UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

ANITA YU, JOHN BOYER, and
MARY RAAB,

Plaintiffs,
v.

CITY OF ANN ARBOR,

Defendant.
_____/

Case No.
Hon.

[formerly 22nd Circuit Court,
Michigan - Case No. 14-181-CC;
Hon. Donald E. Shelton]

Irvin A. Mermelstein (P52053)
Attorney for Plaintiffs
2099 Ascot St.
Ann Arbor, MI 48103
(734) 717-0383
nrglaw@gmail.com

M. Michael Koroi (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170
(734) 459-4040
mmkoroi@sbcglobal.net

Woods Oviatt Gilman, LLC
By: Donald W. O'Brien, Jr., Esq.
Pro Hac Vice Application pending in
22nd Circuit Court, Michigan
Co-Counsel for Plaintiff
2 State St., 700 Crossroads Bldg.
Rochester, NY 14614
(528) 982-2802
dobrien@woodsoviatt.com

Office of the City Attorney
Stephen K. Postema (P38871)
Abigail Elias (P34941)
Attorneys for Defendant City of Ann
Arbor
301 E. Huron St., P.O. Box 8647
Ann Arbor, MI 48107
(734) 794-6170
spostema@a2gov.org
aelias@a2gov.org

_____/

NOTICE OF REMOVAL TO THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF MICHIGAN, SOUTHERN DIVISION

PLEASE TAKE NOTICE that Defendant City of Ann Arbor ("Defendant" or "City"), by its undersigned counsel, hereby removes the action entitled Anita Yu, John Boyer, and Mary Raab v City of Ann Arbor, Case Number 14-181-CC, in the 22nd Circuit Court, County of Washtenaw, Michigan, to the United States District Court for the Eastern District of Michigan, Southern Division, and in support thereof files this notice of removal for the following reasons:

1. Plaintiffs commenced an action against Defendant in the 22nd Circuit Court, County of Washtenaw, Michigan entitled Anita Yu, John Boyer, and Mary Raab v City of Ann Arbor, Case Number 14-181-CC, assigned to Circuit Court Judge Donald E. Shelton.

2. Defendant was served on March 7, 2014, with the attached Summons and Complaint (Exhibit A), with the attached Amended Motion for Preliminary Injunction and Plaintiffs' Amended Brief in Support of Motion for Preliminary Injunction (Exhibit B),[1] and with the attached Notice of Taking Deposition of Abigail Elias, one of the undersigned counsel for the City (Exhibit C).

3. This Notice of Removal is being filed within 30 days after the receipt by Defendant of Plaintiffs' Complaint as required by 28 U.S.C. §1446(b) and is

[1] Defendant also was served with Plaintiffs' original Motion for Preliminary Injunction and Brief in Support, as well as an Ex Parte Petition for Extension of Page Limitation related to that original motion and brief. Because Plaintiffs' amended motion and brief supersede the original motion and brief, Defendant is not burdening this Court with copies as part of this Notice of Removal but will provide copies if requested.

timely.

4. This Court has jurisdiction over this case based on federal question jurisdiction pursuant to 28 U.S.C. §1331.

5. This Court has supplemental jurisdiction over the state law claims in the case pursuant to 28 U.S.C. §1367(a).

6. For their federal law claims, Plaintiffs allege takings of property without just compensation in violation of the Fifth Amendment to the United States Constitution and violations of 42 USC §1983, including takings and violations of due process. (Exhibit A, Third and Fourth Causes of Action).

7. For their state law claims, Plaintiffs allege violations of M.C.L. 213.23 (Condemnation; Authority to Take Private Property) and of the takings provision of Article X, Section 2 of the Michigan Constitution of 1963 for takings without just compensation that arise out of the same transactions and occurrences as Plaintiffs' federal claims. (Exhibit A, First and Second Causes of Action).

8. Plaintiffs also include requests for declaratory judgment, injunctive relief and attorney fees that are premised on the law underlying both their federal and their state law claims. (Exhibit A, Fifth, Sixth and Seventh Causes of Action).

9. Plaintiffs' state law claims arise from the same common nucleus of operative facts and are so intertwined with and related to Plaintiffs' federal claims that they form part of the same case or controversy as those federal claims, over

which this Court has original jurisdiction.

10. Venue is proper pursuant to 28 U.S.C. §1391 because Washtenaw County, Michigan, is contained within the Eastern District of Michigan, Southern Division.

11. All the prerequisites have been met for this civil action to be removed to this Court by Defendant pursuant to 28 U.S.C. §1441(a) and (b).

12. Defendant will give written notice of the filing of this notice of removal to all adverse parties, and will file a copy of this notice of removal with the Circuit Court for the County of Washtenaw, as required by 28 U.S.C. §1446(d).

Defendant files this notice of removal and removes this action to the United States District Court for the Eastern District of Michigan. Plaintiffs are notified to proceed no further in state court unless or until the case is remanded by order of said United States District Court.

Dated: March 17, 2014

Respectfully submitted,

Office of the City Attorney

/s/ Abigail Elias

Stephen K. Postema (P38871)
Abigail Elias (P34941)
Attorneys for Defendant
City of Ann Arbor
301 E. Huron St., P.O. Box 8647
Ann Arbor, Michigan 48107
(734) 794-6170

CERTIFICATE OF SERVICE

I hereby certify that on March 17, 2014, I mailed this Notice of Removal by United States Postal Service, first class postage prepaid, to Plaintiffs' counsel below:

Irvin A. Mermelstein
2099 Ascot Road
Ann Arbor, MI 48103

M. Michael Koroi
150 N. Main
Plymouth, MI 48170

Donald W. O'Brien Jr.
2. State St., 700 Crossroads Bldg.
Rochester, MY 14614

/s/ Alex L. Keszler
Alex L. Keszler
Legal Assistant

INDEX OF EXHIBITS

Exhibit A: Summons, complaint and exhibits attached thereto, filed in 22nd Judicial Circuit Court, State of Michigan, case no. 14-181-CC

Exhibit B: Amended Motion and Brief in Support of Motion for Preliminary Injunction

Exhibit C: Notice of deposition of Abigail Elias

Exhibit A, Summons, Complaint and Exhibits

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

ANITA YU, JOHN BOYER, and MARY RAAB,

Plaintiffs,

v.

CITY OF ANN ARBOR,

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Attorney for Plaintiffs
2099 Ascot St.
Ann Arbor, MI 48103
(734) 717-0383
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M. Michael Koroi (P44470)
Co-Counsel for Plaintiffs
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/

Exhibit A, Summons, Complaint and Exhibits

Approved, SCAO

Original - Court
1st copy - Defendant

2nd copy - Plaintiff
3rd copy - Return

STATE OF MICHIGAN 22nd JUDICIAL DISTRICT JUDICIAL CIRCUIT COUNTY PROBATE	SUMMONS AND COMPLAINT	CASE NO. 14-781 CC Donald Shelton

Court address: 101 East Huron Avenue, P.O. Box 8645, Ann Arbor MI 48107

Court telephone no.: (734) 222-~~3383~~ 3001

Plaintiff's name(s), address(es), and telephone no(s).	v	Defendant's name(s), address(es), and telephone no(s).
Knita Yu, John Boyer, and Mary Raab		City of Ann Arbor 301 East Huron Avenue Ann Arbor, MI 48184

RECEIVED

MAR 07 2014

OFFICE OF THE CITY ATTORNEY
CITY OF ANN ARBOR

Plaintiff's attorney, bar no., address, and telephone no.
M. Michael Koroi (P 44470)
150 N. Main Street
Plymouth, MI 48170-1236
(734) 459-4040

SUMMONS **NOTICE TO THE DEFENDANT:** In the name of the people of the State of Michigan you are notified:

1. You are being sued.
2. **YOU HAVE 21 DAYS** after receiving this summons to **file a written answer with the court** and serve a copy on the other party **or take other lawful action with the court** (28 days if you were served by mail or you were served outside this state). (MCR 2.111[C])
3. If you do not answer or take other action within the time allowed, judgment may be entered against you for the relief demanded in the complaint.

Issued	This summons expires	Court clerk
	MAY 29 2014	

*This summons is invalid unless served on or before its expiration date.

This document must be sealed by the seal of the court.

COMPLAINT ***Instruction: The following is information that is required to be in the caption of every complaint and is to be completed by the plaintiff. Actual allegations and the claim for relief must be stated on additional complaint pages and attached to this form.***

Family Division Cases

☐ There is no other pending or resolved action within the jurisdiction of the family division of circuit court involving the family or family members of the parties.

☐ An action within the jurisdiction of the family division of the circuit court involving the family or family members of the parties has been previously filed in _____ Court.

The action ☐ remains ☐ is no longer pending. The docket number and the judge assigned to the action are:

Docket no.	Judge	Bar no.

General Civil Cases

☑ There is no other pending or resolved civil action arising out of the same transaction or occurrence as alleged in the complaint.

☐ A civil action between these parties or other parties arising out of the transaction or occurrence alleged in the complaint has been previously filed in _____ Court.

The action ☐ remains ☐ is no longer pending. The docket number and the judge assigned to the action are:

Docket no.	Judge	Bar no.

VENUE

Plaintiff(s) residence (include city, township, or village)	Defendant(s) residence (include city, township, or village)
City of Ann Arbor, County of Washtenaw	City of Ann Arbor, County of Wastenaw

Place where action arose or business conducted: City of Ann Arbor, COunty of Washtenaw, State of Michigan

February 24, 2014
Date

M. Michael Koroi
Signature of attorney/plaintiff M. Michael Koroi (P44470)

If you require special accommodations to use the court because of a disability or if you require a foreign language interpreter to help you fully participate in court proceedings, please contact the court immediately to make arrangements.

STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ANITA YU, JOHN BOYER, and MARY RAAB,
Plaintiff,

Donald E Shelton

Hon:
Case No. 14-181 **CC**

vs.

THE CITY OF ANN ARBOR,
Defendant.

IRVIN A. MERMELSTEIN (P52053)
Attorney for Plaintiffs
2099 Ascot St.
Ann Arbor, MI 48103
734-717-0383

M. MICHAEL KOROI (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170
734-459-4040

WOODS OVIATT GILMAN, LLP
BY: DONALD W. O'BRIEN, JR., ESQ.
Pro Hac Vice application pending
Co-Counsel for Plaintiffs
2 State St.
700 Crossroads Bldg.
Rochester, NY 14614
528-982-2802

There is no other civil action between these parties arising out of the same transaction or occurrence as alleged in this Complaint pending in this court, nor has any such action been previously filed and dismissed or transferred after having been assigned to a judge, nor do I know of any other civil action, not between these parties, arising out of the same transaction and occurrence as alleged in this Complaint that is either pending or was previously filed and dismissed or transferred or otherwise disposed of after having been assigned to a judge in this court.

COMPLAINT

Plaintiffs Anita Yu, John Boyer, and Mary Raab, for their complaint against the Defendant, City of Ann Arbor, by their attorneys Irvin Mermelstein, Esq., M. Michael Koroi, Esq., and Daniel W. O'Brien, Esq. respectfully allege as follows:

I. PRELIMINARY STATEMENT

1. This is an action commenced against the City of Ann Arbor ("the City") pursuant to MCL § 213.23, Article 10 § 2 of the Michigan Constitution, 42 U.S.C. § 1983 and the Fifth Amendment to the United States Constitution. The plaintiffs herein seek compensatory damages, injunctive relief and a declaration that Ann Arbor Ordinance 2:51.1 ("the Ordinance), enacted to implement the City's mandatory Footing Drain Disconnection Program (FDDP) is unconstitutional and has resulted in a taking of the plaintiffs' private property for public use without due process of law or just compensation.

II. THE PARTIES

2. Plaintiff, Anita Yu, resides at 2362 Georgetown Boulevard., in a home she has owned since at least 1982, in Ward 1 of the City of Ann Arbor.

3. Plaintiffs, John Boyer and Mary Raab, reside at 2273 Delaware Drive , in a home which Plaintiff Mary Raab has owned since 1970, located in Ward 4 of the City of Ann Arbor.

4. The City is a municipal corporation, organized and existing under the laws of the State of Michigan, with an office for the transaction of business located at Larcom City Hall, 301 East Huron Street, Ann Arbor, Michigan 48104.

III. JURISDICTION AND VENUE

5. The Court has subject matter jurisdiction over this matter pursuant to MCL § 600.601(1).

6. Venue is appropriate in this circuit pursuant to MCL § 600.1615.

IV. BACKGROUND

A. The City of Ann Arbor

7. The City is located in the State of Michigan and is the county seat of Washtenaw County. Upon information and belief, the City was founded in 1824 and currently has a population of approximately 115,000 people, making it the fifth largest city in the State of Michigan. In 1960, the population was less than 68,000.

8. Upon information and belief, the City has a total land area of 28.7 square miles. The City is situated on the Huron River and, in general, the west-central and northwestern parts of the City maintain the highest elevation and the lower elevation sections of the City are along the Huron River and to the southeast.

9. The City is governed by a City Council that has eleven voting members: the mayor and ten City Council members. The City is divided into five wards each of which elects two City Council members. The mayor is elected city-wide and is the presiding officer of the City Council.

B. History of the FDDP

10. In the last quarter of the twentieth century, the City experienced significant population growth and corresponding development. Upon information and belief, the City's infrastructure, including its storm and sanitary sewers and drainage facilities, did not keep pace with the rate of development. As a result, there was insufficient capacity during storm events and sanitary sewer overflows ("SSO's") grew more common from the City's Waste Water Treatment Plant into the Huron River.

11. In the 1960's, the City approved plats for subdivisions in southeastern Ann Arbor, including three phases each for the Lansdowne I and Churchill Downs developments. Upon information and belief, the City was well aware at the time that these areas had demonstrable groundwater problems. The Lansdowne I vicinity had a large pond in the middle of the area

(known at the time as "the Cow Pond") because of heavy runoff and groundwater problems during normal spring rains.

12. Construction began in Lansdowne and Churchill Downs around 1966. Groundwater problems persisted at that time.

. 13. All houses were lawfully constructed with footing drain connections to the sanitary sewer lines; as so constructed, they all passed their inspections and received Certificates of Occupancy. Approximately 20,000 per 1982 single family homes in Ann Arbor were constructed with legal footing drain connections to the sanitary sewer system.

14. In 1982, the Michigan State Building (plumbing) Code was amended to prohibit the connection of footing drains to sanitary sewer lines. This change in the state law did not purport to require removal of pre-existing connections of residential footing drains to the sanitary sewers nor did it require the installation of any alternative methods of drainage or other retrofitting.

15. Groundwater and runoff conditions in many areas of the City (including the subdivisions in which plaintiffs' homes are located had worsened since construction of plaintiffs' homes). In 1997, the engineering firm Black and Veatch conducted a study of the storm sewer system in the City of Ann Arbor. Upon information and belief, this study concluded that there were severe problems in the City of Ann Arbor storm sewer system and made recommendations as to how these problems could be corrected. In its 1997 *Storm Water Master Plan Report* to the City, the Black and Veatch firm listed a number of inadequacies in the then present storm water conveyance system including the age of the system's components, increased flows beyond the system's design capacity, increased runoff resulting from expanding development, sedimentation occurring during construction-related runoff, channel bank erosion, structural failures and the construction of private storm water facilities including detention basins which were not being

adequately maintained. With respect to the Malletts Creek watershed, the Black and Veatch firm specifically recommended that the existing storm water conveyance system be replaced.

16. Upon information and belief, the City rejected the Black and Veatch report and did not undertake any of the recommended actions.

17. Heavy rain events in Ann Arbor in August of 1998 and June of 2000 resulted in surcharging (overcapacity conditions) in the Ann Arnor sanitary sewer system at least partly due to the cracked conditions of the sewers, which promoted and promotes infiltration of storm water into the sanitary sewer system.

18. As a result of the number of homes affected, City residents demanded an end to the sewer backups and, in fact, a class action was commenced on behalf of the affected homeowners. At the same time, the Michigan Department of Environmental Quality (MDEQ) demanded that the City take action to end the overflows.

19. Starting in 2000, MDEQ demanded mitigation of sewer flows from the City to prevent further unpermitted SSO's but did not impose a particular solution, including a sewer system upgrade. Upon information and belief, the City was unwilling to upgrade the sewers due to the anticipated capital expenditures which would be necessary to upgrade the underground infrastructure.

20. The City contracted with Camp Dresser McKee (CDMI) to propose a solution which would satisfy the demands of the MDEQ. In June, 2001, CDMI issued its *Sanitary Sewer Overflow Prevention Study* (*"the Study"*) to the City. The study's recommendation was that the City "take action to remove rain and groundwater inflow sources into the City sanitary sewer system by implementing a comprehensive city-wide footing drain disconnection program within the City of Ann Arbor."

