



# DRAINAGE TIPS FOR PROPERTY OWNERS

# RECOMMENDED STANDARDS FOR DRAINAGE ON A LOT

## Recommended Standards

1. Downspout drainage should be as close to the center of the front or rear facade of the house, within 3 feet of the foundation, projected away from the foundation perpendicular to the front or rear wall of the house, and not projecting to any yard beyond the side or side facade plane at edge of roof gutter of the house.
2. Downspout water must flow away from adjacent side lots so that the water will not empty onto adjacent properties.
3. Sump pump discharge is to flow to the front or the rear yard, and extending not more than 25% of the distance between the building and the nearest adjacent property boundary.
4. Downspouts should discharge onto the ground. Splash blocks are required at the bottom of downspouts.
5. Downspouts or sump pumps shall not be connected to the sanitary sewer.
6. Downspouts and sump pumps should drain onto 20 feet of pervious ground surface before leaving the site, unless otherwise mitigated.
7. Downspouts or sump pumps can extend to the outermost edge of a patio into a rear yard provided:
  - a. the terminus of the extension is not more that 3 feet beyond the patio, and
  - b. the extension away from the building does not exceed more than 25% of the distance between the building and the property boundary.

## LEGEND OF SYMBOLS



Downspout



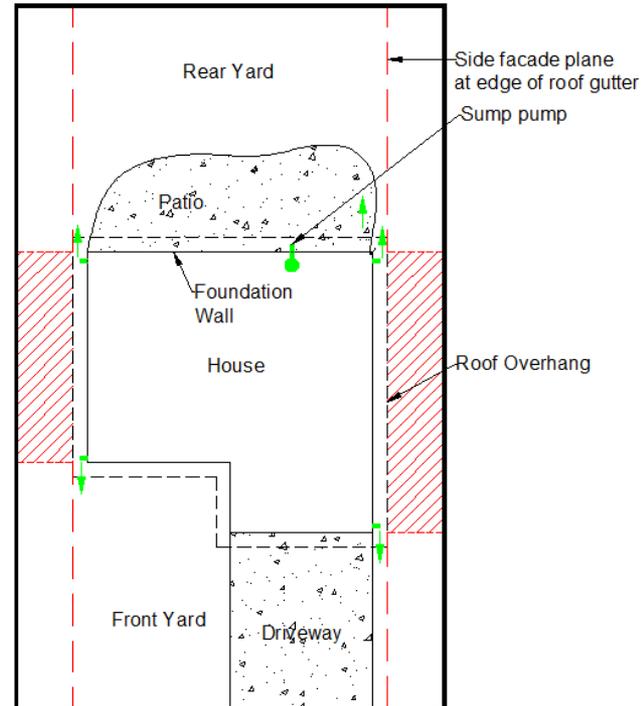
Direction of Flow



Sump Pump



Water must flow to front or rear yards from this area, not onto neighboring properties



PREPARED BY:



VILLAGE OF BLOOMINGDALE  
201 S. Bloomingdale Road  
Bloomingdale, IL 60108  
(830) 893-7000

PROJECT NAME:

PRIVATE STORMWATER DISCHARGE  
FOR SUMP PUMPS AND DOWNSPOUTS

DATE: 6/15/2016

SCALE: N.T.S.

DRAWN BY: *SL*

APPROVED BY:

REVISIONS

1	12/3/2018	rlp	4
2			5
3			6

SHEET NO.

