

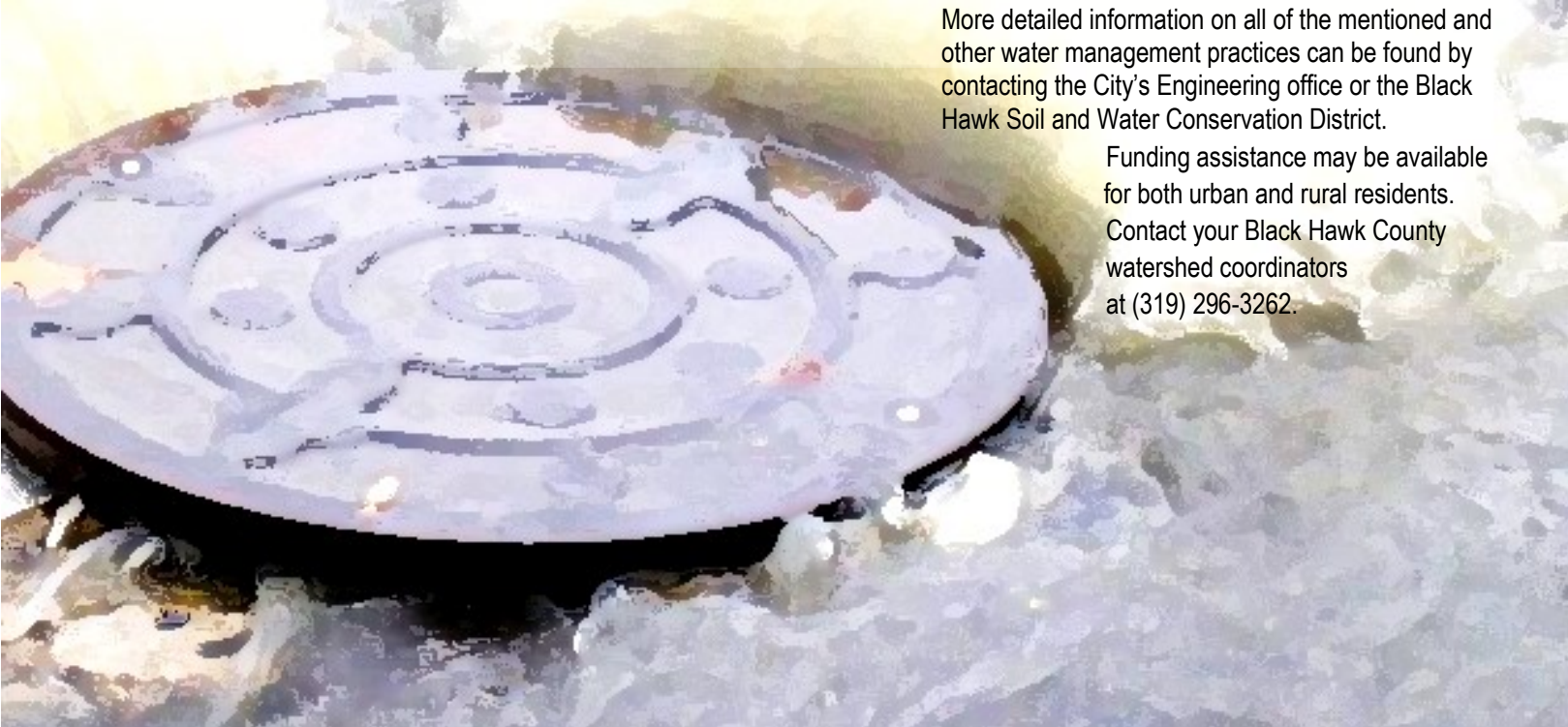
Why is this connection illegal?