21. Notably, CDMI the study made no representation as to the legality of its recommended alternative and, in fact, urged caution on the part of the City before any formal action was taken before the City undertook to implement the recommendations in *the Study*. For example, in the Section I. entitled "*Additional Decision Influences*," the following assessment was made:

> ***Work on Private Property Causes Concern*** – *For those homeowners that had previously have basement flooding, they generally said that work on their property (basement and lawn) would be acceptable. However, there were some affected homeowners who were very resistant to allowing any work to be performed. There was also a general concern from unaffected homeowners regarding potential work on their property.*

Later on in that same section of *the Study*, the following concern was raised:

> ***Can the City Work on Private Property?–*** *The option of footing drain disconnection was seen as a viable solution only if access to private property could be arranged. The Council was interested in how other communities had handled this issue.*

This concern as to the legal basis for the recommended solution was expressed later in *the Study*, in Section L. entitled "*Final Recommended Program,*" where the following question was raised:

> ***Legal Authority*** – *Can and will the City of Ann Arbor have the legal framework to accomplish the work required on private property?*

Upon information and belief, the City never sought or obtained a definitive legal analysis of its power and authority to enact legislation requiring mandatory FDD's or, if it did, that analysis has never been made public.

22. Upon information and belief, the City negotiated with the MDEQ and persuaded the agency to accept the FDDP as a solution to the ongoing problems with sanitary sewer overflows within the City of Ann Arbor. On September 4, 2003, a consent order was entered between the City and the MDEQ which, among other things, required the City to undertake 155 Footing Drain Disconnects (FDD's) per year for four years for a total of 620 FDD's. By the time

the consent order was entered into, approximately 150 FDD's had already been performed and were not, therefore, "required" by the consent order. This included the FDD's included in the Plaintiffs' homes.

C. The Ordinance

23. On August 20, 2001, the City passed the Ordinance entitled "Program for Footing Drain Disconnect from POTW." (A copy of the ordinance is attached hereto as Exhibit "1.")

24. The Ordinance served four main functions. First of all, the ordinance determined that preexisting, legally permitted and long-standing footing drain connections were "improper." In that regard, the Ordinance authorized the Director of the Utility Department ("Director") for the City to order property owners within a certain "target areas" to correct "improper storm water inflows" from their property or face a monthly fine of One-Hundred Dollars ($100.00).

25. In fact, in the City's latest iteration of its "Homeowner Information Packet" (*v8.4-8/8/2013*), the City included the following item in the "Frequently Asked Questions" section of its website:

> ***Legal Requirements***
>
> *May I choose not to participate in the program? What are the consequences of that?*
>
> Participation in this program is mandated by city ordinance. The FDD program offers Homeowners the opportunity to have the City pay for installation if the work is completed within the schedule of the program. If the homeowner does not comply with the notices to arrange disconnection, a surcharge of $100 per month will be charged to the homeowner for the additional costs associated with handling un-metered footing drain flows into the sewer system. Disconnection is still required and if done after the 90 day notice expires, the disconnection work will no longer be paid by the city.

(A copy of the most recent Homeowner Information Packet is attached hereto as Exhibit "2").

26. Second, the Ordinance allowed the Director to establish a list of private contractors approved to perform work under the program and established a protocol pursuant to which the homeowner would purportedly enter into a direct contractual relationship with a contractor and the City would not be a party.

27. Third, the Ordinance authorized the City to pay for some or all of the approved work subject to the discretion of the Director. The Ordinance and the Homeowners Information Packet delivered to the designated property owners penalizes those homeowners who wish to have their own contractors perform the FDD or to perform the FDD themselves, by reserving the right of the City to deny all or part of the aforesaid subsidy and deprive such homeowner of City services otherwise provided free (such as permitting, inspection, and direct payment of the FDD Contractor) to property owners who selected a pre-qualified" contractor and the accompanying services of CDMI.

28. Finally, the Ordinance made clear that responsibility for maintaining any improvements constructed under the FDDP, including the maintenance of sump pumps and other equipment, the furnishing of water and electricity, the purchase and installation of any backup systems and all necessary repairs would rest with the homeowner, and not the City or the contractor.

D. The FDDP is implemented.

29. Upon information and belief, as of the date of this complaint, more than 2,000 involuntary FDD's have been completed.

30. The City and/or CDMI delivered a Homeowners Packet to Plaintiff, Anita Yu, during or about the first three months of 2003. The Homeowner Packet threatened fines and other actions if Plaintiff Anita Yu failed to give an enforced consent to the entry into her home and

completion of an FDD. The FDD was to be accompanied by the permanent installation of a sump pump and other equipment inside and outside the basement of her home.

31. As required by the Homeowner Packet, plaintiff, Anita Yu, selected Hutzel Plumbing, a Michigan corporation, for FDD work, one of the five "pre-qualified" plumbers to whom her choice was limited by the City under the FDDP to, and did, complete an FDD inside and outside of her home on September 3, and September 4, 2003.

32. As a part of the FDD completed in her home, construction and plumbing work was performed which disconnected her exterior footing drains from the sanitary sewer system, Instead, the required facilities directed ground water and storm water into plaintiff Anita Yu's crawl space through pipes installed through holes drilled through the exterior wall of her home for collection in a sump constructed and installed inside her home as part of the FDD.

33. The groundwater and storm water introduced into the crawlspace by the City or its contractors or independent contractors flows through the pipes drilled through her wall and into the sump throughout the year. The FDD included permanent installation of an electric sump pump to pump water out of the sump, up a vertical pipe approximately eight feet long to be expelled through piping installed through holes drilled through her interior wall and to the exterior of her house for discharge. She currently has no flooding from her sump pump out onto the floor of the crawlspace, by the sump pump runs daily. The sump and sump pump were installed in a location accessible to plaintiff, Anita Yu, only with difficulty as she suffers from a disabling condition that it makes it impossible for her to perform the operation and maintenance mandated by the FDDP and the FDD Ordinance without hiring a contractor at her own cost. Prior to the disconnect, she never experienced any flooding in her basement or crawlspace and had no water flowing into and through her crawl space into a sump pump.

34. Plaintiff, Anita Yu, did not experience a sewer backup before the Ordinance was enacted.

35. Before the disconnect, Ms. Yu had complete peace of mind as a result of the absence of any flooding or other water problems and now she is required to operate and maintain, at her own expense, equipment installed by force of law.

36. The disconnect of Ms. Yu's footing drain was completed *before* the September 4, 2003 entry of the Consent Order between the MDEQ and the City.

37. Plaintiffs, John Boyer and Mary Raab, under threat of compulsion, completed the footing drain disconnect in 2002. Prior to that time, their basement had been dry and they had experienced no flooding, dampness or other water problems in their home. In conjunction with the disconnection of their footing drain, a sump pump was installed in their basement which discharges into their backyard. Since their footing drain was disconnected, their backyard and basement have flooded on a significant and recurring basis. Two flooding events were particularly severe, with the basement living space under water while the sump pumps were fully operational.

38. Mr. and Mrs. Boyer have borne the entire cost of the FDD, including "upgrades" such as a Six-Hundred Dollar ($600.00) backup hydraulic pump that should have been installed initially, together with cleanup costs, electrical costs and the costs of four to six gallons per minute of City water required to run the hydraulic backup during the regular power outages experienced in their home in Ward 4.

39. The disconnect of the Boyer/Raab footing drain was completed *before* the September 4, 2003 entry of the Consent Order between the MDEQ and the City.

E. The Survey

40. In January of 2014, the City released the results of its *2013 Sanitary Sewage Wet Weather Evaluation Project Footing Drain Disconnection (FDD) survey*. According to the survey statistics, 2350 surveys were mailed and 850 responses were received. In particular, the following results were noted:

- Of 850 responses, 134 respondents (16%) reported experiencing sanitary sewage backups prior to FDD/sump pump installation. Of these 134 respondents, 34 of the 134 reported continued sanitary sewage backups and 42 of the respondents who *did not* have sanitary sewage backups before the FDD experienced them afterwards.

- Of the 426 respondents who reported experiencing water flooding/ seepage/ dampness problems before the FDD/sump pump installation, 247 experienced continuing flooding/seepage/ dampness problems after the FDD/sump pump installation.

- The total restoration cost for water flooding/seepage/dampness after the FDD sump pump installation among the 158 respondents was Four-Hundred and Fifty-Six Thousand Dollars ($456,000.00) and the average restoration cost was Three-Thousand, Two-Hundred and Ninety-Seven Dollars ($3,297.00).

- Among the respondents, almost 40% reported some, or a significant increase in, anxiety as a result of the installation of the sump pumps.

V. THE PLAINTIFFS' CLAIMS

41. Because the Plaintiffs' homes were constructed in conformity with the then applicable building code and other relevant standards and the Plaintiffs or their predecessors-in-title received Certificates of Occupancy and/or other necessary approvals from the City, the Plaintiffs acquired vested rights to the footing drains and related storm water and sanitary sewer facilities related thereto.

42. Upon information and belief, the Ordinance was not enacted in response to emergency conditions or some other imminent threat to public health, safety or welfare. Rather,

the Ordinance was enacted by the City in order to facilitate a solution to long-standing and self-created conditions in the least expensive and/or most expedient way possible.

43. The mandatory disconnection of the Plaintiff's footing drains and the forced installation of sump pumps and related equipment constituted a physical intrusion by the City, or others acting on its behalf or in its stead, resulting in a permanent physical occupation of the Plaintiffs' property and a significant interference with the Plaintiffs' use of their property.

44. Moreover, the ongoing and perpetual responsibilities for the operation and maintenance of the sump pumps and related equipment represent an unreasonable financial and personal burden upon the Plaintiffs' use and enjoyment of their property and represent an inappropriate delegation by the City to its citizens of its governmental obligations.

45. The Plaintiffs have suffered damage to their property, have been forced to incur costs and expenses as a direct result of the FDDP and will continue to incur such costs and expenses in the future.

46. In addition, Plaintiffs John Boyer and Mary Raab have incurred costs and expenses attributable to flooding and water damage resulting from the FDDP and, upon information and belief, will continue to incur such costs and expenses in the future.

47. Whereas the Plaintiffs previously enjoyed the peace of mind and repose which comes from having dry basements and no water problems, they have, since the implementation of the FDDP, experienced the inconvenience associated with the installation of the sump pump and related equipment, the ongoing burdens associated with the maintenance and operation of the sump pumps and, in general, the diminution in their quality of life attributable to the FDDP.

48. Due to the City's enactment, implementation and enforcement of the Ordinance, the Plaintiffs' properties have been unreasonably burdened, economically impaired, physically

occupied and/or invaded and otherwise damaged, resulting in the *de facto* or inverse condemnation of the Plaintiffs' properties.

FIRST CAUSE OF ACTION
MCL SECTION 213.23

49. The Plaintiffs' repeat and re-allege Paragraphs One through Forty-Eight as if more full set forth herein.

50. The City, through its enactment, implementation and enforcement of the FDDP Ordinance has taken private property for public use as that term is defined in MCL Section 213.23.

51 In so doing, the City has acted in derogation of the requirements of MCL Section 213.23.

52. Alternatively, if the City had attempted to comply with the requirements of MCL Section 213.23, it would have failed in its burden of proving that the taking was necessary in accordance with Section 213.23 (2) because no public necessity of an extreme sort existed, the property taken will not remain subject to public oversight and the property was not selected on facts of independent public significance or concern, including blight.

53. The City has, therefore, proceeded in violation of law and in violation of the Plaintiffs' constitutional rights.

54. As a result of the foregoing, the Plaintiffs are entitled to just compensation.

SECOND CAUSE OF ACTION
MICHIGAN CONSTITUTION

55. Plaintiffs repeat and re-allege Paragraphs One through Fifty-Four as if more fully set forth herein.

56. Article X, Section 2 of the Michigan Constitution reads, in pertinent part, as follows: "Private property shall not be taken for public use without just compensation therefore being first made or secured in a manner prescribed by law."

57. The City, through its enactment, implementation and enforcement of the FDDP Ordinance, has taken the Plaintiffs' properties without due process or just compensation.

58. The Ordinance represents the City's official policy.

59. As a result of the foregoing, the Plaintiffs are entitled to just compensation.

THIRD CAUSE OF ACTION
FIFTH AMENDMENT TO THE UNITED STATES CONSTITUTION

60. Plaintiffs repeat and re-allege Paragraphs One through Fifty-Nine as if more fully set forth herein.

61. The Fifth Amendment to the United States Constitution provides, in pertinent, that private property shall not be taken for public use without just compensation.

62. The City's enactment, implementation and enforcement of the FDDP Ordinance has resulted in the taking of the Plaintiffs' properties without due process or just compensation.

63. As a result of the foregoing, the Plaintiffs are entitled to just compensation.

FOURTH CAUSE OF ACTION
42 U.S.C. SECTION 1983

64. Plaintiffs repeat and re-allege Paragraphs One through Sixty-Three as if more fully set forth herein.

65. The City is a "person" subject to liability under the Federal Civil Rights Act of 1871 (42 U.S.C. Section 1983) for violating the federally-protected rights of others. The enactment, implementation and enforcement of the FDDP ordinance by the City of Ann Arbor has resulted in the violation of the Plaintiffs' federally protected rights, to wit, their right not to have

their property taken without just compensation or due process and their right to be free from mandatory work and physical labor under the Ordinance solely for the supposed benefit of others without pay or protection of law.

66. The enactment, implementation and enforcement of the FDDP Ordinance by the City constitutes a taking of the Plaintiffs' properties by physical invasion and physical occupation without due process or just compensation and the imposition of requirements for mandatory work and physical labor.

67. As a result of the foregoing, the Plaintiffs are entitled to just compensation and to payment for their work, their physical labor and their expenses.

FIFTH CAUSE OF ACTION
INJUNCTIVE RELIEF

68. Plaintiffs repeat and re-allege Paragraphs One through Sixty-Seven as if more fully set forth herein.

69. The Plaintiffs have no adequate remedy at law.

70. In the absence of injunctive relief, the Plaintiffs will continue to (1) endure the physical invasion and physical occupation of their property, (2) assume ongoing and perpetual responsibility for the operation and maintenance of the sump pumps and related equipment installed in their homes for the supposed benefit of others without pay and (3) bear an unreasonable financial and personal burden upon their use and enjoyment of their property.

71. As a result, the Plaintiffs are entitled to injunctive relief, restraining and enjoining the City, its agents, representatives and employees, and all others acting on its behalf or in its stead from taking any further steps to implement or enforce the ordinance.

72. In addition to just compensation, the Plaintiffs are entitled to injunctive relief, requiring the City to reverse, correct and remedy the effects of the unconstitutional taking, and payment for their non-volunteer work and physical labor required by the Ordinance.

SIXTH CAUSE OF ACTION
DECLARATORY JUDGMENT

73. Plaintiffs repeat and re-allege Paragraphs One through Seventy-Two as if more fully set forth herein.

74. The Plaintiffs are entitled to a judgment, declaring that the FDDP Ordinance is unconstitutional, on its face and as implemented, because it authorizes the City to take private property without just compensation therefor and because it allows for such takings without any judicial determination of public use, all in violation of Michigan State Law and the Michigan Constitution, as well as the laws of the United States and the United States Constitution.

SEVENTH CAUSE OF ACTION
ATTORNEYS' FEES

75. Plaintiffs repeat and re-allege paragraphs One through Seventy-Four as if more fully set forth herein.

76. As a result of the facts and circumstances of this matter, the Plaintiffs are entitled to reasonable attorneys' fees as allowed by law.

WHEREFORE, the Plaintiffs Yu Boyer and Raab respectfully request judgment as follows:

A. On their first cause of action, just compensation in accordance with Michigan State Law;

B. On their second cause of action, just compensation in accordance with the Michigan State Constitution;

C. On their third cause of action, just compensation in accordance with 42 U.S.C. Section 1983;

D. On their fourth cause of action, just compensation in accordance with the Fifth Amendment to United States Constitution;

E. On their fifth cause of action, preliminary and permanent injunctive relief restraining and agents, representatives and employees and all others acting on its behalf or in its stead from taking any other further steps to implement, or enforce the FDD Ordinance and granting such other injunctive relief as to the Court may seem just and proper.