1  
1

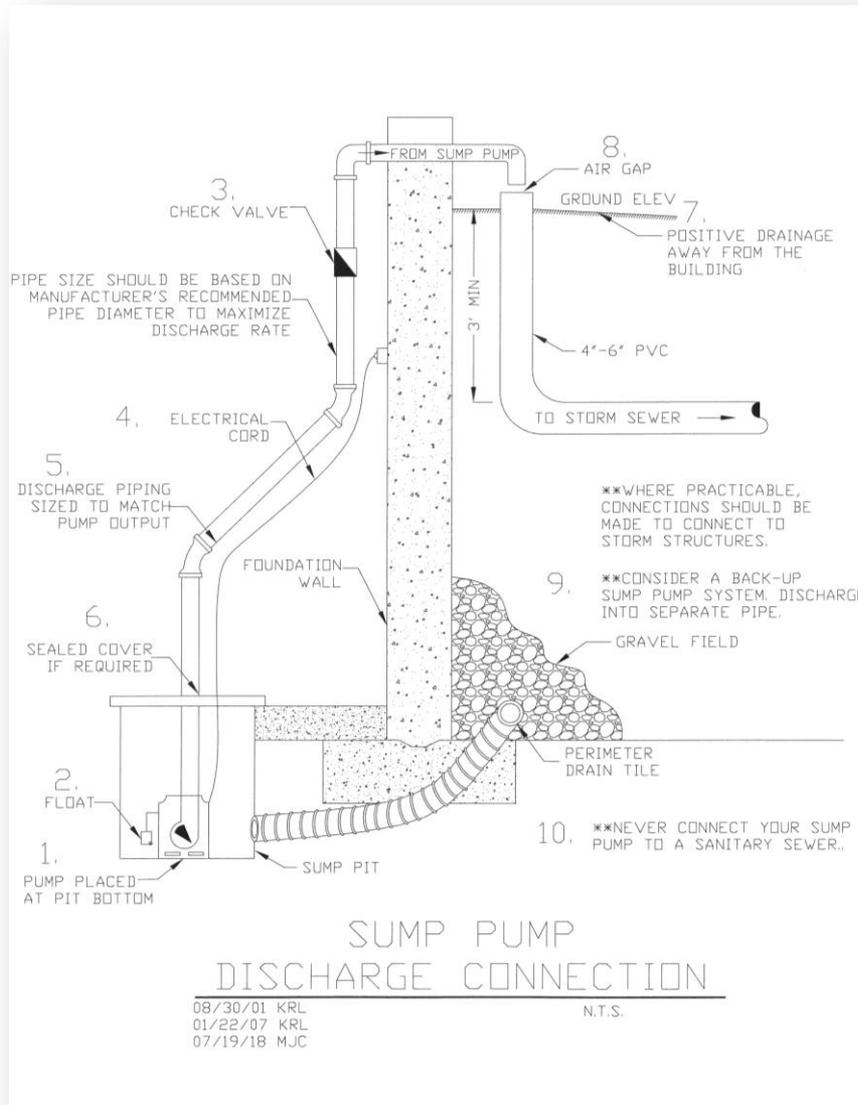
# BASIC ESSENTIALS

1. STORM WATER RUNOFF SHOULD FLOW AWAY FROM THE HOME OR OTHER STRUCTURES ON A LOT.
  2. THE GROUND SHOULD BE PITCHED AWAY FROM THE HOME OR OTHER STRUCTURE SO THAT WATER FLOWS AWAY.
  3. NEVER CONNECT SUMP PUMPS OR DOWNSPOUTS TO THE SANITARY SEWER SYSTEM.
  4. DOWNSPOUTS SHOULD BE DIRECTED TOWARD THE FRONT AND REAR OF THE LOT, NOT TO THE SIDE YARDS, TO THE GREATEST EXTENT POSSIBLE.
  5. DOWNSPOUT WATER SHOULD FLOW AWAY FROM ADJACENT SIDE LOTS SO THAT THE WATER WILL NOT BE A NUISANCE.
  6. A SPLASH BLOCK IS REQUIRED AT THE BASE OF DOWNSPOUTS AND THE SUMP PUMP DISCHARGE.
- 

# KNOW YOUR SUMP PUMP SYSTEM

THE PURPOSE OF YOUR SUMP PUMP IS TO KEEP YOUR BASEMENT OR CRAWLSPACE DEWATERED.

PROPER INSTALLATION AND MAINTENANCE IS NECESSARY TO ENSURE THE PUMP SYSTEM WILL FUNCTION WHEN CALLED UPON.



