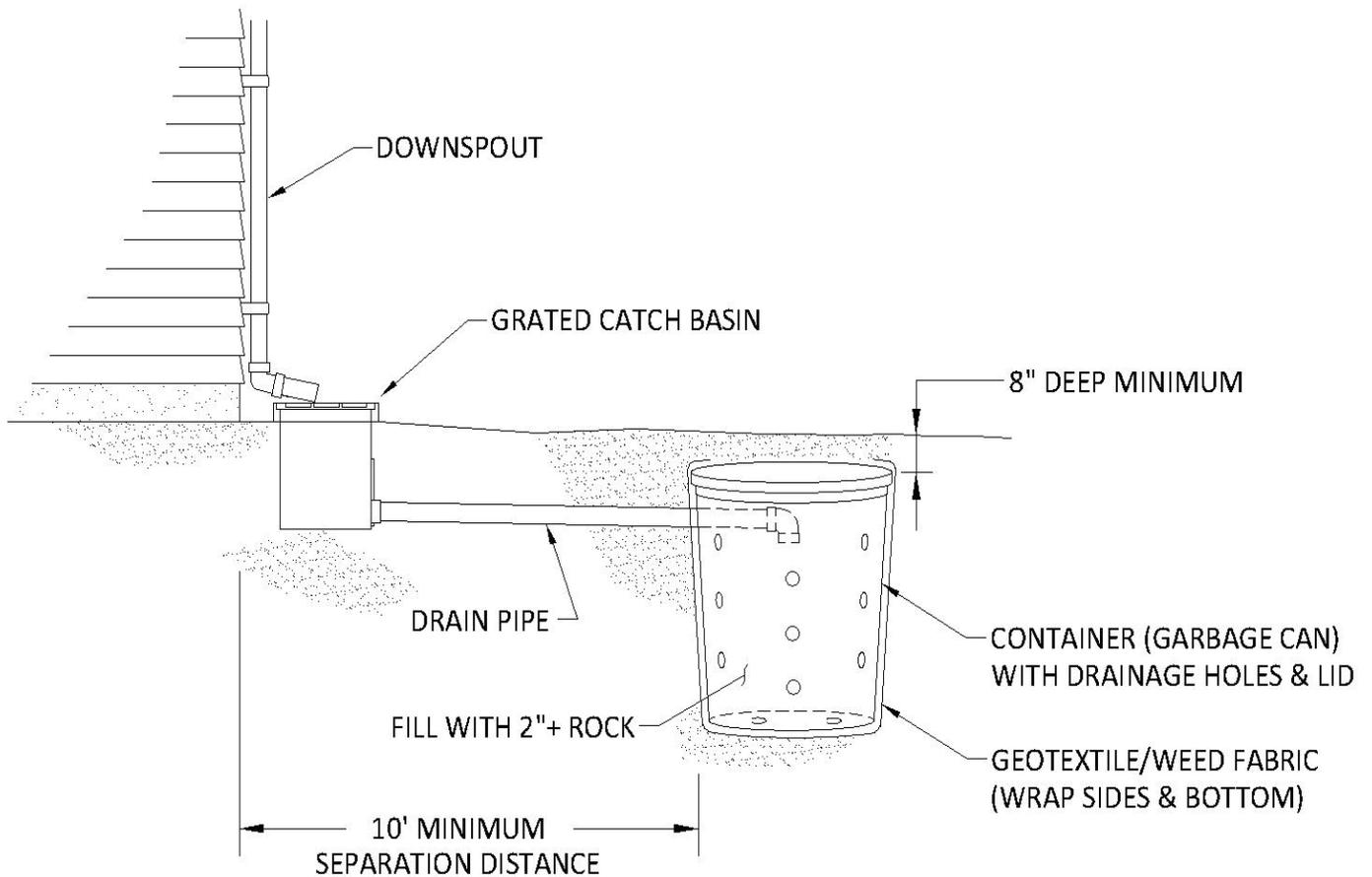
1. Find a suitable area on your property:
 - a. Note the direction of runoff and low spots where water collects. These would be good locations for a dry well as long as they follow the location constraints below.
 - b. Before you dig, be aware of underground service lines or utilities on your property. Call 1-800-478-3121 or go online at www.akonecall.com to have the underground lines marked for you.
 - c. Make sure that the chosen location is downhill and at least ten feet away from buildings with basements. Too close and it can allow for the water to seep back and cause damage to the foundation.
 - d. Location should not be on or near septic tanks or wellheads. It is not advisable to plant a garden on top of the dry well.
 - e. Test the infiltration rate of your soil (see directions on the back of this handout).
2. Dig a trench (10" wide x 14" deep) at least 10 feet from the area where the water comes off the building to where the container will be. For the water to move toward the drywell, the trench needs to be slightly sloped. Use the spade and gradually remove small amounts of dirt to create a very slight slope.
3. Dig a wide area near the downspout and install the grated catch basin under downspout.
4. Dig out the hole for the holding container. Should be at least 10 feet from any building or basement. The tip of the container should be 8 inches below the surface after 2" of gravel is added on the bottom of the pit.
5. Line the trench and pit with landscape fabric.
6. Spread 2" of gravel along the bottom of the trench and pit.
7. Drill 25-30 drainage holes along the bottom and halfway up the sides of the holding container.
8. Cut an entry hole in the side of the holding container, approximately 10 inches below the top of the container.
9. Attach the perforated PVC pipe to the container with the PVC connection ring using the caulking to seal it. Allow to dry for 1 hour at least.
10. Install holding container and PVC into the hole and trench.
11. Attach the PVC pipe the grated catch basin using the second PVC connection ring and seal it. Again let dry.
12. Test the system by pouring water over the top of the grated catch basin.
13. Place the cover on the holding tank.
14. Bury the tank and the pipe with the soil. Tamp down. Sod if desired.



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To test the infiltration rate of your soil:

- Dig an eight by eight inch hole within the designated area after the ground has thawed in the spring.
- Fill the hole with water and check the depth of the water every hour for at least three hours.
- If the water level in the hole goes down on average at least one inch an hour your soil will be able to drain effectively.
- If it takes longer than eight hours for the hole to completely drain, then you will want to put a gravel layer under your planter.
- Most locations in Fairbanks have well draining soils. If you live in the hills surrounding Fairbanks, you may have poorly draining soils.

Maintenance:

- Disconnect the downspout from the PVC pipe in the fall and reconnect it in the spring.

Cost Estimate:

- \$75-150 per well

Pros:

- Reduces water runoff
- Increases groundwater infiltration
- Requires limited space
- Minimal maintenance required
- Homeowner can install without assistance

Cons:

- Can't process large volumes of water
- Surface freezing reduces the water retention potential
- The perforated pipe can become blocked by ice or soil

Time Estimate:

- This project will take one to two days to complete.

For more information about this and other Green Infrastructure Projects please

visit: www.fairbanksgig.com

Sources:

Pennsylvania Stormwater Management Manual, French Drains

www.bfenvironmental.com/pdfs/Frenchdrains.pdf

Poribesh, Drywell for Stormwater Drainage

www.poribesh.org/Documents/drywell.pdf

WIKIHOW Dry Well instructions including pictures

www.wikihow.com/Build-a-Dry-Well

Tree People, Install a Drywell

www.treepeople.org/install-drywell

EHow DIY Dry Well Project

ehowdiy.com/basement_drainage_solution_how_to_install_a_dry_well.htm

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