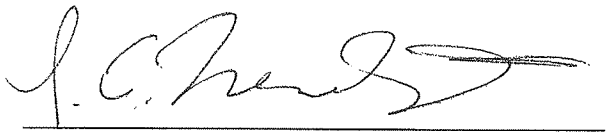
F. On their third cause of action, a declaration that the City of Ann Arbor's FDDP ordinance is unconstitutional, both on its face and as implemented, and declaration further determining their respective rights and responsibilities of the parties;

G. On their seventh cause of action, reasonable attorneys' fees as allowed by law;

H. Such other and further relief as the Court may deem just and proper; and

I. The costs and disbursements of this action.

Respectfully submitted,

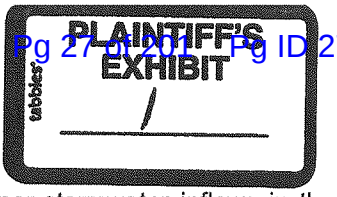


IRVIN A. MERMELSTEIN, ESQ (P52053)
Attorney for Plaintiffs
2099 Ascot Street
Ann Arbor, Michigan 48103
734.717.0383
nrglaw@gmail.com

M. MICHAEL KOROI, ESQ (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170-1236
(734) 459-4040
mmkoroi@sbcglobal.net

by: Donald W. O'Brien, Jr.
WOODS OVIATT GILMAN LLP
By: Donald W. O'Brien, Jr., Esq.
Co-Counsel for Plaintiffs
(*Pro Hac Vice* application pending)
2 State Street
700 Crossroads Building
Rochester, New York 14614
585.987.2800
dobrien@woodsoviatt.com

Dated: February 27, 2014
boyer.comp



2:51.1. Program for footing drain disconnect from POTW.

(1) *Purpose:* The purpose of this Program is to significantly reduce improper stormwater inflows in the most cost-effective manner, in order to eliminate or reduce instances of surcharged sanitary sewers due to improper inflows, which are inimical to public health and welfare; reduce the chance of a sanitary sewer backup into occupied premises; and to maximize efficient operation of the District's wastewater treatment plants.

(2) *Definitions:* For purposes of Section 2:51.1 of the Ann Arbor City Code:

1. Improper stormwater inflow shall mean any direct connections (inflow) to the public sewer of sump pumps (including overflows), exterior floor drains, downspouts, foundation drains, and other direct sources of inflow (including but not limited to visible evidence of ground/surface water entering drains through doors or crack in floors and walls) as noted during field inspections by the Utility Department.

2. Participating owner(s) shall mean those persons that own property within a target area as may have been defined by the Director and who have notified the Director of their decision to participate in the program within 90 days of having been ordered by the Director to correct improper stormwater inflows from their property and meet the eligibility requirements of Section 2:51.1(4).

(3) *Scope of Program:* All improper stormwater inflow disconnection costs shall be at the owner's expense, except, in accordance with this funded program, the POTW may either reimburse the participating owner of a premises, or pay directly to the participating owner's contractor, for qualifying work up to a maximum of $3,700.00 ("Funding Cap"), or as may be adjusted under 2:51.1(12), for corrective work to remove improper stormwater inflows for which the initial building construction permit was in existence prior to January 1, 1982 or prior to the date the premises became under City of Ann Arbor jurisdiction. This funding program is referred to in this Section as the "Reimbursement Program," regardless of whether payment is made as reimbursement to the participating property owner or as direct payment to the participating property owner's contractor.

(4) *Eligible Participants.* This program may be utilized only for: (a) Improper stormwater inflows for which the initial building construction permit was in existence prior to January 1, 1982 or, (b) for premises in areas which came into the jurisdiction of the City of Ann Arbor at a later date, improper stormwater inflows which were in existence prior to the date of such inclusion.

(5) In every instance where the Director is required to act or approve an action, the action or approval may be performed by a person designated, in writing, by the Director to act as his or her designee.

(6) *Target Areas; Orders.* The Director may implement and make available this Reimbursement Program throughout the City, or instead only in target areas within the City determined by the Director as having the highest priority for reduction of stormwater inflows based on surcharging problems. When the Director issues orders for removal of improper stormwater inflows in an area where the program is being implemented, the Director shall inform the owner of the availability of the Reimbursement Program. Participation in the Reimbursement Program shall be voluntary; owners declining to participate shall be required to proceed with removal of the improper inflow at the owner's expense.

(7) *Scope of Work.* The Director shall determine for each participating premises the scope of work for reduction of improper stormwater inflows and sewer backup prevention, which may be paid for with Program funds, with the goal of achieving the most cost-efficient and timely reductions. If work paid for under this Program does not eliminate every improper stormwater inflow for a participating premises, the Director is not precluded from issuing supplemental orders under Chapter 28 of Title II concerning the participating premises. For each participating premises the maximum cost which may be paid with POTW funds to an owner or owner selected contractor shall be the Funding Cap set under 2:51.1(3) or as may be adjusted under 2:51.1(12). If additional work is required it shall be performed at owner expense.

(8) *Approved Contractors.* The Director may establish a list of private contractors or contractor teams (referred to as "contractor (s)" throughout this section) approved for performing work under this Program based on qualifications including experience, quality of work and insurance. Participating owners may propose additional contractors for inclusion in the approved list.

(9) *Contractor Selection.* Participating owners shall select an approved contractor in accordance with a process established by the Director. Participating Owners may either select a private contractor from the list or agree to perform the work by him or herself.

1. If the participating owner selects a contractor from the list of approved private contractors to perform the work, after Director review and approval of the contractor selection and contract price, the owner shall contract with the selected contractor for performance of the approved scope of work. The City of Ann Arbor shall not be a party to the contract. The owner's contract shall require the contractor to secure any building permits as may be necessary and shall specify that the owner's final payment to the contractor shall not be made until (i) the work is inspected and approved by the Director and approved by the owner, whose approval shall not be unreasonable withheld, (ii) a release of lien from all contractors or subcontractors performing work on the premises is obtained.

2. If the participating owner elects to perform the work his or herself, the scope of work, plans and specifications shall be approved in advance by the Director. The Director may establish rules authorizing reimbursement or partial

reimbursement for owner-performed work. No payment shall be made until the work is complete, inspected and approved by the Director. To be eligible for reimbursement, a request for payment must be accompanied by supporting receipts for materials, supplies and equipment.

(10) *Release.* As a condition to participation in the program the owner shall release the City of Ann Arbor, and their officers and employees from all liability relating to the work.

(11) *Payment.* After the work is inspected and approved by the Director and approved by the owner, the Director shall authorize payment for 100% of the cost of the approved work (subject to the funding cap set under 2:51.1(3) or as may be adjusted under 2:51.1(12)) from POTW funds approved for this purpose. Partial payments may not be made except that, at the sole discretion of the Director, a final payment may be made, less a reasonable retention for ensuring the completion of punch list items. Payment may be made to the owner, to the contractor, or jointly to the owner and contractor, in the Director's sole discretion.

(12) *Funding Cap Appeals.*

1. Notwithstanding any maximum reimbursement amount stated elsewhere within this section, the Director, upon a written request from a participating owner, may approve an amount 35% greater than the maximum where extraordinary construction or configuration circumstances require additional construction activity that cause extraordinary expense to achieve the program goals. Extraordinary construction or configuration circumstances do not include those situations where upgrades to the property that do or may increase the value of the property are required to accomplish the sanitary sewer disconnect. The written request from a participating homeowner must be received by the Director no later than 30 days after substantial completion of the construction of the approved scope of work.

2. Notwithstanding any maximum reimbursement amount stated elsewhere within this Section, the City Administrator, upon a written request from a participating owner may approve an increase of any amount, not withstanding any maximum amount stated elsewhere with this Code, in the Funding Cap for a particular premises where extraordinary construction or configuration circumstances require additional construction activity that cause extraordinary expense to achieve the program goals and those expenses can not be accommodated within the 35% available under 2:51.1(12)1. The written request must be delivered to the City Administrator and must be received no later than 30 days after substantial completion of the construction of the approved scope of work.

3. Unless specific appeal procedures are otherwise provided in this code, participating owners aggrieved by a decision regarding a reimbursement amount may appeal that decision. Persons aggrieved by the decision of the Director shall file a written appeal to the City Administrator within 5 days of the decision. Persons aggrieved by the decision of the City Administrator shall file a written appeal of the City Administrator's decision to the City Council within 5 days of the decision.

(13) *Maintenance.* Participating owners shall be responsible for maintaining any improvements constructed under this Program.

(14) *Director Rules.* Within the limitations set forth by this Section 2:51.1, the Director may establish such further criteria and rules as are required to implement this Program.

(15) *Surcharge; Disconnection; Enforcement.*

1. The Director or designee shall provide written notice by certified mail to the sewer user, property owner or other responsible person of any violation of Section 2:51.1 of this Code. This notice shall describe the nature of the violation, the corrective measures necessary to achieve compliance, the time period for compliance, the amount of the monthly surcharge until corrected and the appeal process.

2. For structures or property with actual or potential improper stormwater inflows, the sewer user, property owner or other responsible person shall be given 90 days to correct the illegal or improper activities or facilities contributing to the discharge, infiltration of inflow into the POTW. If corrective measures to eliminate the illegal or improper discharge, infiltration or inflow into the POTW are not completed and approved by the Utility Director or designee, within 90 days from the date of the notice provided in section 2:51.1(15)1, then the director shall impose upon the sewer user, property owner or other responsible person a monthly surcharge in the amount of one hundred dollars ($100.00) per month until the required corrective measures are completed and approved. If the property owner or responsible party fails to pay the monthly surcharge when due and payable, then the city may terminate the water and sewer connections and service to the property and disconnect the customer from the system. Any unpaid charges shall be collected as provided under Chapter 29 of Title II.

(Ord. No. 32-01, § 1, 8-20-01; Ord. No. 37-02, § 1, 9-3-02)

Footing Drain Disconnection Program HOMEOWNER INFORMATION PACKET

City of Ann Arbor
Public Services Area
www.a2fdd.com

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PROJECT BACKGROUND

Within the City of Ann Arbor, there are groups of homes that have experienced basement backup problems. Many of these have been the result of wastewater backing up from the sanitary sewers through basement floor drains, especially during periods of heavy rainfall. This wastewater presents a potential health risk and can cause damage to the structure and to belongings stored in the basement.

In addition, this excess groundwater places a strain on the sanitary sewer system and must be treated at the Waste Water Treatment Plant. Due to current and future regulations in the State of Michigan, it is critical the Utilities Department minimize the amount of unnecessary groundwater sent as wastewater to the Treatment Plant.

In 1999, the City formed the Sanitary Sewer Overflow Prevention Advisory Task Force to understand the causes of basement backup and develop solutions to the problem. The Task Force was comprised of homeowners, city staff and experts in related disciplines. In addition, the Task Force hired the engineering firm of CDM to assist in the data gathering and analysis. Throughout the project, the Task Force sought to provide the public with project information and solicit homeowner feedback to develop a recommendation that meets the diverse needs of the citizens.

TASK FORCE FINDINGS AND SOLUTIONS

The Task Force study determined that during heavy storms, rainwater from home footing drains overloads the sanitary sewer system and is the primary cause of basement backups. It was determined that even homes with no current basement backup problems were significant contributors to the basement backup problem for neighboring homes.

There are basically two ways to handle this problem: either reduce the amount of rainwater entering the sanitary sewer system, or provide more capacity in the system to store or carry these flows. Based on analysis and public feedback, the Task Force determined that reducing the amount of rainwater entering the system would be preferable to the public, environmentally responsible and most cost effective.

Therefore, the Task Force recommended that the Mayor and City Council implement a comprehensive citywide footing drain disconnection program within the City of Ann Arbor in order to reduce the amount of rainwater flowing into the sanitary sewer system.

The Task Force recommended a citywide program for a number of reasons.

- This basement backup problem is not confined to the five study areas.
- All buildings with connected footing drains contribute to the basement backup problem.
- Footing drain disconnection supports the City in a proactive approach to pending regulatory guidelines in the State of Michigan.
- Decreasing the amount of storm water flow that gets to the Water Treatment Plant reduces both the costs of treatment and the chances for potential overflows into the Huron River.

WHAT IS FOOTING DRAIN DISCONNECTION?

As shown on Figure 1, footing drains are small (4-inch diameter), perforated drainage pipes located near the foundation of your house. They are intended to keep rainwater that seeps through the ground from building up along the foundation or basement walls. In many homes, the downspouts, which carry rainwater from the gutters, discharge near the foundation walls. This water drains through the soils and into the footing drains. In most homes constructed before the 1980s, the footing drains are connected to the house sanitary connection (house lead) as shown in the figure above. This house lead carries the footing drain flow and wastewater from the house to the sanitary sewer system.

When it is not raining this is not normally a problem, but during a severe storm event too much rainwater can enter the sanitary sewer system. This excess flow can cause the mixture of rainwater and wastewater to backup in the house lead of some homes and cause basement backups.

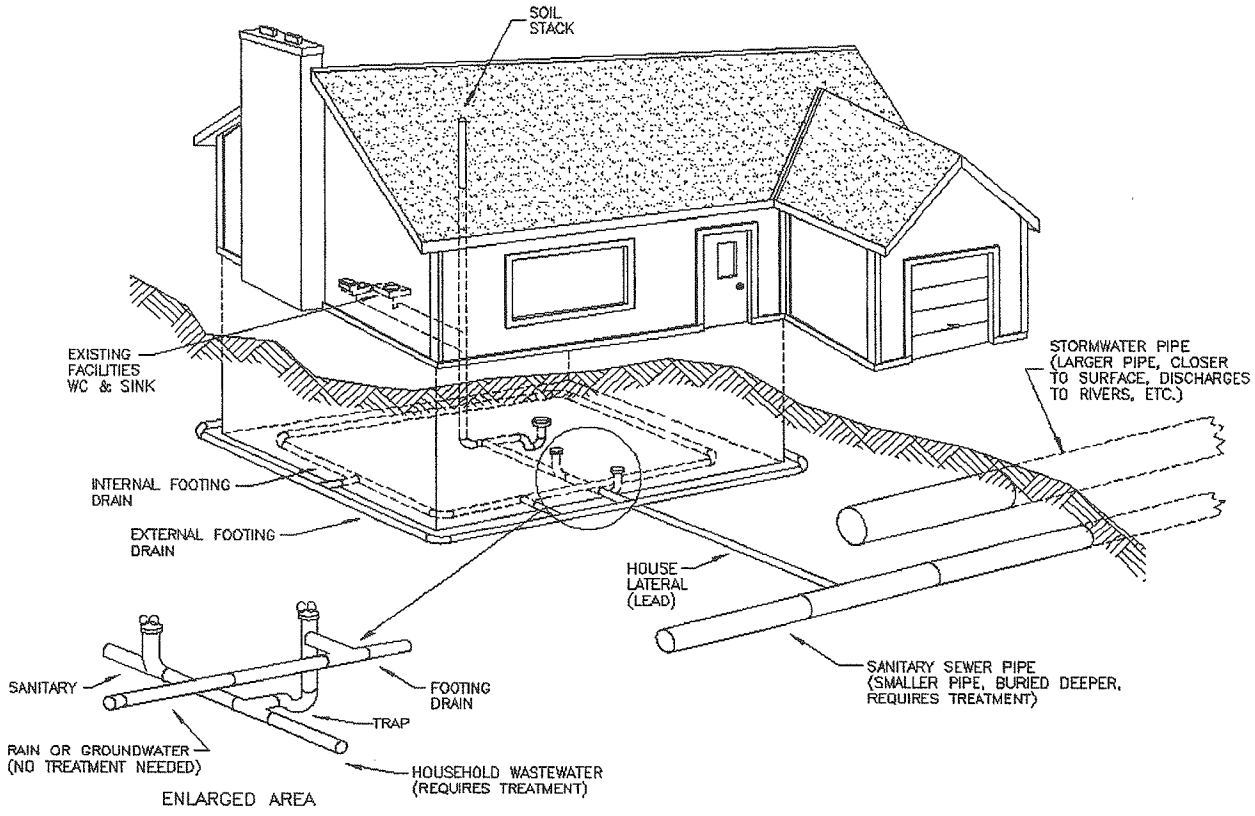


Figure 1 – Pre-construction Conditions

Footing drain disconnection is performed to remove the rainwater flows from the sanitary sewer system. This is done by disconnecting the footing drains from the house sanitary lead and installing a sump pump to move water from the footing drains into the storm water system. There may be some alternatives to sending the flow into the storm water system in some neighborhoods or homes. The creation of rain gardens or use of low areas in backyards are possibilities. A priority is placed on safe disposal of the storm water. For the vast majority of

homes the connection to the sanitary house lead is inside the basement, and the sump is installed in the basement as shown in Figure 2 below.

In homes that have experienced basement backups or are at risk for basement backup, the city can provide funding to install check valves to keep water from flowing back into the home from the sanitary sewer system.