# KEY COMPONENTS OF A SUMP PUMP SYSTEM

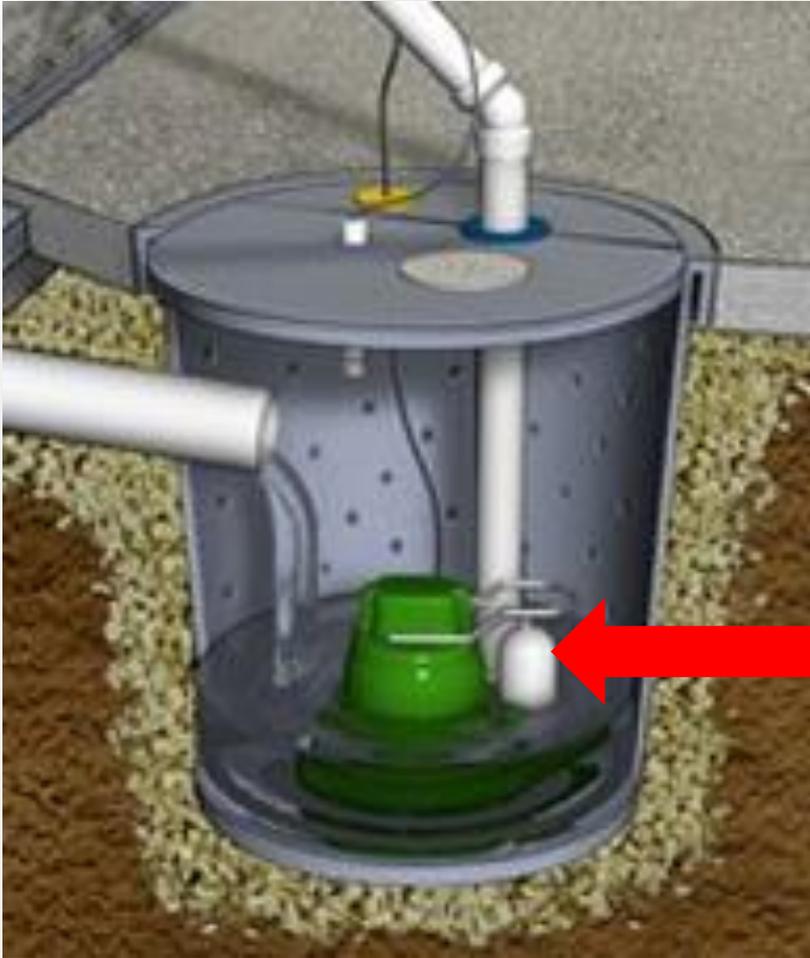
1. PUMP
2. FLOAT/SWITCH
3. CHECK VALVE
4. ELECTRIC SUPPLY
5. DISCHARGE PIPING
6. SEALED COVER IF RADON GAS IS PRESENT
7. POSITIVE DRAINAGE AWAY FROM THE BUILDING
8. AIR GAP OUTSIDE THE BUILDING
9. BACK UP SYSTEM
10. ILLICIT DISCHARGES – DO NOT CONNECT SUMP PUMPS TO SANITARY SYSTEMS

# 1. PUMP



- INSTALL A GOOD QUALITY PUMP. MOST NEW CONSTRUCTION USE ZOELLER OR HYDROMATIC PUMPS.
- MAKE SURE TO USE A PUMP SUITABLE FOR THE SIZE OF THE BASEMENT. LARGER HOMES MAY NEED MORE POWERFUL PUMPS.
- INSPECT AND TEST EVERY 3 MONTHS, PER THE MANUFACTURER'S RECOMMENDATIONS.
- USE DISCHARGE PIPING PROPERLY SIZED FOR THE PUMP DISCHARGE.
- DO NOT USE AN EXTENSION CORD TO POWER THE PUMP.

## 2. FLOAT SWITCH



- PUMP MUST BE LEVEL AND FLOAT MECHANISM(S) CLEAR OF SIDES OF BASIN.
- BASIN MUST BE CLEAN AND FREE OF DEBRIS AFTER INSTALLATION.