Current City Code does not allow groundwater collected by footing or drain tiles at building foundations to be deposited into the sanitary sewers. This problem regularly presents itself in Waterloo. You may be contributing to your own or your neighbor's sanitary sewer back-up problems from illegal connections. Often, the water collected by tiles is discharged via a sump pump into the sanitary sewers, which were not designed to accommodate subsoil drainage systems. An expensive overload can occur. It is required by City code for this water to be discharged into side or rear yards, into drainage ditches, or into City storm sewers with approved connections. Think about the home or business where you live and work. Where is the ground water collected by this system deposited? If it is going to the City's sanitary sewer system, you can help solve the sanitary sewer system overload. Your cooperation is critical! Questions can be directed to a plumbing contractor or to the City's Building Inspection Department at (319) 291-4319.

Most citizens seldom stop to think about sewers until a problem arises. Nearly 380 miles of sanitary sewer extend underground beneath the city. This system of sewers transports wastewater to the Waste Water Treatment Plant 24/7. During times of wet, rainy weather, water is discharged into sewers causing nasty consequences like sewage back-ups or untreated wastewater discharges directly into the river.

More detailed information on all of the mentioned and other water management practices can be found by contacting the City's Engineering office or the Black Hawk Soil and Water Conservation District.

Funding assistance may be available for both urban and rural residents. Contact your Black Hawk County watershed coordinators at (319) 296-3262.



Managing Ground Water on Your Property

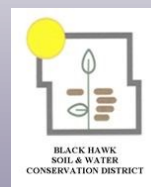
Options for Disconnecting the Sump Pump from Discharging into the Sanitary Sewer

Brought to you by the City of Waterloo and their stormwater education partners.

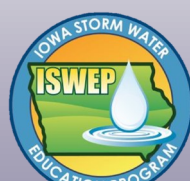
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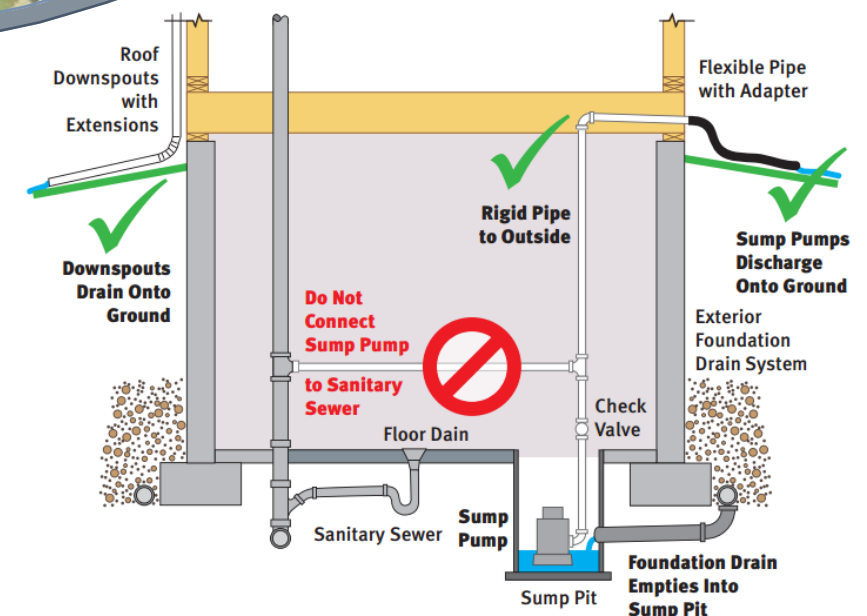


blackhawkswcd.org



iowastormwater.org

If you are required to redirect the sump pump connection from your sanitary sewer, there are many options for managing groundwater on your property.



Sump Pump Inspection Program

The connection of sump pumps and foundation drains to the city's sanitary sewer system results in large amounts of ground water being discharge to the waste water treatment plant during heavy rains. This additional volume results in overflows and sanitary sewer bypasses, allowing untreated wastewater to be discharged into public waters. This is an environmental and public health concern.