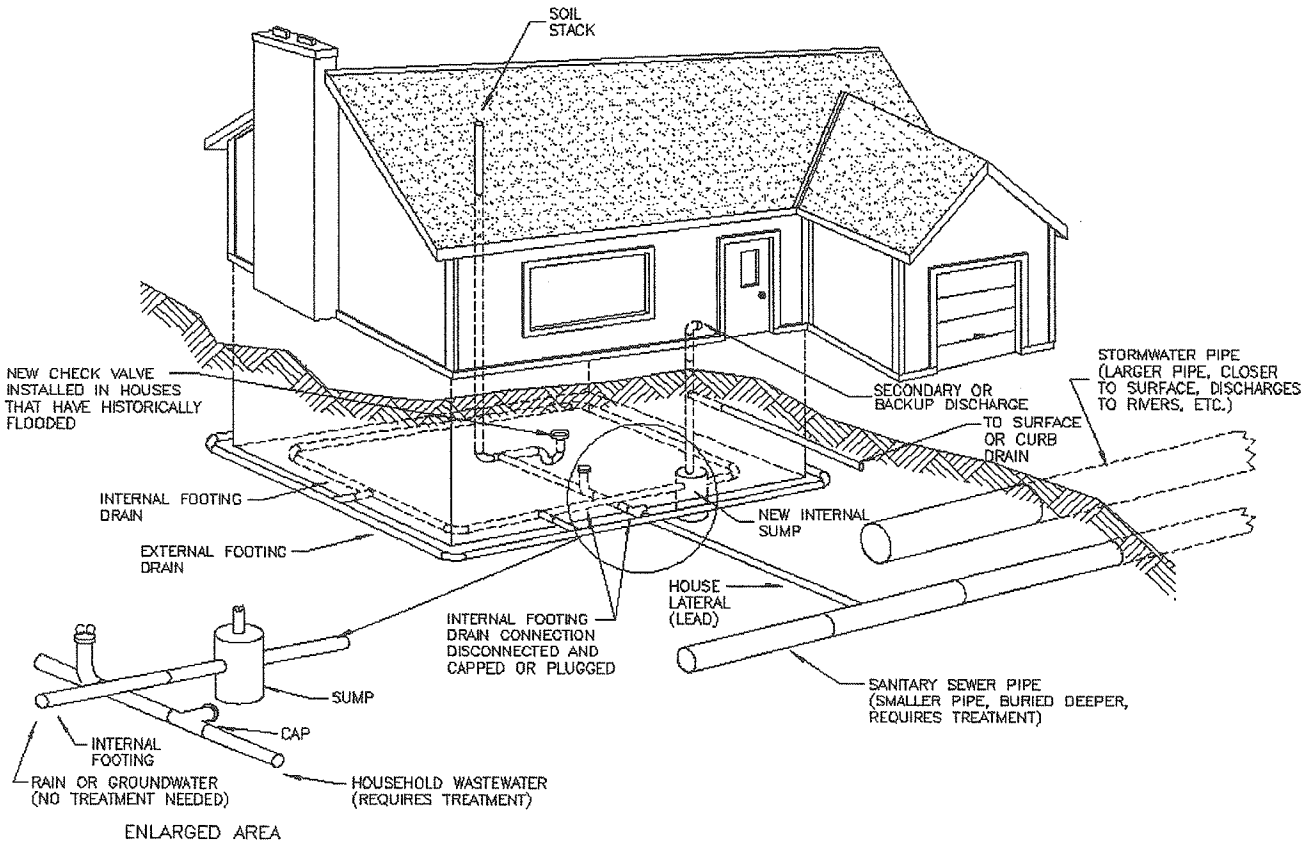


Figure 2 – Basement Sump Construction

WHY DISCONNECT FOOTING DRAINS?

The purpose of disconnecting footing drains is to keep rainwater out of the sanitary sewer system. During dry weather, the sanitary system has plenty of capacity to carry wastewater. In neighborhoods where footing drains are connected to the sanitary system, however, rainwater can overfill the sanitary system during heavy storms resulting in the rainwater/wastewater mix backing up into basements. Keeping rainwater out of the house 'lead' greatly reduces the amount of rainwater getting into the sanitary system, which protects downstream residents and reduces costs at the wastewater treatment plant. It also frees the house connection to carry wastewater to the sanitary system.

All homes built in the City of Ann Arbor since January of 1982 have disconnected downspouts and footing drains with sump pumps in the basements or with gravity discharge leads to a storm

water system. Surface discharge of downspouts allows more rainwater from roofs to be absorbed by the ground and reduces the amount of water being treated and released into the Huron River.

Footing drain disconnection has the following advantages:

- Protects homeowners who have had sanitary backups during severe storm events.
- Takes rainwater out of the sanitary system, reducing problems for downstream residents and eliminating treatment costs for the rainwater.
- Preserves natural features and protects watershed by minimizing undesirable discharges to the Huron River.
- Provides short-term and long-term protection for those at risk.
- Provides the lowest rate impact of all the possible solutions.

WHAT WILL HAPPEN AT MY HOME?

After you receive this homeowner information packet, you should contact the FDD Construction Manager (see page 8 for contact information) to arrange for the initial assessment at your home. This will be an excellent opportunity to ask specific questions about your home, and to learn more about the steps of the program. Next, you will choose from a list of pre-qualified contractors, obtain estimates and arrange a contract. (See page 8 for a list of the contractors) The actual construction work should take from 1 to 3 days of in-home construction. Construction photos are available on the project website www.a2fdd.com.

Curb drain installation work has most likely already been performed by a city hired contractor in the lawn extension area between the curb and sidewalk. The contractor installed a 6-inch diameter pipe with individual connections for each house that will collect the flows from sump pumps in individual homes and direct it to the storm sewer. Lastly the area that was disturbed was restored with new grass seeding and occasionally sidewalk or driveway aprons were replaced.

Initial Assessment will be conducted by the FDD Construction Manager with the homeowner and will include actions to:

- Determine if your footing drains are connected
- Identify possible locations for sump pump installation
- Assess site drainage options, including identification of any needed changes in downspout connections.
- Assess options for installation of sump discharge lead (piping) to an approved discharge location.

Inside work will be confined to the basement and will include:

- Removal of a section of the basement floor to access pipes and to install the sump.
- Disconnection of the footing drains from the house lead and routing of new discharge lines.
- Installation of a new electrical circuit.
- Installation of the sump and sump pump. The sump is typically 24 inches in diameter and 30 inches deep. The cover is sealed and level with the basement floor.

- Repairs to the work area (i.e., replacing concrete, tiles, etc.)
- For homes that have previously experienced basement backup or those deemed to be at-risk for basement backup, installation of check valves on all plumbing fixtures located in the basement or a single check valve to protect all facilities in the basement.
- Clean up of the work area.

Work in the yard includes:

- Installation of a small pipe to carry footing drain water from the sump pump to the previously installed curb drain or an approved alternative.
- Cleanup and restoration of any areas impacted by the installation.

WHAT WILL IT COST? HOW IS IT FUNDED?

The City will provide funding for the 'core' work. A typical household should cost $4,100 to disconnect. Exceptional circumstances within a household may warrant payment beyond the $4,100. Prior to signing a contract, a homeowner may request additional city support which will require competitive estimates from 2 different contractors. This request will be reviewed and may be approved by the City Project Manager and, if necessary, the City Administrator. Financing for this project comes from sewer use fees. Items funded include:

- Parts and labor for standard sump and pump installation
- Parts and labor for discharge pipes
- Parts and labor for electrical work
- Basic restoration of interior and exterior work areas including lawn reseeding and if necessary restoring the floor, ceiling surface or drywall patching.

The Homeowner will be responsible for the following costs where applicable:

- Additional features or restoration beyond what is required for basic installation and items classified as home improvements or exceed building code requirements (e.g. replacement of inadequate electrical service panel, construction of new enclosure for sump, etc.)
- Backup Sump Pump - In the event of a power failure, the primary sump pump will not function. This can result in groundwater collecting around the outside of your basement walls and floor where it can seep through cracks in the concrete or through the sump lid. The plumbing contractors can install, at the homeowner's expense, either battery or water-powered backup pumps that will operate during an electrical failure or if your primary pump fails. You need to assess your desire for this additional level of protection as only you can understand the impacts moisture would have on your belongings in your basement, and the frequency of power failures in your neighborhood. Based on our experience with power failures during storm events, homeowners are advised to strongly consider the need for a backup system. (See questions 20-23 in the Frequently Asked Questions section for additional information)
- Maintenance
- **Homeowner pays all costs plus a monthly surcharge** if the work is not completed within 90 days after receiving the 90-day notice to disconnect (see required timing below)

WHAT DO I NEED TO DO?

As a homeowner please review and complete the steps below to aid in a reliable and trouble free disconnection.

1. Become informed by reviewing the supplied materials in this packet and attending the scheduled neighborhood meeting.
2. Arrange an in-home assessment with a Construction Manager to determine the need for a disconnection, discuss your options for getting the work done and get all your questions answered. We ask that during the in-home assessment/pre-inspection, to please kindly put them away until after the assessment has been completed.
3. Review the list of pre-qualified contractors (page 8) and make an appointment with one or more to receive an estimate of costs for the work to be done in your home.
4. Review costs that are funded by the City and identify any additional options you may want or need to contract for at your personal expense.
5. Submit the necessary forms to secure funding pre-approval to the Construction Manager.
   - Form 1 –Reaffirms that you understand that the contractor you hire is responsible for the work done at your property not the city of Ann Arbor. This is required of every homeowner.
   - Form 2 – This is only needed if the estimated cost exceeds the limit of $4,100. Two estimates will be needed from different contractors for funding pre-approval above the $4,100.
     When funding has been pre-approved the construction management staff will notify you by phone.
6. Ensure that the footing drain disconnection work gets completed properly:
   - Arrange a contract to get the work done with your selected contractor.
   - Discuss scheduling and basement preparation with the contractor.
   - Clear the work area so that the contractor can perform the work. (Contractor will provide specifics). If desired, add additional dust protection to exposed areas.
   - Monitor the work underway to ensure it meets your contract agreements. Consult the Construction Manager if help is needed. The contractor will arrange for city building inspections to occur during the work.
   - Review finished work with the contractor to ensure you understand maintenance and operations of your system.
7. Host a final walkthrough/post-inspection with the Construction Manager to ensure that all work has been completed according to code and according to your contract. If all work has been completed as contracted, the city will issue payment to the contractor for the pre-approved amount.
8. Provide written feedback on the contractor and the overall project to the City.

WHEN DO I NEED TO COMPLETE THIS WORK?

The City and the construction management team work actively with property owners to ensure that all requirements of this program are understood and that construction occurs in timely manner. This packet is the first outreach to homeowners. Within the next two months, any homeowners who have not initiated a contract to disconnect will receive a courtesy reminder. If no action is taken following that reminder, property owners will then receive a certified letter from the city. By city ordinance, property owners are mandated to complete the disconnection of their footing drains within 90 days of receiving a certified letter entitled "90-Day Notice" from the City. If the disconnection is not completed by the end of the 90-days the homeowners risk losing city funding for the work and possibly a surcharge on their sewer bill of $100 per month for unmetered sewage entering the system. If adjustments need to be made to the mandated

timing for completion, please communicate directly with the Construction Manager to review the unique circumstances in your home.

CONTACT NAMES AND NUMBERS

Construction Management Staff:

- Construction Managers
  - Justin Woods ..... [734.794.2780]
  - Karen Duff ..... [734.794.2780]
- CDM Project Manager – Jay Zawacki ..... [734.794.2780]

City of Ann Arbor Staff:

- Project Manager – Anne Warrow .....[734.794.6410 ext. 43639]
- Interim Public Services Director – Craig Hupy ..... [734.794.6310]

PRE-QUALIFIED CONTRACTORS

Hutzel Plumbing
Contact: Nancy Cummins
2311 S. Industrial Highway
Ann Arbor, MI 48104
Phone: (734) 665-9111
Fax: (734) 665-9238

RDC Residential Services
Contact: Richard Connors
Plymouth, MI 48170-5823
Phone: (734) 564-2801
Fax: (734) 414-0729

Bidigare Contractors
Contact: John Bidigare
P.O. Box 700464
Plymouth, MI 48170
Phone: (248) 735-1113
Fax: (248) 735-1114

Perimeter
Contact: Steve Rojeck
8385 Jackson Road
Ann Arbor, MI 48103
Phone: (734) 424-9280
Fax: (734) 424-2037

FREQUENTLY ASKED QUESTIONS

Background Questions: Reasons for Back Ups, Alternative Solutions

1. Are there alternatives to managing the water other than Footing Drain Disconnection? Why was this option chosen?

The SSO Task Force studied the issue of basement backups in 2000 to 2001 and identified three viable alternatives to solving these problems; footing drain disconnection, installing larger sewer pipes and building storage basins. This work found that footing drain disconnection (FDD) addressed the root cause of the basement backups, which was stormwater entering the sewer system during rain events. On average, every home with a connected footing drain adds 3,500 to 10,500 gallons per year of clean water that must be conveyed to the Wastewater Treatment Plant and treated before release to the Huron River. FDD was cheaper overall and, very importantly, reduced the chance of exceeding the Wastewater Treatment Plant capacity. FDD also provides the greatest security of the solutions as its capability to work effectively is not limited to certain size rainstorms.

2. Can I avoid the need for footing drain disconnection if I take actions such as redirecting my downspouts, sloping soil away from the foundation or installing low flow fixtures?

While those are excellent approaches to reduce some causes of wet basements and to reduce the volume of water that goes to the Wastewater Treatment Plant, this will not prevent enough water from entering the sewer system inappropriately. Footing drains still collect much of the rainfall that enters the ground. To protect your own and your neighbors' basements, the large volume of water entering the sewer system from rain storms must not enter the sewer system and FDD is the practical means identified to do this.

3. Why do I need to have this done and not my neighbors?

All buildings that have connected footing drains are scheduled for FDD work over the coming years. The schedule was established on a priority basis to disconnect the homes identified as needing protection from future basement backups and to accommodate a cost efficient installation process within a neighborhood.

4. I get water in my basement now. Will this solve that problem or make it worse?

This work will only address basement water problems that are caused by heavy rain events resulting in basement backups through floor drains. It will not improve or worsen other causes of wet basements such as leaks through cracks in basement walls or floors due to poor site drainage and/or poor or blocked footing drainage pipes.

5. What is the role of development in this problem? These basement backups have happened since our neighborhood has grown.

In tracking the source of the heavy flows that entered the system during rain storms in the year 2000, a Task Force of engineering professionals and community members identified that footing drains contributed 70-90% of the total volume of flow in the sewer system making this source the major cause of basement backups.

The existing sanitary sewer system without footing drain flow is more than adequate to handle recent and future development as planned for in existing treatment plant designs. New developments do not have footing drains connected to the sanitary system and will not add wet weather flows to the collection system.

Installation Process: Costs, Homeowner Choices, Restoration

6. Do I have to use a particular contractor (low bidder)?
Homeowners choose which pre-qualified contractor they want to provide them a bid. Homeowners only need to arrange one bid if the work can be accomplished within the $4,100 average estimate. If costs exceed $4,100, two estimates are needed. The homeowner may select either of the contractors, but must pay the differential between the lowest bid and the higher bid if the more costly contractor is selected.

7. Can I use another contractor who is not pre-qualified?
No. The City of Ann Arbor has developed a process for pre-qualifying contractors so that it is clear that they understand the methods and materials needed for a complete installation. Using other contractors would be more expensive for Ann Arbor to manage and would reduce the ability to support quality construction. With several contractors already pre-qualified, there is adequate choice for homeowners to make a selection. Exceptions to using the pre-qualified contractors may be allowed but the homeowner may not receive full reimbursement for all costs not pre-approved for work using pre-qualified contractors. Homeowners are encouraged to seek information/guidelines for reimbursement from FDD project staff before beginning work eligible for FDD funding. Contractors willing to do this type of work are encouraged to contact the city to seek pre-qualification status.

8. Can I perform the disconnection work myself?
Yes. Homeowners can perform the work. In this case, the homeowner would need to apply for all of the necessary permits, would have to comply with the construction specifications and materials of construction, and would be reimbursed for materials only. This reimbursement would only be made after the Construction Manager had completed the final walkthrough/post-inspection of the work.

9. What will this cost me as a homeowner?
The City will cover the costs necessary to complete an installation of the sump and basic restoration. Homeowners may choose to pay for additional items to meet their desires for more security and enhanced restoration. Some homeowners choose to purchase a backup pump or do additional landscaping work.

10. What does basic restoration mean?
Basic restoration inside the home means returning the home to the level of finish it had previous to the work. Concrete is replaced and smoothed, tiles are replaced with a closest match of available tile and the work site is cleared and cleaned. Outside the home, holes are filled in and grass seed is sown.

11. How do I know the contractor is installing quality components?
All work done by the pre-qualified contractors is in compliance with a very specific set of specifications for both the components to be used and the process for disconnection.

12. What will happen to my yard?
Every effort is made to minimize the amount of excavation and disruption in the yard. The least amount of yard disruption would be a small hole near the foundation wall where the discharge line exits your home. For more difficult installations due to the topography, type of soil or location of the discharge line, a trench across the lawn may be needed.