# 3. CHECK VALVE



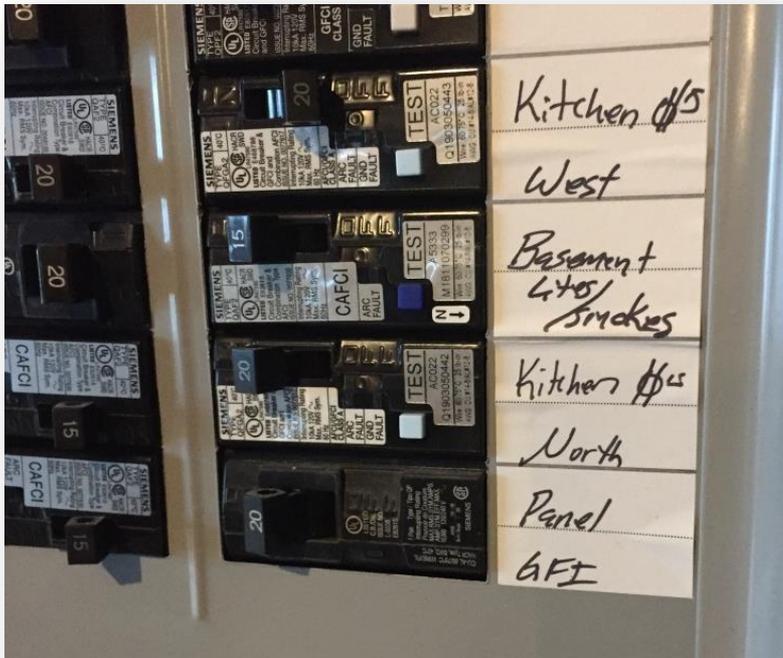
- THE CHECK VALVE HELPS PREVENT WATER IN THE DISCHARGE PIPE FROM FLOWING BACK DOWN INTO THE PIT AFTER THE PUMP TURNS OFF.
- OLD CHECK VALVES OR VALVES THAT DO NOT SEAL SHOULD BE REPLACED.

# 4. ELECTRICAL SUPPLY



- IN SOME CASES, THE CURRENT ELECTRIC CODE REQUIRES A GFCI FOR THE SUMP PUMP. MAKE CERTAIN THAT THE GROUND FAULT INTERRUPTER PROTECTED RECEPTACLE OR CONTROL BOX IS WITHIN THE REACH OF THE PUMP'S POWER SUPPLY CORD.
- TEST ELECTRICAL OUTLET PERIODICALLY.
- MAKE SURE THE POWER SUPPLY IS CONNECTED TO A GFCI.
- OUTLETS WITH AN LED INDICATOR CAN BE USED TO SEE IF POWER IS AVAILABLE TO THE PUMP.

## 4. ELECTRICAL SUPPLY



- TO REDUCE THE RISK OF ELECTRICAL SHOCK, A PROPERLY GROUNDED RECEPTACLE OR CONTROL BOX MUST BE INSTALLED IN ACCORDANCE WITH THE GOVERNING CODES. NEVER REMOVE GROUND PIN FROM PLUG.
- MAKE SURE THE PUMP'S ELECTRICAL SUPPLY CIRCUIT IS EQUIPPED WITH FUSES OR CIRCUIT BREAKERS OF PROPER CAPACITY. A SEPARATE BRANCH CIRCUIT IS RECOMMENDED, SIZED ACCORDING TO THE LOCAL ELECTRICAL CODES FOR THE CURRENT SHOWN ON THE PUMP NAME PLATE.
- CONSIDERING HAVING A DEDICATED CIRCUIT FOR THE SUMP PUMP AND MAKE SURE IT IS PROPERLY LABELED.

## 5. DISCHARGE PIPING



- MOST SUMP PUMPS USE 1-1/2" DIAMETER PVC PIPING. USING A SMALLER DIAMETER PIPE WILL REDUCE YOUR PUMP OUTPUT.
- WHEN USING A BATTERY BACKUP SYSTEM, THE DISCHARGE PIPING SHOULD BE INDEPENDENT OF THE PRIMARY PUMP DISCHARGE PIPING.

