



Public Services Area

CITY OF ANN ARBOR, MICHIGAN
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Footing Drain Disconnection Program
www.a2fdd.com

Sump & Sump Pump Maintenance Document

Save This Information!

Please keep this and any equipment manufacturer's documents in immediate vicinity of your sump pump for convenient reference!

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Maintenance of the Sump and Sump Pump System

The sump pump installed in your basement needs to be inspected and tested regularly to ensure that it is operating properly. It is recommended that the homeowner follow all manufacturer recommendations for inspections, inspection intervals, testing, and replacement of parts for all components in the system. Like all mechanical devices, components of the system may wear out and this periodic attention gives the opportunity to identify any problems and have them repaired before they cause problems.

To help ensure that the sump pump is in top operating condition before the spring thaw and rainy season take place, the following steps should be followed as part of routine maintenance. If you have an emergency or urgent problem and you are not sure what needs to be done or how to diagnose the problem, it is recommended that you contact a licensed plumber or licensed contractor.

These recommendations are not intended to replace your manufacturer recommendations. Please refer to your owner's manual for specific information regarding your installed components. If you are not comfortable completing any of the following steps described, you may wish to contact a contractor to perform these steps.

Also the recommendations in this booklet are mainly for homes that had sump pumps installed as part of the City of Ann Arbor Footing Drain Disconnection Program. Therefore the instructions that follow are for submersible sump pumps within a sealed sump. The steps and sump pump system setup differ significantly for pedestal pumps that generally sit above the basement floor.

SUMP and PUMP Maintenance Steps:

- 1) Make sure that you are familiar and comfortable with your sump and sump pump system setup. Please consult Appendix A on page 7 for pictures of different system setups.
- 2) **BEFORE INSPECTING AND/OR SERVICING PUMP, MAKE SURE IT IS UNPLUGGED.**
- 3) **Remove the cover of the sump:** There are 3 common types of lids, each requiring slightly different removal methods.
 - a) **One-piece cover:** Remove sump lid by unscrewing the bolts that hold the cover down. When loosened adequately, slide the lid up the pipes and cords that pass through it. This should allow for enough room to complete the following steps. If more space is needed the lid can also be rotated around the discharge pipe to one side to provide more room.
 - b) **Two-piece cover:** This type of cover has two sections that are either separate or joined with a hinge joint. One section usually has the discharge pipe from the pump exiting through it. The other section usually has a white round cap plugged into a hole. Unscrew the bolts that hold down the section that DOESN'T have the discharge pipe through it. Carefully fold open or remove the section where the bolts were loosened. This should allow for enough room to perform maintenance. Keep the section of the lid with the discharge pipe attached to the sump. If more space is required then loosen the section with the pipe through it as described in step 1(a) above.
 - c) **Plexi-glass (clear) Cover:** This is a see-through plexi-glass cover that is usually rectangular and sealed to the basement floor, rather than the sump frame. It also requires additional steps to re-seal once opened. The clear lid may or may not be attached with screws that tap into the concrete foundation. If there are screws they will have to be loosened and removed from the lid and put in a place where they won't be lost. Grab an edge or corner of the lid, and carefully lift it upwards until the sealant or caulk around that edge has loosened from the floor. Put the lid down and lift another area of the cover where the caulk or sealant is still attached to the floor. Repeat lifting action until the entire seal between the lid and floor is loose. Now slide the lid upwards allowing the pipes to pass through it. This should allow for enough room to perform maintenance, otherwise try rotating the lid around the PVC discharge pipe to allow for more room.
- 4) **Visual Inspection:** Perform a visual inspection of the sump and pump for defects. You will probably need a bright flashlight see down to the bottom of the sump.
 - a) Inspect the sump for debris that may obstruct the on/off float switch or pump intake. Debris could include rocks, mud, concrete or pieces of the plastic or tile pipe. If you attempt to remove debris from the sump, be sure to unplug the

sump pump first to avoid electrocution or harm from the pump. Keep in mind at all times that pumps have moving parts so do not attempt to handle during operation.

Inspect the sump for evidence of sediment entering the sump from the incoming foundation (footing) drain(s). If there is a layer of sand around the sides of the sump and/or at the bottom this may be evidence that sediment is entering the sump from the footing drains. While a small amount of sediment or sand at the bottom of the sump is normal, excessive amounts are problematic. If there is evidence that an excessive amount of sediment is entering the sump it is recommended that you contact a qualified contractor to determine if additional action is needed. Usually the trail of fine sand or sediment can be tracked to the incoming foundation drains that are typically located about six to twelve inches below the top of the sump.

Visually inspect the pipes, check valves and electrical cords for any loose connections or damage.