13. How long does construction last? How dusty is it? How disruptive?
Construction lasts for 2-3 days. Contractors protect flooring and hang protective plastic to minimize the mess. There will be concrete removed and this can generate dust and is noisy. See homeowners' surveys for rating on contractor cleanliness and courtesy.

14. How will this affect the radon levels in my basement?
Everything that is installed in the basement will be sealed, protecting the home from any additional radon exposure. If you do chose to get a water powered back-up, the lid may not be fully sealed.

15. Will my floor drain still work?
Yes. Footing drain disconnection does not affect the functioning of the floor drains. If there is a floor drain that goes to your footing drains it must be abandoned by plumbing code.

Maintenance and Operations

16. Who owns/maintains the sump, pump and additional plumbing lines?
Once installed, the sump pump and lines are owned and maintained by the homeowner.

17. What happens when my sump pump doesn't work? What if the check valves (sewage backflow prevention devices) fail?
If your sump pump stops working, water from the footing drains will not be pumped out to your discharge lines and this water can collect in your basement. As with any primary appliance, it is critical that homeowners keep sump pumps in good repair. The design life of pumps is usually five years, but most sumps pumps will operate for 10 to 15 years before needing replacement. Check valves need to be tested and maintained regularly or they could fail to operate and allow a basement backup to occur.

18. Is there a warranty?
Yes, the work and the sump pump have warrantees through your contractor.
The sump pump warranty is normally 1 year. Warranty for installation work will be outlined in your contract with the contractor.

19. Why is the City mandating a system that has potential to fail when I have never had a problem related to this before?
Any system like this does have the potential to fail, typically because of a loss of power or because the sump pump fails to operate. However, the alternative is that your home or the home of your neighbor could experience a basement backup when footing drain flows overwhelm the sewer system and the Wastewater Treatment Plant in times of heavy storms. Building code in Ann Arbor and in most other communities changed in 1982 to require that footing drains use sump pumps or similar systems to direct footing drain flows to the stormwater system or to an alternative onsite system like a rain garden or detention basin.

20. What is a backup sump pump and why would I need one?
A backup sump pump is a secondary pump that will operate if the primary sump pump fails due to a power outage or mechanical failure. Under normal conditions, the primary sump will start running when the water in the sump reaches a certain level. If a power failure occurs during a period of heavy rain, the water level will continue to rise past that level without the primary pump operating, and the water can build up in the footing drains and in the soil around the basement. Basement wetness can result from water pressure building up around the outside of the

basement walls, where it can seep through cracks in the concrete walls or floor. Water may also seep through the sump lid.

The decision to purchase a backup system is dependent upon each homeowner's individual needs. The factors that should be considered are the level of finish of the basement, the frequency of power outages, past wetness problems, and home elevation relative to surrounding areas. Power outages frequently occur during storm events and it is advisable to have a backup system installed if you are concerned about basement wetness.

21. What if I have a floor drain near the sump, wont the ground water seeping into the basement flow out through the floor drain near the sump?

Not necessarily. If the pump fails to pump out the ground water from your sump the water can build up in the footing drains and in the soil around the basement. Basement wetness can result from water pressure building up around the outside of the basement walls, where it can seep through cracks in the concrete walls or floor. The location that the water seeps through the basement walls or floor may not be near a floor drain and in that case the water may not drain out. Water may also seep through the sump lid into the basement and if there is a floor drain nearby the ground water may drain out through the floor drain without dispersing across the entire basement floor.

Please note that relying on draining the ground water out through the floor drain to the sanitary sewer system during a power outage or pump failure is counteractive to the goals of the footing drain disconnection program and it is not a reliable long term solution because it allows the water to enter the basement before it drains out, potentially causing damage.

22. What are the options for a backup system?

Backup sump pump systems are homeowner options and must be paid for by the homeowner. These backup systems exceed building code requirements and are considered a home improvement that is not fundable by City project dollars. The battery backup system is the most commonly chosen back up system by homeowners. For a short list of advantages and disadvantages of the different back-up sump pump systems please continue reading below. For further information regarding these back-up options please speak with a contractor or look up manufacturer information.

A battery back-up sump pump is an emergency backup pump that draws its power from an industry standard deep-cycle marine battery and pumps the water out of the sump during the loss of electricity or failure of the primary sump pump at half the capacity of the primary system. The pump is installed in the sump and the battery pack is on the floor nearby. Battery based systems are usually fully automatic and maintain a full charge while the power is on and switch over automatically when the power turns off (indicated by an alarm).

Advantages

- Low maintenance requirements other than replacing the battery and checking the distilled water level in battery.
- Low up front cost
- Easy to install
- Works if primary pump fails

Disadvantages

- Limited amount of energy in battery to power pump. Time varies by manufacturer of battery and backup pump, generally 7-24 hrs.
- Cost of battery replacement

A water powered back-up system is an emergency backup pump that uses the pressurized fresh water supply in the house to create suction that draws the water from the sump up through the discharge pipe to the outside of the house. It will require installing copper pipes from the nearest water supply pipe to the sump area. The pump starts automatically if the power turns off or if the primary pump fails.

Advantages
- Power provided by city water pressure. As long as there is water pressure in your house the backup pump will work.
- Works if primary pump fails

Disadvantages
- Uses about 2 gallons of pressurized fresh water to pump out 1 gallon of sump water. Water usage will show up on the water bill.
- More expensive installation cost than battery backup
- Every 3 years, a licensed certified plumber has to verify that sump water is not mixing with the pressurized potable water
- Additional water supply pipes around sump area
- Sump cover may not be radon sealed

A manual start portable gasoline generator could also be used to provide power to the primary pump. These can be found at hardware stores and can vary in price from a few hundred to several thousand dollars. It will require that an extension cord is run from generator outside the house to the sump pump. Before purchase you would also need to verify that the generator will meet your power needs including the sump pump.

Advantages
- May cost less than battery back-up pump
- Portable generator has multiple uses

Disadvantages
- Have to be home to start the generator
- May have to refuel generator often
- No second backup pump

An automatic standby generator can be used to power select circuits in the house such as the sump pump, furnace, refrigerator and other appliances during power outages. The generator would start automatically when the power goes off and can be installed to be powered by natural gas, propane or gasoline. Usually it has to be professionally installed.

Advantages
- Power selected circuits or entire house for longer periods of time
- Starts automatically

Disadvantages
- Installation and maintenance costs
- No second backup pump

23. If my sump pump fails to operate, isn't this as bad as having a basement backup?
No. If your sump pump fails, the water that comes out of your sump is clean water from the ground around your basement. Normally this would drain to the nearest floor drain. On the other hand, if there was a basement backup caused by a surcharged sanitary sewer system, there is the potential that much more flow would enter your basement. This water would contain sanitary sewage, which is a more significant problem to manage.

24. How will this effect local surface water issues? (We already have street/yard trouble)

The water that currently flows through the footing drains will be routed to the stormwater system or to an alternative discharge site like a rain garden for homes that can accommodate that within their yard. In very large storms when basement backups can take place, the stormwater drainage system is designed to pond these excess flows in the streets until the downstream drainage system can accommodate these flows. The FDD generated flows are a small portion of these flows and would normally result in less than an inch of additional standing water for short periods of time. A storm water system which holds back or delays a portion of the large volume of flow, caused by heavy rains, helps preserve the natural ecosystem of the Huron River.

25. I was told check valves were not allowed due to the potential to heave the basement floor. Is that true?

If footing drains are disconnected from the sanitary plumbing as part of a check valve installation, this problem will not occur. However, using check valves can result in heaving the basement floor IF installed when footing drains are still connected to the sewer system and if that sewer surcharges. The FDD program disconnects the footing drains from the sewer system and pumps the water out to discharge lines leading to the stormwater system to prevent this potential problem. The backflow prevention (check) valves that are installed on floor drains and other basement facilities as part of the FDD process are able to contain the pressure generated by the surcharged sewers in the basement plumbing.

26. How noisy is the pump? How often will it run?

The pump sounds much like a refrigerator motor. How often the pump runs depends on the amount of water being removed from your footing drains. In homes completed to date, this has been quite variable.

27. What happens if the discharge line freezes in the winter or is broken?

It is possible for the discharge lines to freeze as they are installed above the frost line. Normally, the water discharged from the sump pump is warm enough to flow without freezing to the storm drainage system. Additionally it is a cyclic flow which means it flows very fast while the pump is operating and hardly at all when not. This means that if the lines placed with the proper grade they should not contain water for an extended period of time therefore minimizing possible freezing. If it does freeze, there is an emergency air gap near the home that allows water to be pumped outside the house. Also, homeowner construction of fences and lawn watering systems could break the discharge line. In these cases, the emergency discharge would put the sump water next to the house until the homeowner can repair the line. The winter of 2002/2003 proved to be a good test for the potential of freezing discharge lines with several periods of extremely cold weather and a considerable frost depth. None of the 75+ installed discharge lines had any reported freezing problems.

28. How much will it cost to run my sump pump?

It has been estimated that the average property owner will pay less than a dollar a year for electricity to run the sump pump. Of course, some will be higher and some lower depending on the amount of water that is pumped.

29. If I have to replace the sump pump, what are the costs for doing this?

Sump pumps can be purchased from local home improvement and hardware stores for less than $150. Often the property owner can install these units, but it not, estimates to replace the

sump pump can be obtained from local plumbers. A common rule of thumb is that installation costs are equal to the equipment being replaced.

Legal Requirements

30. May I choose not to participate in the program? What are the consequences of that?

Participation in this program is mandated by city ordinance. The FDD program offers homeowners the opportunity to have the City pay for installation if the work is completed within the schedule of the program. If the homeowner does not comply with the notices to arrange disconnection, a surcharge of $100 per month will be charged to the homeowner for the additional costs associated with handling un-metered footing drains flows into the sewer system. Disconnection is still required and if done after the 90 day notice expires, the disconnection work would no longer be paid for by the city.

GLOSSARY OF TERMS

- *Check Valve* - pipe fitting or valve which allows flow in one direction only e.g., prevents flow from coming into the house but allows flow to leave the house when a backup condition does not exist
- *Computer Modeling* – Computer program used to simulate the behavior of the collection system.
- *Downspout* – This is the pipe that takes water from the roof gutters in most houses. This should discharge onto the lawn.
- *Flow Meters* – Used to measure flows in the sewer system.
- *Footing Drain* – A drainage pipe (or tile) that is installed around the foundation of most basements of houses. This drain makes sure that water in the ground does not make the basement damp. This is connected to the sanitary sewer, to a sump pump, or directly to the storm sewer.
- *House Leads* - sewer pipe connecting an individual house to the City sewer
- *Infiltration* – This is rainwater flow that enters the sanitary sewer system through underground cracks in sewers.
- *Infiltration Device* - underground chamber that handles flow discharged from the sump pump, this chamber allows water to infiltrate into ground rather than discharge to storm sewer (limited to sandy soils or other soils that drain well)
- *Inflow* – This is a direct connection from surface drainage into the sanitary sewer.
- *Manhole* – This is the access structure that allows field crews to inspect sewers.
- *Rain Gage* – Used to measure the amount of rain from storm events.
- *Sanitary Sewer* – Sewer pipe that conveys wastewater to the Ann Arbor Wastewater Treatment Plant.
- *Storm Sewer* – A different pipe that takes rainwater collected in catch basins located in the street and conveys these flows to a creek or river.
- *Sump Pump* - pumps footing drain flows from lowest drainage point (sump) to the City storm sewer
- *Surface Drainage* – Rainwater that flows down the street or yard to a storm drain or into a creek or river.
- *Wastewater* – The used water that flows down drains in your home.

PAGE LEFT BLANK INTENTIONALLY to use for taking notes during neighborhood meeting, initial in-home assessment and/or meetings with contractors.

CITY OF ANN ARBOR, MICHIGAN
100 North Fifth Avenue, P.O. Box 8647, Ann Arbor, Michigan 48107-8647
http://www.ci.ann-arbor.mi.us

Public Services Area

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!

Last Updated February 9, 2012

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 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 distilled 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!**
   iv. Have the backflow preventers inspected by a licensed certified plumber every 3 years.

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 repellant 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.

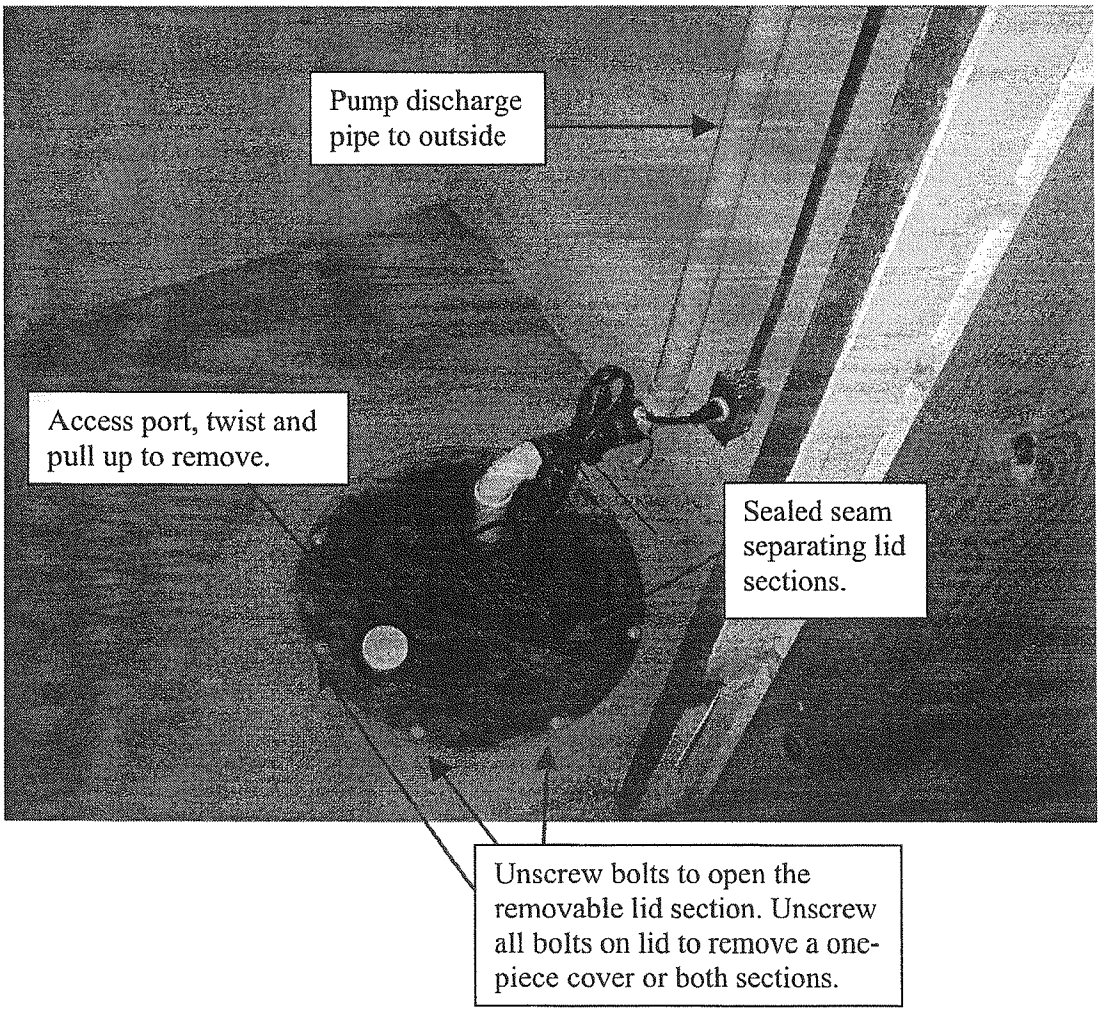
   b. Your pump manufacturer's owner's guide. If you no longer have the original copy, a replacement can usually be found at your pump manufacturer's website, refer to list below or use a search engine.
      i. Flotec Pumps - http://www.flotecpump.com/
      ii. Hydromatic Pumps – http://www.hydromatic.com/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

