French Drain for Yard

Overview

- French drains are designed to direct water away from the structure in order to reduce pooling and prevent flooding.
- French drains are trenches filled with filter fabric, gravel, and a plastic perforated pipe.
- They route water away from the pooling area and foundation into a natural drainage site like a stream, swale, ditch, or slope.
- Simple, shallow (8 to 24 inches deep) yard French drains can be installed as a "Do It Yourself" (DIY) project.
- More complex, deeper French drains or drains located close to the building's foundation will require a drainage contractor.
- Although simple French drains will route standing water away from the foundation, they may not be effective at preventing seepage into the basement or crawlspace.
- The success of the French drain will depend on the suitability of the drainage site.
- This system is not intended for high-flooding events when the water table or flood waters are more than a few inches above the basement or lowest floor.
- French drains are not recommended for areas that experience frequent flooding due to a lack of slope in the yard.
- If designed poorly or if a high-level flood occurs, the French drain could increase the risk of floodwaters inundating the foundation.

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Key Takeaways

During flood events, water may pool in yards or near structures.

Pools of water can ruin landscaping, provide breeding grounds for pests such as mosquitos, and potentially lead to interior flooding of structures.

To avoid flood damage costs in areas experiencing infrequent, low-level, short duration flooding, install a French drain system in the yard.

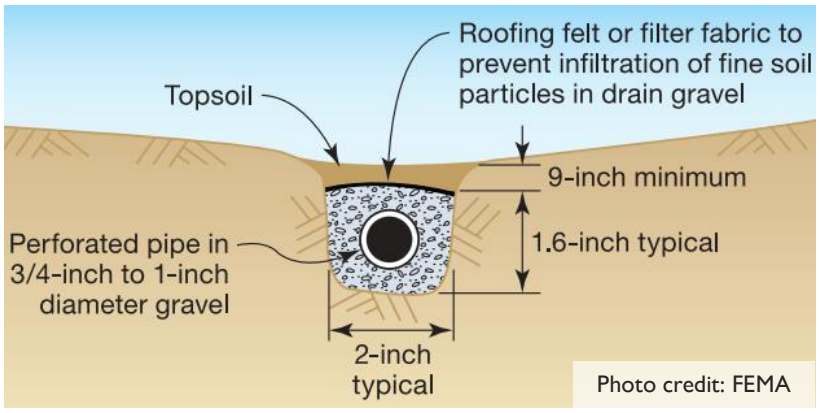
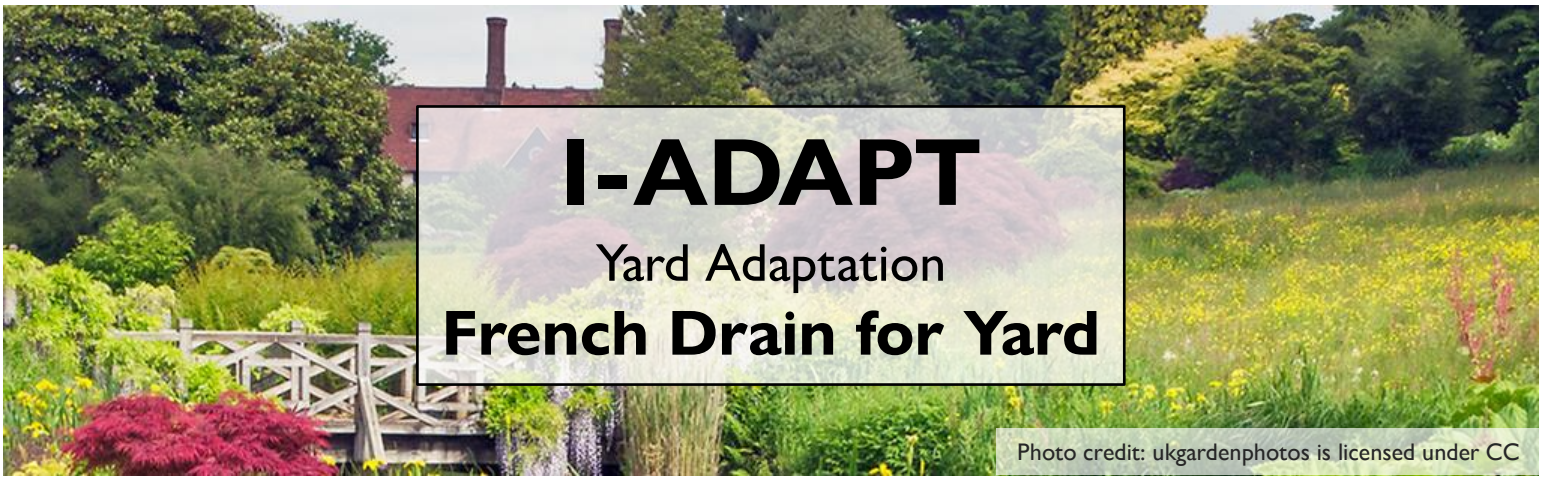


Photo credit: FEMA



I-ADAPT

Yard Adaptation

French Drain for Yard

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Estimated Costs/Benefits

*U.S. dollars (2022), estimates are subject to change

Potential Costs		Potential Benefits	
French Drain Type	*Estimate*	*Post-Flood Recovery Actions*	*Estimate*
Materials for simple "Do It Yourself" 8-24 inches deep French drain (60 linear feet)	$600-$2,000	Remove standing water	$1,300-$13,500
Installation of drain and materials for a deep, complex French drain (60 linear feet)	$1,000-$4,000	Mosquito control	$400-$600 per treatment
ESTIMATED TOTAL COST (60 linear feet)	**$600-$4,000**	**ESTIMATED TOTAL SAVINGS**	**$1,700-$14,100+**

Additional Actions

- Ensure that the French drain is not going to cause flooding or pooling on neighboring properties.

Additional Resources

- FEMA Engineering Principles and Practices for Retrofitting Flood-Prone Residential Structures (FEMA P-259)
- FEMA Homeowner's Guide to Retrofitting (Chapter 8)

Resources can also be found at https://de.gov/iadapt

Expected Maintenance

Monthly maintenance

- Clear out any debris, leaf litter, rodent nests, etc.

Annual maintenance

- Ensure that the drain is working.

Permitting Agencies

Contacts for permitting requirements include but are not limited to the following:

- Your city and/or county government for local flood ordinances or regulations
- Your city and/or county government for building permits
- DNREC Coastal Construction Permit
- DNREC or delegated agency Sediment and Stormwater Management Plan

Who to Contact

- 811 Call Before You Dig
- Drainage contractor

Technical definitions and more information are located on the I-ADAPT website: https://de.gov/iadapt.

For more information, contact DNREC's Division of Climate, Coastal and Energy at DNREC_IADAPT@Delaware.gov