- b) **IF YOU HAVE UNPLUGGED THE SUMP PUMP, MAKE SURE TO PLUG THE SUMP PUMP IN AGAIN AFTER THE VISUAL INSPECTION!** Check that the circuit breaker is in the ON position.

5) Test the pump:

- a) Add water to the sump until the sump pump starts. On average 3-4 gallons of water will be needed to activate the pump but it could be more or less depending on the system configuration. While in operation a small stream/spray of water should be visible from the discharge pipe near the pump or from the pump itself. This is a weep hole installed to prevent the pump from air locking. If you cannot see this discharge, you will need to clean the discharge pipe and top of pump to clear the discharge hole. **Before attempting to clean the discharge pipe be sure to unplug the sump pump first to avoid electrocution or harm from the pump. Keep in mind at all times that pumps have moving parts so do not attempt to handle during operation. IF YOU HAVE UNPLUGGED THE SUMP PUMP, MAKE SURE TO PLUG THE SUMP PUMP IN AGAIN AFTER THIS STEP!** Check that the circuit breaker is in the ON position.
- b) If the pump doesn't activate after pouring in water to several inches above the submersible sump pump then:
 - i. Visually verify that the float switch is not obstructed, and that it is fully extended up towards the water surface.
 - ii. Verify that the sump pump is plugged into the electrical outlet properly.
 - iii. Verify that the circuit breaker is in the ON position.
 - iv. Lastly verify that the electrical outlet has power, possibly by temporarily plugging in another appliance to that outlet. If the wall

outlet is not working properly you may need to contact an electrician to diagnose and fix the problem.

- c) **If Equipped With a BATTERY Back Up Pump:**
 - i. Check the water level in the battery (unless the battery is a maintenance free type). Consult the manufacturer maintenance manual for detailed instructions.
 - ii. Inspect the sump for debris that may obstruct the On/Off float switch or pump intake at the bottom of the pump. Before attempting to remove debris shut off the power source to the primary and back up pump. Keep in mind at all times pumps have moving parts so do not attempt to handle during operation.
 - iii. Unplug the primary sump pump (if not already done) and add water until the back up pump operates (note: this pump may not have a weep hole). **IF YOU HAVE UNPLUGGED THE SUMP PUMP, MAKE SURE TO PLUG PUMP IN AGAIN AFTER THIS STEP!**
 - iv. During step iii) observe the alarm associated with this system. Reset if necessary.

- d) **If Equipped With a WATER Powered Back Up Pump:**
 - i. Check to make sure that the water supply valve is in the ON position. For a handle-operated ball valve the handle is parallel to the pipe when open (on) and perpendicular to the pipe when closed (off).
 - ii. Inspect the sump for debris that may obstruct the on/off float. Before attempting to remove any debris shut off the water supply valve and unplug the primary pump from the electrical wall outlet. Keep in mind at all times that sump pumps have moving parts so do not attempt to handle during operation.
 - iii. Unplug the primary sump pump (if not already) and make sure that the water supply valve is in the on position. Add water until the back up pump operates (note: this pump may not have a weep hole). **IF YOU HAVE UNPLUGGED THE SUMP PUMP, MAKE SURE TO PLUG PUMP IN AGAIN AFTER THIS STEP!**

- 6) Replace the sump cover, reconnect all pump electrical plugs back into the wall sockets and check that all power sources for the primary and backup system are in the “ON” position to be sure the entire system is operational. If the sump has a clear plexi-glass cover make sure that the cover is sealed to the basement floor with new sealant (and concrete screws if needed) to prevent radon from entering the basement through the footing drains and unsealed sump.

OTHER:

- 1) Visually inspect all alarm mechanisms (if applicable), exposed metal parts and connections to evaluate if corrosion is present. It may be appropriate to apply a

silicone water repellent spray to deter corrosion. Refer to manufacturer usage instructions to apply silicone spray.

2) On the outside of your house

- a. If your sump discharges to the ground surface of your yard, check the discharge point to ensure that debris has not collected at that point thereby obstructing the flow from the pipe. Clean the area to be sure flow is not inhibited if necessary.

- b. If the sump pump discharges to an underground pipe that connects to the storm sewer system or an infiltrator check the air gap and cleanout assembly at the exterior wall of house. The discharge pipe needs to be clear of obstructions. Make sure that the air gap by the house wall where the smaller 2-inch pipe drops into the larger 4-inch diameter cleanout assembly is free of natural debris such as twigs, leaves, mulch, gravel or topsoil. Next open up the cleanout cap of the assembly with a large adjustable wrench or a pipe wrench and check the interior of the cleanout assembly for the same items mentioned. Once done put the cleanout cap back on.