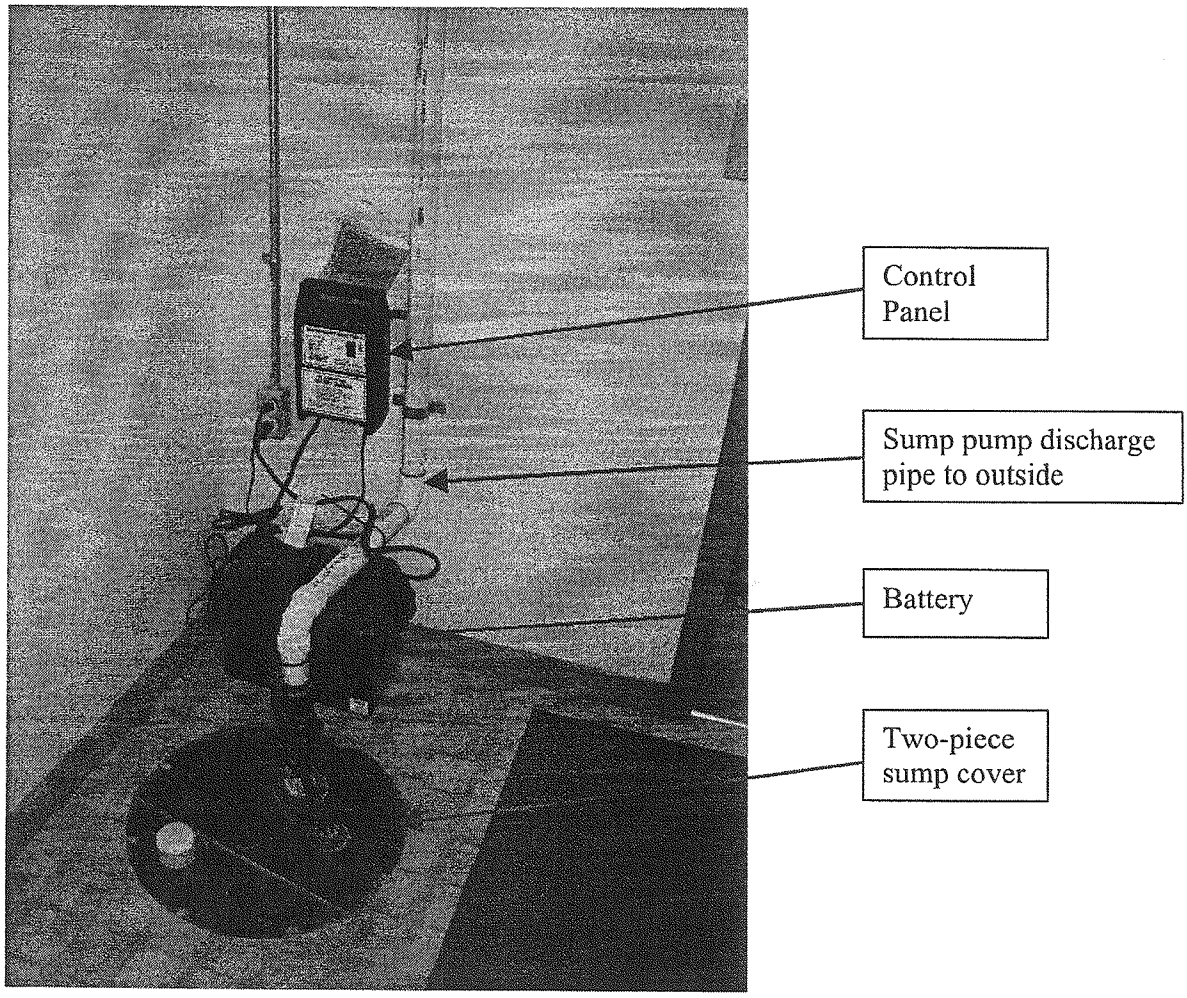
APPENDIX A

Maintenance Graphics

Sump with Two-Piece Cover
(One-piece lid has similar look without the visible seam)

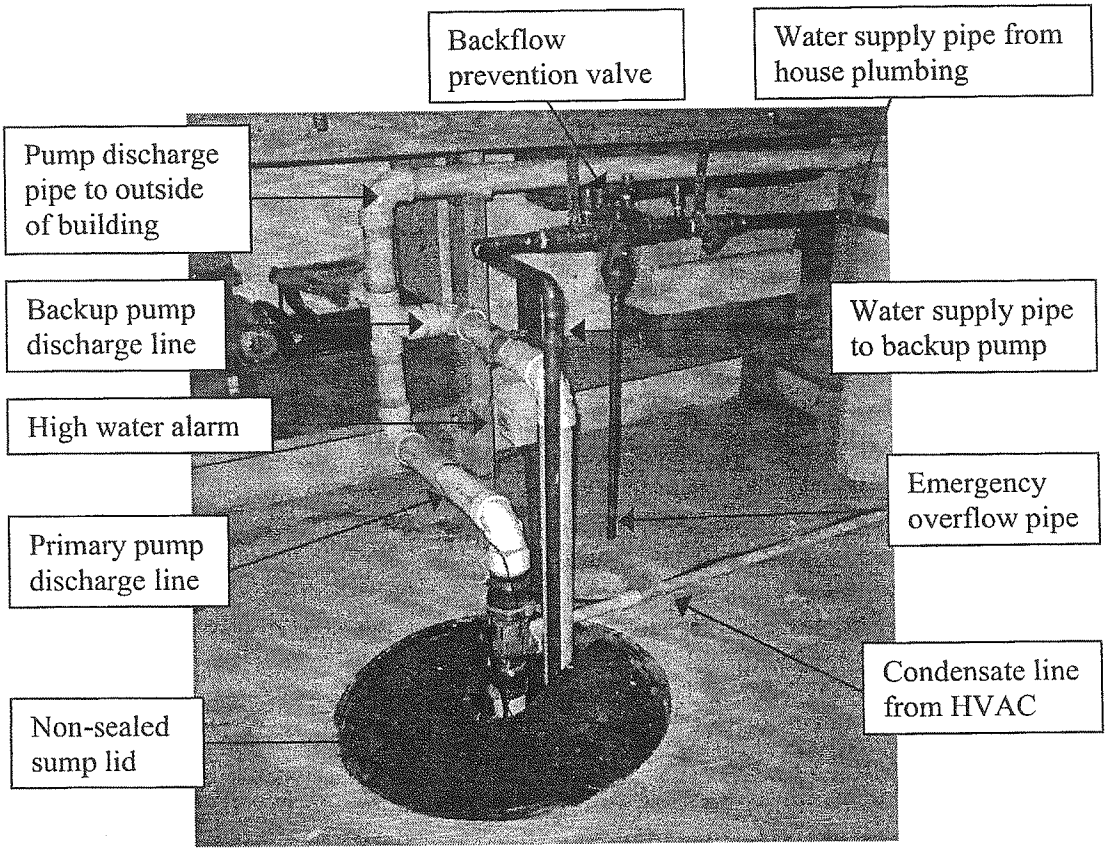


Battery Powered Backup Pump System
(Consult the manufacturer manual for maintenance recommendations and instructions)

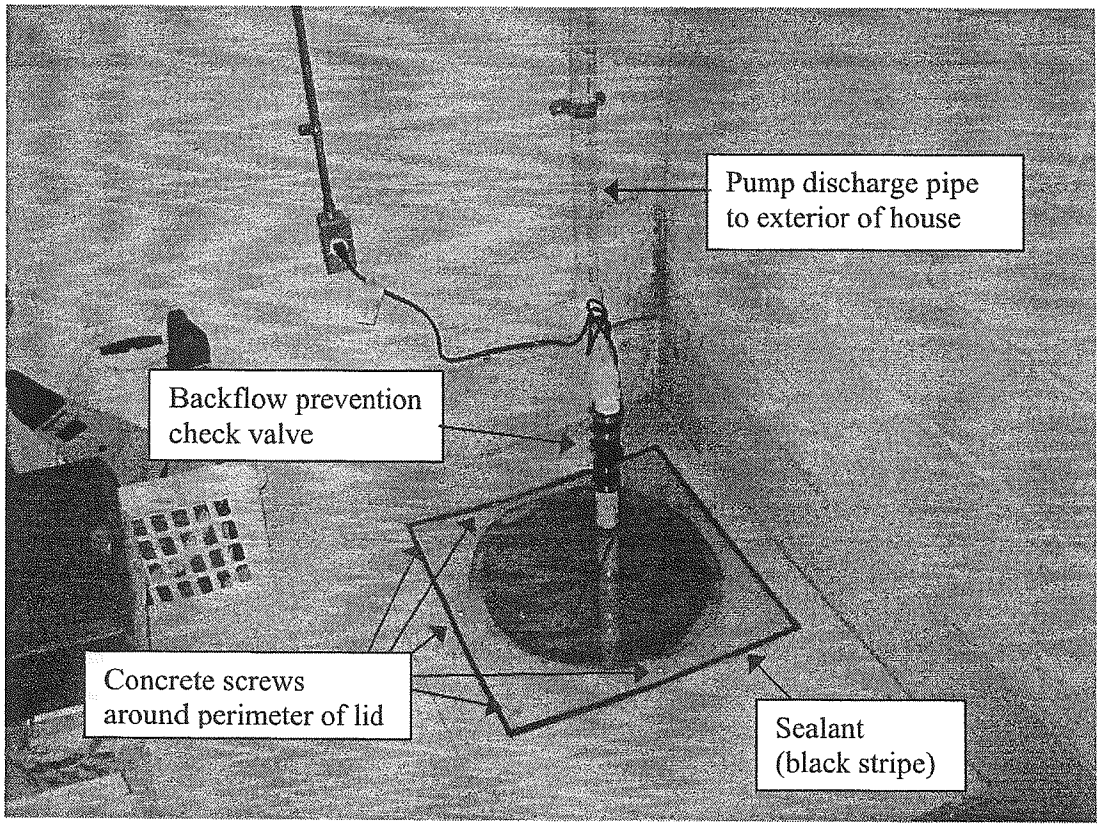


Water Powered Backup Pump System

(Consult the manufacturer manual for maintenance recommendations and instructions)



Sump with Clear Lid



MAINTENANCE LOG		
Date	**Initials**	**Comments**

Exhibit B, Amended Motion and Brief for Preliminary Injunction

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

ANITA YU, JOHN BOYER, and MARY RAAB,

Plaintiffs,

v.

CITY OF ANN ARBOR,

Defendant.

Case No.
Hon.

[formerly 22nd Circuit Court, Michigan - Case No. 14-181-CC; Hon. Donald E. Shelton]

/

Irvin A. Mermelstein (P52053)
Attorney for Plaintiffs
2099 Ascot St.
Ann Arbor, MI 48103
(734) 717-0383
nrglaw@gmail.com

M. Michael Koroi (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170
(734) 459-4040
mmkoroi@sbcglobal.net

Woods Oviatt Gilman, LLC
By: Donald W. O'Brien, Jr., Esq.
Pro Hac Vice Application pending in 22nd Circuit Court, Michigan
Co-Counsel for Plaintiff
2 State St., 700 Crossroads Bldg.
Rochester, NY 14614
(528) 982-2802
dobrien@woodsoviatt.com

Office of the City Attorney
Stephen K. Postema (P38871)
Abigail Elias (P34941)
Attorneys for Defendant City of Ann Arbor
301 E. Huron St., P.O. Box 8647
Ann Arbor, MI 48107
(734) 794-6170
spostema@a2gov.org
aelias@a2gov.org

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Exhibit B, Amended Motion and Brief for Preliminary Injunction

STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ANITA YU, JOHN BOYER, and
MARY RAAB,
Plaintiff,

Hon: Donald E. Shelton
Case No. 14-181 CC

vs.

THE CITY OF ANN ARBOR,
Defendant.

/

IRVIN A. MERMELSTEIN (P52053)
Attorney for Plaintiffs
2099 Ascot St.
Ann Arbor, MI 48103
734-717-0383

M. MICHAEL KOROI (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170
734-459-4040

WOODS OVIATT GILMAN, LLP
BY: DONALD W. O'BRIEN, JR., ESQ.
Pro Hac Vice application pending
Co-Counsel for Plaintiff
2 State St.
700 Crossroads Bldg.
Rochester, NY 14614
528-982-2802

/

AMENDED MOTION FOR PRELIMINARY INJUNCTION

1. Plaintiffs are the owners of two pre-1982 single family residential homes in the City of Ann Arbor, constructed before January 1, 1982, when changes to the Michigan State Residential Building Code (1- and 2- Family, Plumbing Section) went into effect that prohibited the future connection of footing drains to sanitary sewer systems. Plaintiffs, as such, had "vested rights" to their existing connections prior to those 1982 legislative amendments and could not be divested of those rights by what has become known as Ann Arbor's FDD Ordinance.

2. On August 20, 2001, the City of Ann Arbor passed an ordinance providing that legally-permitted pre-1982 footing drain disconnections to the sanitary sewer system in pre-1982 single-family homes were thereafter "improper." It authorized the Director of the Utility Department to establish FDDP "target areas" and to require homeowners residing therein to complete a disconnection of such footing drains ("FDD") or face a monthly fine of $100.00 per month. The ordinance further provides that the homeowners are financially and personally responsible for maintaining and operating a permanent physical installation constructed in the home's basement by authority of the Ordinance.
3. The Plaintiffs attached affidavits attest to financial, emotional and service burdens following the physical occupation of their homes by authority of the FDD Ordinance.
4. This action has been commenced under MCL 213.13, Article X, Section II of the Constitution of the State of Michigan of 1963, the Federal Civil Rights Act of 1871 (42 USC 1983), and the Fifth Amendment to the United States Constitution; the Plaintiffs herein seek compensatory damages, injunctive relief, and a declaration that Ann Arbor Ordinance 2:51.1 is unconstitutional for the reasons stated in the accompanying brief and plaintiffs are therefore entitled to preliminary injunctive relief.
5. Plaintiffs seek a preliminary injunction in accordance with MCR 3.310 pursuant to the general equity jurisdiction of the circuit court and the Federal Civil Rights Act of 1871.

WHEREFORE, Plaintiffs Anita Yu, John Boyer, and Mary Jean Raab respectfully pray that the following relief be granted:

A. entry of a preliminary injunction barring the City of Ann Arbor from implementing and/or enforcing the FDD ordinance against any of the plaintiffs herein during the pendency of these proceedings;

B. in the alternative or in addition, a preliminary injunction barring the City of Ann Arbor from implementing and/or enforcing the FDD ordinance against any person within a designated FDDP "target area" of the City of Ann Arbor;

C. order any evidentiary hearings the Court may deem necessary;

D. any other relief deemed just and equitable.

Respectfully submitted,

Irvin Mermelstein (w/consent MMK)
IRVIN A. MERMELSTEIN, ESQ (P52053)
Attorney for Plaintiffs
2099 Ascot Street
Ann Arbor, Michigan 48103
734.717.0383
nrglaw@gmail.com

M. Michael Koroi
M. MICHAEL KOROI, ESQ (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170-1236
(734) 459-4040
mmkoroi@sbcglobal.net

Donald W O'Brien Jr. (w/Consent MMK)
WOODS OVIATT GILMAN LLP
By: Donald W. O'Brien, Jr., Esq.
(*Pro Hac Vice* application pending)
Co-Counsel for Plaintiffs
2 State Street
700 Crossroads Building
Rochester, New York 14614
585.987.2800
dobrien@woodsoviatt.com

Dated: February 27, 2014

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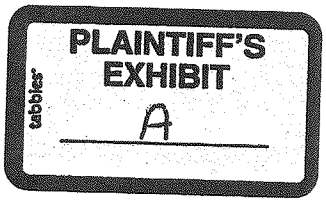
BY: DANIEL W. O'BRIEN, ESQ.
Pro Hac Vice application pending
Co-Counsel for Plaintiff
2 State St.
700 Crossroads Bldg.
Rochester, NY 14614
528-982-2802

/

AFFIDAVIT OF JOHN BOYER

COUNTY OF WASHTENAW)
) SS:
STATE OF MICHIGAN)



John Boyer, being duly sworn, deposes and says:

1. I make this Affidavit of my own personal knowledge and am competent to testify thereto if called as a witness.

2. I am an individual resident of the State of Michigan and the County of Washtenaw at 2273 Delaware Drive, Ann Arbor MI 48103. I was born on February 16, 1948.

3. I am the owner, with my wife, Mary Raab, of the single-family residential home at that address. It is my permanent residence and I have lived there with my wife for 30 years.

4. In spring 2002, I was approached during the daytime outside of my home by representatives of the City of Ann Arbor Public Utilities Department and of Camp Dresser McKee ("CDMI") concerning the City of Ann Arbor Footing Drain Disconnection Program ("FDDP"). These representatives were

visiting other individual homes and delivered to me, by hand, a copy of the "Homeowner Information Packet," a copy of which is attached as Exhibit A. The Homeowner Information Packet bears the words "City of Ann Arbor" and the City's seal. Though the Homeowner Packet itself was unaddressed and was delivered in an unaddressed folder, it contained specific instructions on how we were to comply with the FDD Ordinance and the FDDP as implemented by the City.

5. The Homeowner Packet (Exhibit A), at pages 7-9, describes in summary form the entries and construction that are part of an FDD and the resulting changes that would result in the-then existing connections of our foundation (or "footing") drains to the City's sanitary sewer system.

6. The Homeowner Packet (Exhibit A) was a demand that we consent, under compulsion, to the future entries, exterior and interior permanent construction and destruction of our real property therein described, including the permanent installations of operating equipment in our homes by the City and contractors authorized by the City.