## 6. SEALED COVER



- IF RADON GAS IS PRESENT IN THE BASEMENT, THE SUMP PIT MUST BE SEALED TO PREVENT RADON GAS FROM ESCAPING INTO THE BASEMENT.
- A COVER WILL HELP TO KEEP DEBRIS OUT OF THE SUMP PIT.

## 7. POSITIVE DRAINAGE AWAY FROM THE BUILDING



- THE GROUND SHOULD BE PITCHED TO MOVE RUNOFF AWAY FROM THE BUILDING.
- A HOMEOWNER MAY EXTEND THE SUMP PUMP PIPE WITH A PERFORATED IS USED TO RELEASE THE WATER FAR FROM THE HOUSE.
- PERFORATED TUBING CAN BE REDIRECTED EVERY COUPLE DAYS TO REDUCE WATERLOGGED GROUND.

## 7. POSITIVE DRAINAGE AWAY FROM THE BUILDING



- FLEXIBLE TUBING CAN HELP TO DIRECT THE WATER AWAY FROM THE BUILDING AND CAN BE MOVED EVERY FEW DAYS TO MINIMIZE THE CONCENTRATION OF SUMP PUMP DISCHARGE AT A SINGLE LOCATION.
- FLEXIBLE TUBING CAN HELP TO SPREAD THE SUMP PUMP WATER OVER LARGER GROUND SURFACES, AND PROMOTES RE-USE OF THE SUMP PUMP WATER FOR IRRIGATION OF LAWNS AND GARDENS.

## 8. AIR GAP OUTSIDE OF THE BUILDING



- GAP IN PIPE WILL ALLOW WATER TO ESCAPE IN CASE OF BLOCKAGE.
- THE AIR GAP WILL PREVENT WATER SIPHONING BACK INTO THE SUMP PUMP.
- AIR GAP WILL ALLOW FOR WATER TO CONTINUE TO DRAIN IF THE PIPE WERE TO BECOME CLOGGED OR FROZEN.

## 9. BACK UP POWER SYSTEMS



YOUR SUMP PUMP IS ELECTRICALLY POWERED AND WILL NOT FUNCTION DURING POWER OUTAGES. YOU SHOULD CONSIDER A BACK UP SYSTEM WHERE A SUMP PUMP IS NECESSARY FOR THE PREVENTION OF PROPERTY DAMAGES FROM FLOODING DUE TO POWER DISRUPTIONS, MECHANICAL OR ELECTRICAL PROBLEMS OR SYSTEM OVERLOADING.

- IF YOU SET UP A GAS POWERED GENERATOR, IT MUST BE USED OUTDOORS AND PROPERLY GROUNDED.
- A D.C. (BATTERY) BACKUP SYSTEM IS A GOOD ALTERNATIVE POWER SOURCE. WHERE A SUMP OR DEWATERING PUMP IS NECESSARY FOR THE PREVENTION OF PROPERTY DAMAGES FROM FLOODING DUE TO A.C. POWER DISRUPTIONS, MECHANICAL OR ELECTRICAL PROBLEMS OR SYSTEM OVERLOADING.



# 10. AVOID ILLICIT DISCHARGE AND OTHER TIPS



## AVOID ILLICIT DISCHARGE

- NEVER CONNECT SUMP PUMP TO SANITARY SYSTEM. EVERY GALLON OF WATER PUMPED INTO A SANITARY SEWER MUST BE TREATED AT THE WASTE WATER RECLAMATION PLANT. AN ILLICIT DISCHARGE IS ILLEGAL.

## OTHER TIPS:

- TAPE POWER CABLE TO PVC PIPE
- DISCHARGE PIPING SHOULD RUN UP TO THE CEILING.
- MAKE SURE SUMP PUMP IS ALWAYS ACCESSIBLE.



IF YOU HAVE ANY QUESTIONS ABOUT YOUR  
SUMP PUMP, PLEASE CONTACT THE VILLAGE OF  
BLOOMINGDALE, ENGINEERING DEPARTMENT AT  
630-671-5676.