Waterloo, along with other cities throughout Iowa, is working with the Iowa Department of Natural Resources and the United States Environmental Protection Agency to develop programs to reduce sanitary sewer overflows and improve water quality. One aspect of this program is the elimination of excess groundwater flows into the sanitary sewer system in keeping with City Ordinance 8-3F: Foundation Drain Disconnection. Residents whose homes are found to be out of compliance at the time of inspection are eligible to receive financial assistance from the City up to \$2,000 towards the cost of bringing the home up to code. More information on the city's inspection and disconnection program, including details of available financial assistance can be found online at:

http://www.sterlingcodifiers.com/codebook/index.php?book_id=412&chapter_id=91715

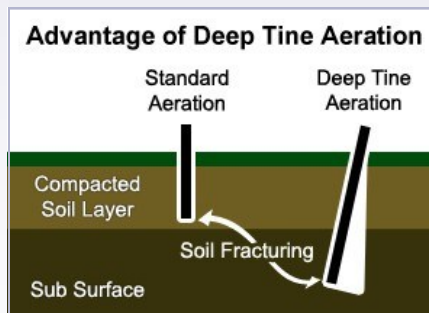
Disconnect and Infiltrate

Ways you can keep ground water on your property

Disconnect — At times sump pumps are directly connected to the sanitary sewer system. To re-route this connection, sump pump water could be routed to a pop up drain in your yard. This, combined with soil quality restoration (mentioned below), is a great way to keep your ground water disconnected. Another direct connection is when rooftop gutters are tied into the subdrain. A simple fix is to install an inexpensive elbow to direct the downspout onto your lawn.



Infiltrate — There are many best management practices (BMPs) that can be used to infiltrate rainfall and sump pump discharges and be seamlessly incorporated into your landscape. These practices include:



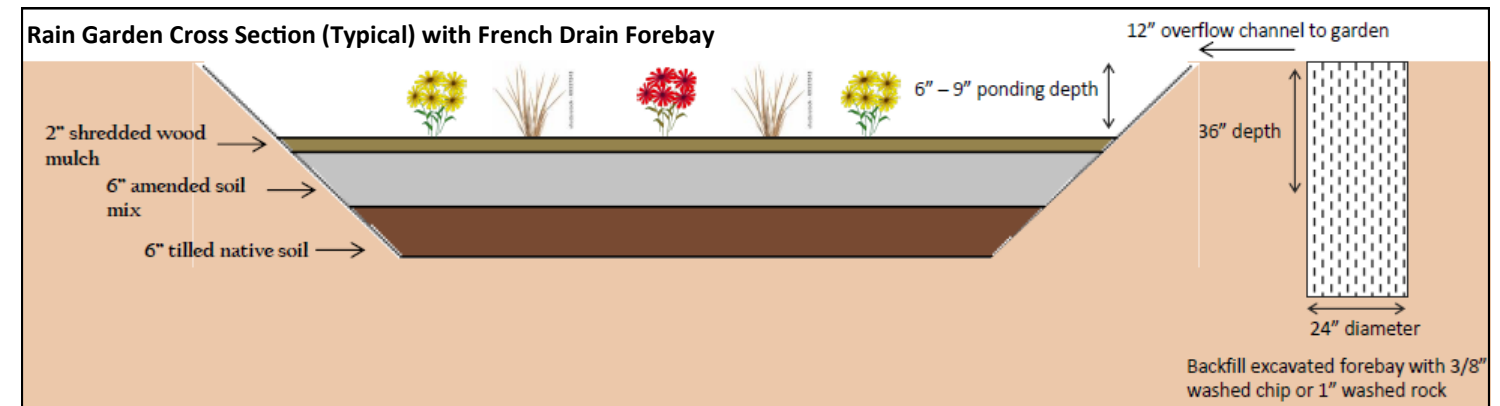
• **Soil Quality Restoration** — Reduce soil compaction through aeration and increase soil organic matter by adding compost. Deep tine aeration helps create space below the top compacted layer in your lawn and makes voids for compost to move into. This helps infiltration of water, which will help your lawn.

• **Rain Gardens** — Landscaped depressions with plants that don't mind getting their feet wet for a short amount of time. Water from sump pumps, roof drains and other impermeable surfaces can be directed to a rain garden where the water will have a chance to infiltrate into the ground. Rain gardens can be designed to look just like any other landscaping feature on your lot.