7. At the time of delivery of the Homeowner Packet (Exhibit A), our basement was a finished and well-furnished living space with no storm water-related problems. It was a dry basement that was used, for example, for family activities and recreation, laundry, furnace installation, and storage, and also included a sleeping couch for guests in a dry basement.

8. We had no need for a sump pump or to have our legal footing drain connection to the sanitary sewer terminated. We did not wish to have an FDD in our home and would not have had an FDD but for the fact that the FDD was mandatory under the FDD Ordinance, as expanded upon on by the Homeowner Packet (Exhibit A) and material provided at a website for the FDDP at www.a2fdd.com, including a listing of Frequently Asked Questions.

9. When the Homeowner packet was hand delivered, I was told by the City and CDMI that I was required to obtain quotes from two of three Ann Arbor plumbing contractors "pre-qualified" by the City—Hutzel Company; Perimeter, LLC; and a third choice—out of the five listed in the Homeowner Packet and that I was required to accept one of those bids. Under the FDD Ordinance and as instructed by these representatives, I obtained such quotes and picked the lower bid from Hutzel Company for the FDD work in our home. The City and CDMI controlled all aspects of the FDD after that point.

10. Under the FDDP and the FDD Ordinance, if my wife and I had failed to agree to the "voluntary" FDD through one of the five "pre-qualified" plumbing firms, then the Director of Public Utilities would have had the authority to (a) order us by registered letter to perform the FDD ourselves within 90 days (with no promise of any of a $3750 City subsidy that would be available for an FDD through one of the five "pre-qualified" plumber); (b) withhold permitting, drawings or other assistance from the City extended to homeowners who selected a pre-qualified plumbing firm; (3) fine us $100.00 monthly as a non-metered charge on our sewer bill if we failed to complete the FDD within the 90-day period after the certified mail letter; and (4) if the charge went unpaid thereafter, to withhold sanitary sewer and water service for our home.

11. Hutzel Company and one or more of its subcontractors (including an electrical subcontractor) thereafter completed an FDD in our home in 2002.

12. The FDD included (i) disconnection of the home's footing drains from their sanitary sewer; (ii) extensive excavation and construction inside and outside the home; (ii) jack-hammering and breaking up of concrete in the basement for the purpose of excavation of a 3-foot deep sump and of trenches for installation of pipes (a) from the exterior of the home, through the foundation wall and through the basement floors, and then (b) into the sump in the basement, and then (c) upward out of the basement sump, through the upper basement foundation wall and out to the exterior of the home; and (iii) installation of a sump crock, sump lid (screwed in place), sump pump, electrical wiring and connections, and other permanent equipment.

13. The completion of the FDD intentionally redirected ground water and storm water collected in the footing drains away from the then-existing drainage into the sanitary sewer and to a system of drainage into the basement, through the basement floor, and into a sump crock, where the water collects.

14. The purpose of the sump pump arrangement is to remove the groundwater and storm water that collect from the sump crock and expel it to the exterior of the house.

15. We have been obligated since the FDD, under the FDD Ordinance, to perform all operation and maintenance tasks related to the FDD, as detailed in the City's FDDP Maintenance Manual, which was provided to us by the City. A copy of the Maintenance Manual posted at the City's privately-run FDDP website, www.a2fdd.com, is attached as Exhibit B.

16. The original FDD in 2002 was unscientifically designed and installed and the FDD discharged outside the kitchen window very close to the side of the house. Because of the location of the discharge, the FDD installation simply redirected water into the foundation drains, which and then recycled the water into and out of the house. This installation finally resulted in a 6" flood in 2003.

17. After that flood, representatives of the City, Hutzel Company and CDMI visited and inspected the FDD inside and outside the house, studied the design of the installation and decided on a reinstall by Hutzel Company with the discharge this time through a standpipe into the backyard.

18. The backyard discharge location was made by the City over my specific protests that the discharge should be to a curbside line, which the City said was not possible and ignored the protest. A neighbor a few doors down was provided with a curbside connection shortly thereafter.

19. The pressure of the heavy sump pump discharge to the backyard (approximately 30 gallons per minute on electric power) in annual rainy conditions damages the lawn and has created a permanent depression of the ground between the discharge from the sump pump and roughly the middle of the surface of the lawn. As operating equipment, the FDD has constantly damaged and re-damaged the lawn in this way and will continue to do so permanently.

20. Exterior sludge flows into the inflow lines from the footing drains to the sump crock, but also collects there and builds up over time. When water floods out of the sump, the sludge from the inflows is part of the flooding in the basement. The presence of this material and the other pollutants in the flood water in our basement is only due to the FDD.

21. The cover on the sump is supposed to be removable for maintenance, but is screwed down tight. The Maintenance Manual (Exhibit B) instructs us to remove it for inspection of the sump pump and components, which would require non-volunteer physical labor, mandated by the FDD Ordinance, for the supposed benefit of others, without pay or the laws protection for laborers.

22. It would take me at least half an hour to an hour of physical labor on my knees to remove and replace the sump cover. We don't try and we have to pay a plumber to do maintenance that requires removing the sump cover.

23. Some maintenance tasks are not shown in the Maintenance Manual (Exhibit B). When the sludge in the inflows to the sump crock hardens and blocks the inflows (which then backs up around the foundations), I have to insert a length of garden hose into each inflow, turn on the water, and snake out the blockages. This has to be performed through an observation hole in the sump cover because we are unable to remove the sump cover ourselves.

24. This second install of the FDD was also unscientifically designed and constructed and causes flooding as did the first installation.

25. Because of flooding from the FDD, the basement furniture is on pieces of waterproof foam. Wetness from the sump is not unusual, and water within a radius of several feet out of the crock is recurrent.

26. When flooding extends beyond that point (as it has on at least four times), my wife and I push most of the furniture in the living spaces near the sump well away from the sump pump area. This includes a heavy couch, full desk and a large treadmill.

27. We have suffered anxiety, stress and worry about the FDD since the first installation in 2002. I have not been paid for my labor and I will not be paid for my future labor for the FDD under the law and other City documents.

28. The FDD has devalued our real estate significantly and permanently and has interfered with our use and enjoyment of our home. We are concerned about further property damage and flooding and the impact on resale of the home. We limit the storage in the basement to items that cannot be damaged by water.

Further deponent sayeth naught.

Subscribed and sworn to
before me on this 24th
day of February, 2014

JOHN BOYER

I.A. MERMELSTEIN
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF WASHTENAW
My Commission Expires July 8, 2015
Acting in the County of Washtenaw

Notary Public

Footing Drain Disconnection HOMEOWNER INFORMATION

City of Ann Arbor
Public Services Area

Footing Drain Disconnection Program

www.a2fdd.com

TABLE OF CONTENTS

Background

Within the City of Ann Arbor, there are groups of homes that have experienced basement backup problems. Many of these have been the result of wastewater backing up from the sanitary sewers through basement floor drains, especially during periods of heavy rainfall. This wastewater presents a potential health risk and can cause damage to the structure and to belongings stored in the basement.

In addition, this excess rainwater/groundwater places a strain on the sanitary sewer system and must be treated at the Waste Water Treatment Plant. Due to current and future regulations in the State of Michigan, it is critical the Utilities Department minimize the amount of unnecessary rainwater/groundwater sent as wastewater to the Treatment Plant.

In 1999, the City formed the Sanitary Sewer Overflow Prevention Advisory Task Force to understand the causes of basement backup and develop solutions to the problem. The Task Force was comprised of homeowners, city staff and experts in related disciplines. In addition, the Task Force hired the engineering firm of CDM to assist in the data gathering and analysis.

Throughout the project, the Task Force sought to provide the public with project information and solicit homeowner feedback to develop a recommendation that meets the diverse needs of the citizens.

Task Force Findings and Solutions

The Task Force study determined that during heavy storms, rainwater from home footing drains overloads the sanitary sewer system and is the primary cause of basement backups.

It was determined that even homes with no current basement backup problems were significant contributors to the basement backup problem for neighboring homes.

There are basically two ways to handle this problem: either reduce the amount of rainwater entering the sanitary sewer system, or provide more capacity in the system to store or carry these flows. Based on analysis and public feedback, the Task Force determined that reducing the amount of rainwater entering the system would be preferable to the public, environmentally responsible and most cost effective.

Therefore, the Task Force recommended that the Mayor and City Council implement a comprehensive citywide footing drain disconnection program within the City of Ann Arbor in order to reduce the amount of rainwater flowing into the sanitary sewer system.

The Task Force recommended a citywide program for a number of reasons.

- This basement backup problem is not confined to the five study areas.
- All buildings with connected footing drains contribute to the basement backup problem.
- Footing drain disconnection supports the City in a proactive approach to pending regulatory guidelines in the State of Michigan.
- Decreasing the amount of stormwater flow that gets to the Water Treatment Plant reduces both the costs of treatment and the chances for potential overflows into the Huron River.

What is Footing Drain Disconnection?

As shown on Figure 1 below, footing drains are small, perforated drainage pipes located near the foundation of your house. They are intended to keep rainwater that seeps through the ground from building up along the foundation or basement walls. In many homes, the downspouts, which carry rainwater from the gutters, discharge near the foundation walls. This water drains through the soils and into the footing drains.

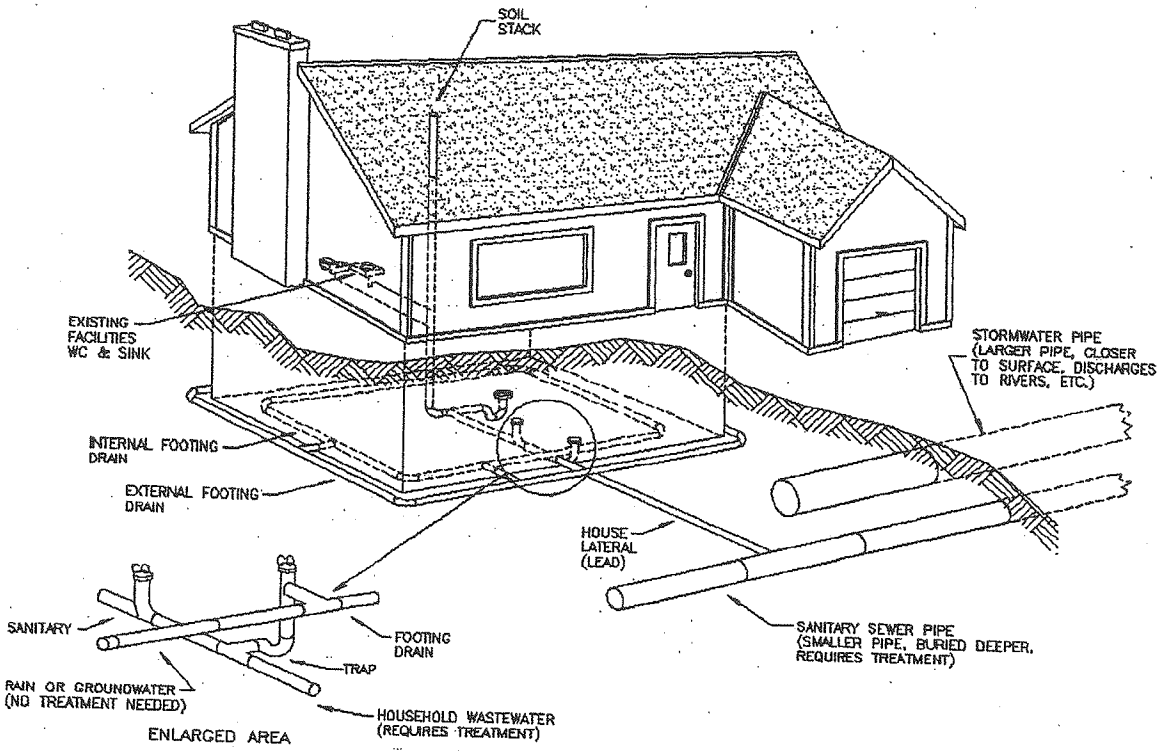


Figure 1 – Pre-construction Conditions

In most homes constructed before the 1980s, the footing drains are connected to the house sanitary connection (house lead) as shown in the figure above. This house lead carries the footing drain flow and wastewater from the house to the sanitary sewer system.

When it is not raining this is not normally a problem, but during a severe storm event too much rainwater can enter the sanitary sewer system. This excess flow can cause the mixture of rainwater and wastewater to backup in the house lead of some homes and cause basement backups.

Footing drain disconnection is performed to remove the rainwater flows from the sanitary sewer system. This is accomplished using the following steps:

1. Disconnect the footing drains from the house sanitary lead and install a sump pump to move water from the footing drains into the stormwater system. There may be some alternatives to sending the flow into the stormwater system in some neighborhoods or homes. The creation of rain gardens or use of low areas in backyards are possibilities. A priority is placed on safe disposal of the stormwater. If the connection to the sanitary house lead is inside the basement, the sump is installed in the basement as shown in Figure 2 below. If the connection is outside the home, a sump is installed outside as shown in Figure 3.

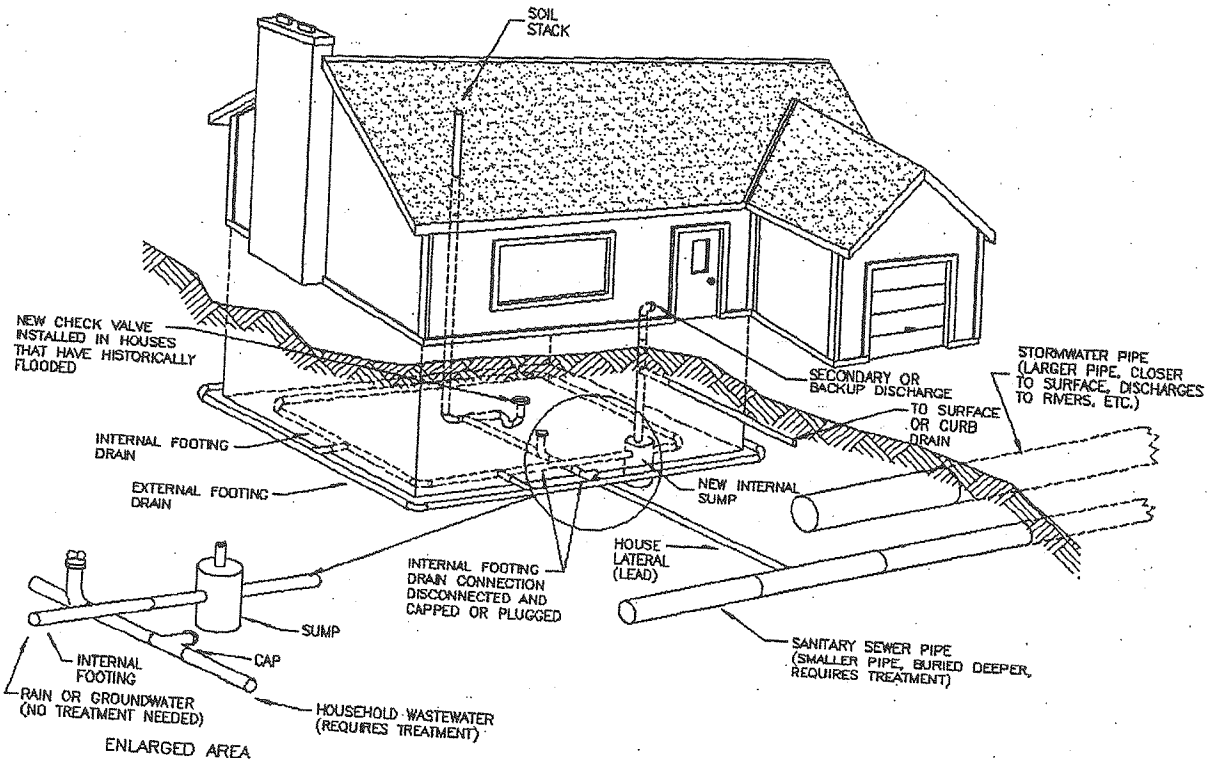


Figure 2 – Basement Sump Construction

2. In homes that have experienced basement backups or are at risk for basement backup, install check valves to keep water from flowing back into the home from the sanitary sewer system.