3) Other resources

- a. Sump and Sewage Pump Manufacturers Association has an excellent free troubleshooting guide at <http://www.sspma.org/trouble/index.html> and other related material available by purchase.

- b. Your pump manufacturer's owner's guide. If you no longer have the original copy, a replacement can usually be found at your pump manufacturer's website, refer to list below or use a search engine.
 - i. Flotec Pumps - <http://www.flotecpump.com/>
 - ii. Hydromatic Pumps - <http://www.hydromatic.com/>
 - iii. Zoeller Pumps - <http://www.zoeller.com/zcopump/zcohome.htm>

****If you do not feel comfortable completing any of these steps it is strongly recommended you have a contractor inspect these features to ensure the components work properly.***

APPENDIX A

Maintenance Graphics

Sump with Two-Piece Cover

(One-piece lid has similar look without the visible seam)



Battery Powered Backup Pump System

(Consult the manufacturer manual for maintenance recommendations and instructions)



Control
Panel

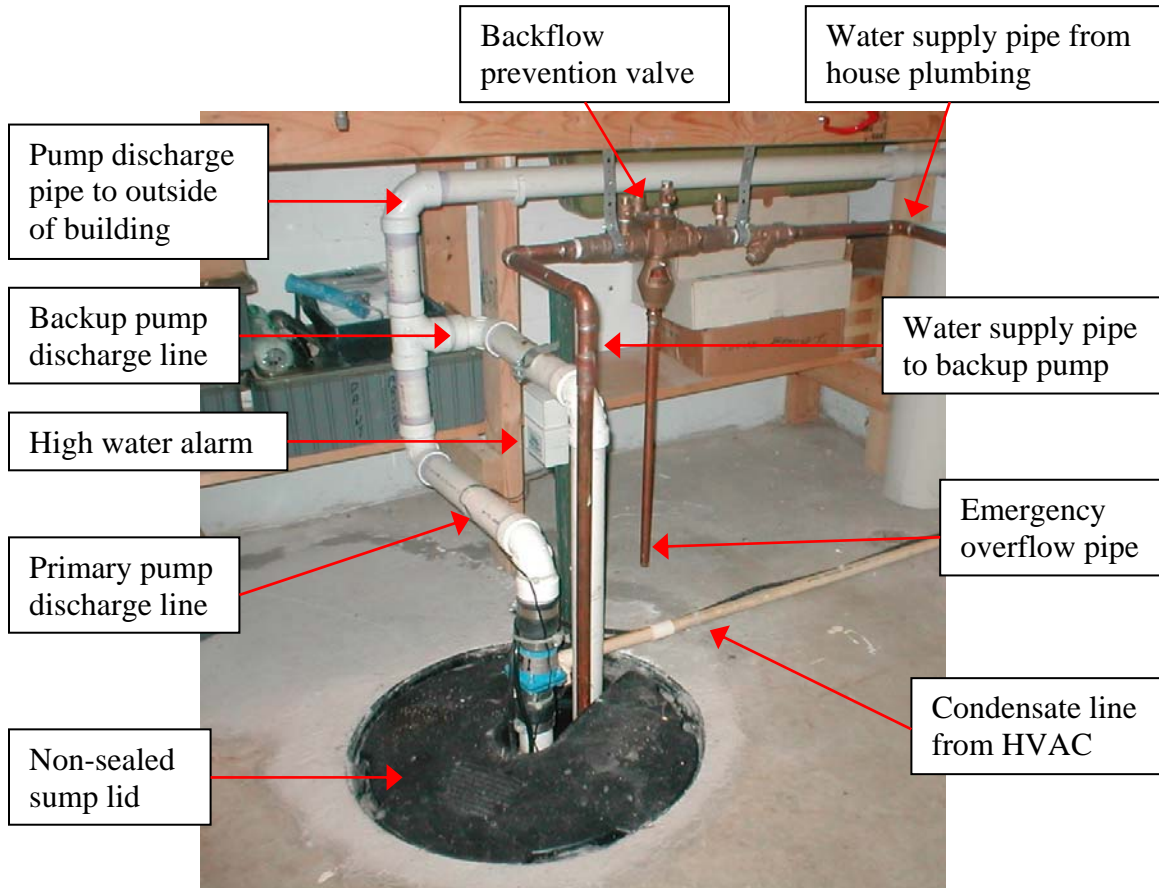
Sump pump discharge
pipe to outside

Battery

One-piece
sump cover

Water Powered Backup Pump System

(Consult the manufacturer manual for maintenance recommendations and instructions)



Sump with Clear Lid