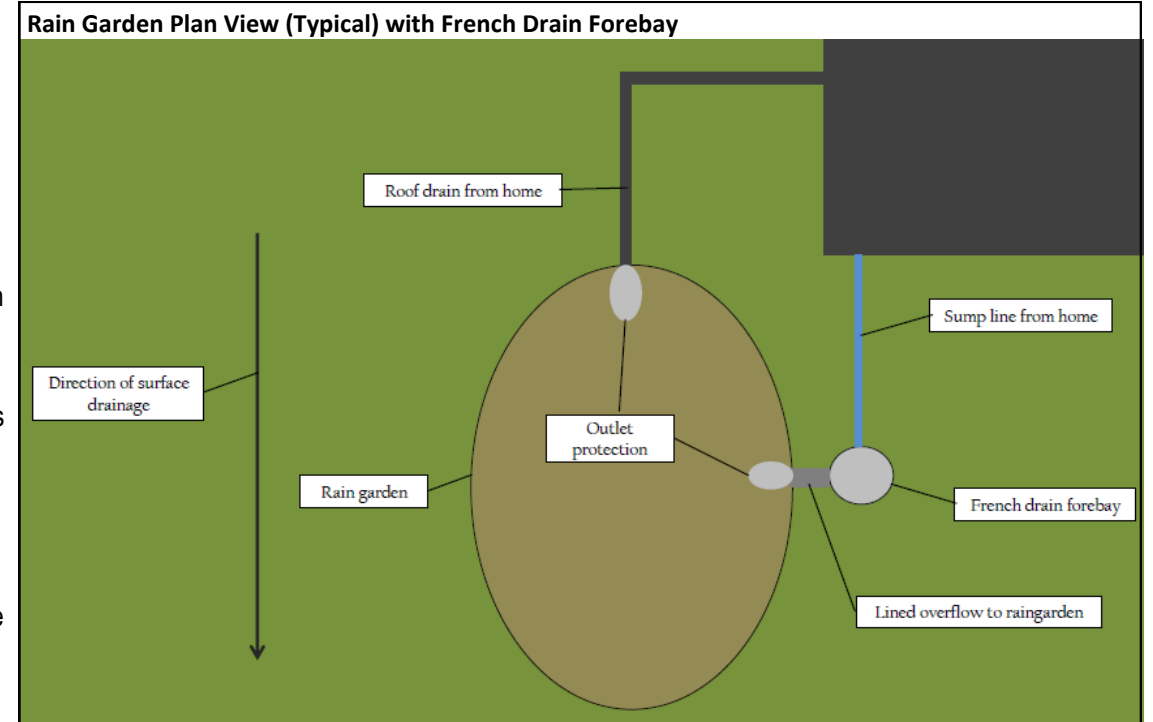


• Rain Gardens (Cont.)

Rain gardens are sized to manage the storm water volume resulting from a 1.25" rain event over the area of impervious surface (roof or driveway) draining to them. As the volume discharged from sump pumps and foundation drains varies greatly from site to site and is often difficult to estimate, the rain garden must either be over-sized to accommodate this additional flow, or a supplemental french-drain forebay must be included to help manage the extra volume.



In the design shown, the sump pump discharge is directed into a french-drain where regular flows are allowed to infiltrate as groundwater. Flows exceeding the capacity of the french-drain run to the main body of the raingarden along with any managed stormwater from impervious surfaces to be managed by the rain garden. Depending on the site's soils, a perforated subdrain may also be used to improve the rate of drainage from the garden.



Assistance with the design of infiltration practices, as well as financial assistance of up to 50% of incurred installation costs not to exceed \$2,000, is available through the Black Hawk Soil and Water Conservation District. Those interested should contact Josh Balk at (319) 296-3262 or by email at joshua.balk@ia.nacdnet.net

There is also the option to connect to the City's storm drain system.

Connections to the City storm system are also acceptable. Not all homes will have a storm pipe or subdrain available to tap into. For those homes that can connect to the storm pipe system, only approved and inspected connections will be authorized.

The City of Waterloo Building Inspection Department are coordinating inspection and enforcement of the foundation drain disconnection project. For details on requirements and acceptable methods of disconnection, call (319) 291-4319.