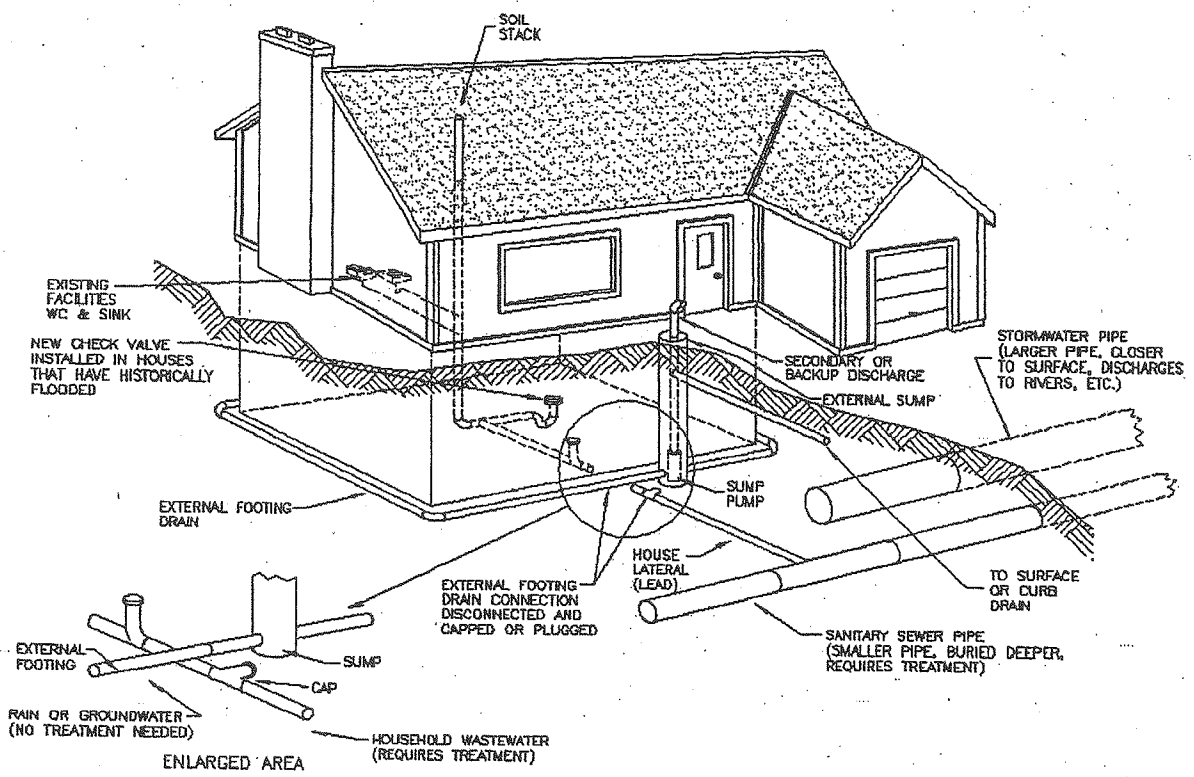


Figure 3 – Outside Sump Construction

Why Disconnect Footing Drains?

The purpose of disconnecting footing drains is to keep rainwater out of the sanitary sewer system. During dry weather, the sanitary system has plenty of capacity to carry wastewater. In neighborhoods where footing drains are connected to the sanitary system, however, rainwater can overfill the sanitary system during heavy storms resulting in the rainwater/wastewater mix backing up into basements. Keeping rainwater out of the house 'lead' greatly reduces the amount of rainwater getting into the sanitary system, which protects downstream residents and reduces costs at the wastewater treatment plant. It also frees the house connection to carry wastewater to the sanitary system.

All homes built in the City of Ann Arbor since January of 1982 have disconnected downspouts and footing drains with sump pumps in the basements or with gravity discharge leads to a stormwater system. Surface discharge of downspouts allows more rainwater from roofs to be absorbed by the ground and reduces the amount of water being treated and released into the Huron River.

Footing drain disconnection has the following advantages:

- Protects homeowners who have had sanitary backups during severe storm events.
- Takes rainwater out of the sanitary system, reducing problems for downstream residents and eliminating treatment costs for the rainwater.
- Preserves natural features and protects watershed by minimizing undesirable discharges to the Huron River.
- Provides short-term and long-term protection for those at risk.
- Provides the lowest rate impact of all the possible solutions.

What Will Happen at My Home?

After you receive this homeowner information packet, you should contact the FDD Construction Manager (see page 13 for contact information) to arrange for the initial assessment at your home. This will be an excellent opportunity to ask specific questions about your home, and to learn more about the steps of the program. Next, you will choose from a list of pre-qualified contractors, obtain estimates and arrange a contract. (See page 12 for a list of the contractors) The actual construction work should take from 1 to 3 days of in-home construction. More details on the different parts of the work are included below:

Initial Assessment will be conducted by the Construction Manager with the homeowner and will include actions to:

- Determine if your footing drains are connected
- Identify possible locations for sump pump installation
- Assess site drainage options, including identification of any needed changes in downspout connections.
- Assess options for installation of sump discharge lead (piping) to an approved discharge location

Curb drain installation work will be performed in the area between the curb and sidewalk and will include:

- Staging of equipment and pipe material, commonly in the area between the curb and sidewalk and in the parking lanes in your neighborhood.
- Marking of underground utilities (gas, electric, etc) with paint and flags in the work zones.
- Excavations of these utilities to precisely determine their depth.
- Installation of the curb drain using directional drilling equipment to minimize disruption of the lawn extension area.
- Connection of the curb drain to the catch basins and installation of house tees and cleanouts.
- Cleanup and restoration of the damaged grass and concrete areas.

Inside work will be confined to the basement and will include:

- Removal of a section of the basement floor to access pipes and install the sump
- Disconnection of the footing drains from the house lead and routing of new discharge lines.
- Installation of a new electrical circuit.
- Installation of the sump pump
- Repairs to the work area (i.e., replacing concrete, tiles, etc.)
- For homes that have previously experienced basement backup or those deemed to be at-risk for basement backup, installation of check valves on all plumbing fixtures located in the basement or a single check valve to protect all facilities in the basement.
- Clean up of the work area.

Work in the yard includes:

- Installation of a small pipe to carry footing drain water from the sump pump to a rainwater collection system or an approved alternative.
- Cleanup and restoration of any grassed areas impacted by the installation.

What Will It Cost?

The City will pay for the 'core' work up to $3,700 for a typical household *, ultimately financing this through sewer use fees. **The City** will pay for:

- Parts and labor for standard sump installation
- Parts and labor for discharge pipes
- Basic restoration of interior and exterior work areas.

The Homeowner will be responsible for the following costs where applicable:

- Additional features or restoration beyond what is required for basic installation and items classified as home improvements or that exceed building code requirements (i.e. replacement of inadequate electrical service panel, construction of new enclosure for sump, etc.)
- **Backup Sump Pump** - In the event of a power failure, the primary sump pump will not function. This can result in groundwater collecting around the outside of your basement walls where it can seep though cracks in the concrete or through the sump lid. The plumbing contractors can install (at your expense) either battery-powered or water-powered backup sump pumps that will operate during an electrical failure or if your primary sump pump fails. You need to assess your desire for this additional level of protection as only you can understand the impacts of moisture would have on your belongings in your basement, and the frequency of power failures in your neighborhood. Based on our experience with power failures during storm events, homeowners are advised to strongly consider the need for a backup system. (See question 21 in the Frequently Asked Questions pamphlet for additional information)
- Long-term maintenance
- **HOMEOWNER PAYS ALL COSTS PLUS MONTHLY SURCHARGE if the work is not completed within 90 days after receiving a notice to disconnect. This notice will be a certified letter sent by the City to your home.**

* Exceptional circumstances within a household may warrant payment beyond the $3,700 (the typical funding threshold). Prior to signing a contract, a homeowner may request additional city support. This request will be reviewed and may be approved by the City Project Manager and, if necessary, the City Administrator.

Next Steps Summary

Please review and complete the steps below to aid in a reliable and trouble free disconnection.

1. Review this packet of information carefully.
2. Attend the scheduled information meeting for your neighborhood.
3. Arrange an in-home assessment with the Construction Manager to determine the need for a disconnection, review possible pump and discharge locations, and identify any special needs of your home.
4. Review the list of pre-qualified contractors (page 12) and make an appointment with one or more to receive an estimate of costs for the work to be done in your home.
5. Review costs that are reimbursable by the City and identify any additional options you may want or need to contract for at your personal expense.
6. Upon receiving approval of a funding amount from the Construction Manager arrange a contract with your selected contractor.
7. Review the schedule for work being done in your home with the Construction Manager to confirm your ability to meet the 90-day disconnection criteria.
8. Clear basement work area (Contractor will provide specifics). If desired, add additional dust protection to exposed areas.
9. Monitor the work underway to ensure it meets your contract agreements. Consult the Construction Manager, City Project Manager or City Ombudsperson, if help is needed.
10. Review finished work with the contractor to ensure you understand maintenance and operations of your system.
11. Construction Manager visits the home to review finished work with the property owner.
12. Complete the contractor feedback form for the City.

Remember: You have 90 days from receipt of the certified letter to complete the footing drain disconnection or lose all funding assistance and pay a $100 per month surcharge for un-metered flow to the sanitary sewer system. If you feel you will be unable to complete the work within 90 days, please contact the Footing Drain Disconnect (FDD) Project Manager (734 994 6087) to seek assistance.

FOOTING DRAIN DISCONNECTION PRE QUALIFIED CONTRACTOR LIST

PERIMETER
Contact: Steve Rojeck
8385 Jackson Road
Ann Arbor, MI 48103
Phone: (734) 424-9280
Fax: (734) 424-2037

RDC RESIDENTIAL SERVICES, INC.
Contact: Richard Connors
10552 Homestead Lane
Plymouth, MI 48170-5823
Phone (734) 564-2801
Fax (734) 414-0729

HUTZEL PLUMBING
Contact: Nancy Cummins
2311 S. Industrial Highway
Ann Arbor, MI 48104
Phone (734) 665-9111
Fax (734) 665-9238

LANDSCAPE CONSTRUCTION
Contact: John Janowski
7412 N. Territorial
Plymouth, MI 48170
Phone (734) 451-0751
Fax (734) 451-0751

BIDIGARE CONTRACTORS
Contact: John Bidigare
P.O. Box 700464
Plymouth, MI 48170
Phone (248) 735-1113
Fax (248) 735-1114

Contact Names and Numbers

City of Ann Arbor Staff:

- **Project Manager** – Anne Warrow.....[734.994.6081]
- **Ombudsperson** – Pete Perala .....[734.994.9938]
- **Public Services Director** – Sue McCormick.....[734.994.2897]

Construction Management Staff:

- **Construction Manager** – Oskar Nordstrom.....Phone [734.213.5444]
- **Construction Manager** – Justin Woods.....Phone [734.213.5444]
- **CDM Project Manager** – Jay Zawacki.....[734.213.5444]

FDD Citizen's Advisory Committee Representatives:

- **Orchard Hills** – William Collins
- **Dartmoor** – George Johnston
- **Glen Leven** – Robert White
- **Bromley** – Vacant
- **At-Large** – Sonja Manchek, Delores Mortimer
- **Huron River Watershed Council** – Elizabeth Riggs

Glossary of Terms

- *Check Valve* - pipe fitting or valve which allows flow in one direction only e.g., prevents flow from coming into the house but allows flow to leave the house when a backup condition does not exist
- *Computer Modeling* – Computer program used to simulate the behavior of the collection system.
- *Downspout* – This is the pipe that takes water from the roof gutters in most houses. This should discharge onto the lawn.
- *Flow Meters* – Used to measure flows in the sewer system.
- *Footing Drain* – A drainage pipe (or tile) that is installed around the foundation of most basements of houses. This drain makes sure that water in the ground does not make the basement damp. This is connected to the sanitary sewer, to a sump pump, or directly to the storm sewer.
- *House Leads* - sewer pipe connecting an individual house to the City sewer
- *Infiltration* – This is rainwater flow that enters the sanitary sewer system through underground cracks in sewers.
- *Infiltration Device* - underground chamber that handles flow discharged from the sump pump, this chamber allows water to infiltrate into ground rather than discharge to storm sewer (limited to sandy soils or other soils that drain well)
- *Inflow* – This is a direct connection from surface drainage into the sanitary sewer.
- *Manhole* – This is the access structure that allows field crews to inspect sewers.
- *Rain Gage* – Used to measure the amount of rain from storm events.
- *Sanitary Sewer* – Sewer pipe that conveys wastewater to the Ann Arbor Wastewater Treatment Plant.
- *Storm Sewer* – A different pipe that takes rainwater collected in catch basins located in the street and conveys these flows to a creek or river.
- *Sump Pump* - pumps footing drain flows from lowest drainage point (sump) to the City storm sewer
- *Surface Drainage* – Rainwater that flows down the street or yard to a storm drain or into a creek or river.
- *Wastewater* – The used water that flows down drains in your home.

CITY OF ANN ARBOR, MICHIGAN
100 North Fifth Avenue, P.O. Box 8647, Ann Arbor, Michigan 48107-8647
http://www.ci.ann-arbor.mi.us

Public Services Area

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!

Last Updated February 9, 2012

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 distilled 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!**
   iv. Have the backflow preventers inspected by a licensed certified plumber every 3 years.

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 repellant 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.

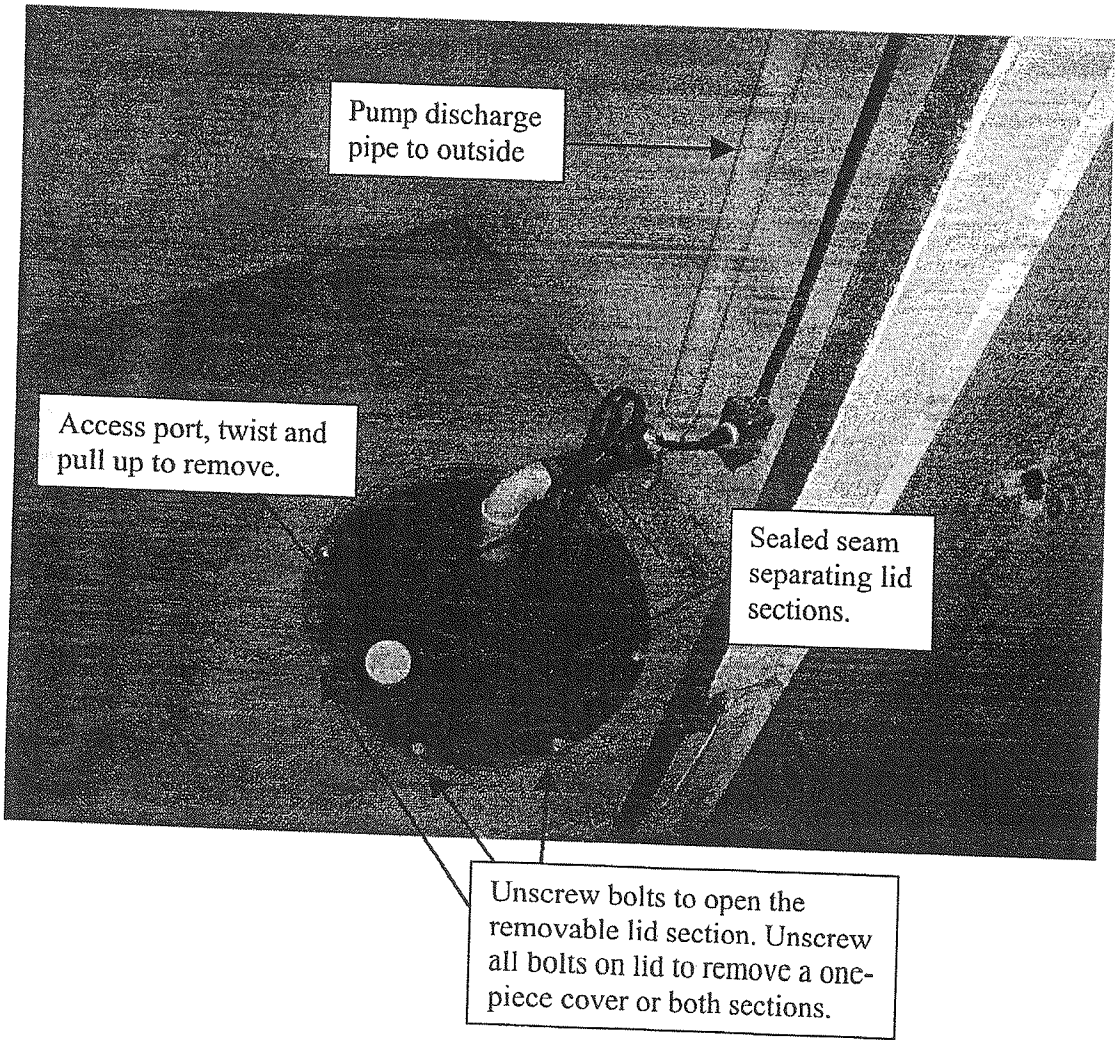
   b. Your pump manufacturer's owner's guide. If you no longer have the original copy, a replacement can usually be found at your pump manufacturer's website, refer to list below or use a search engine.
      i. Flotec Pumps - http://www.flotecpump.com/
      ii. Hydromatic Pumps – http://www.hydromatic.com/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

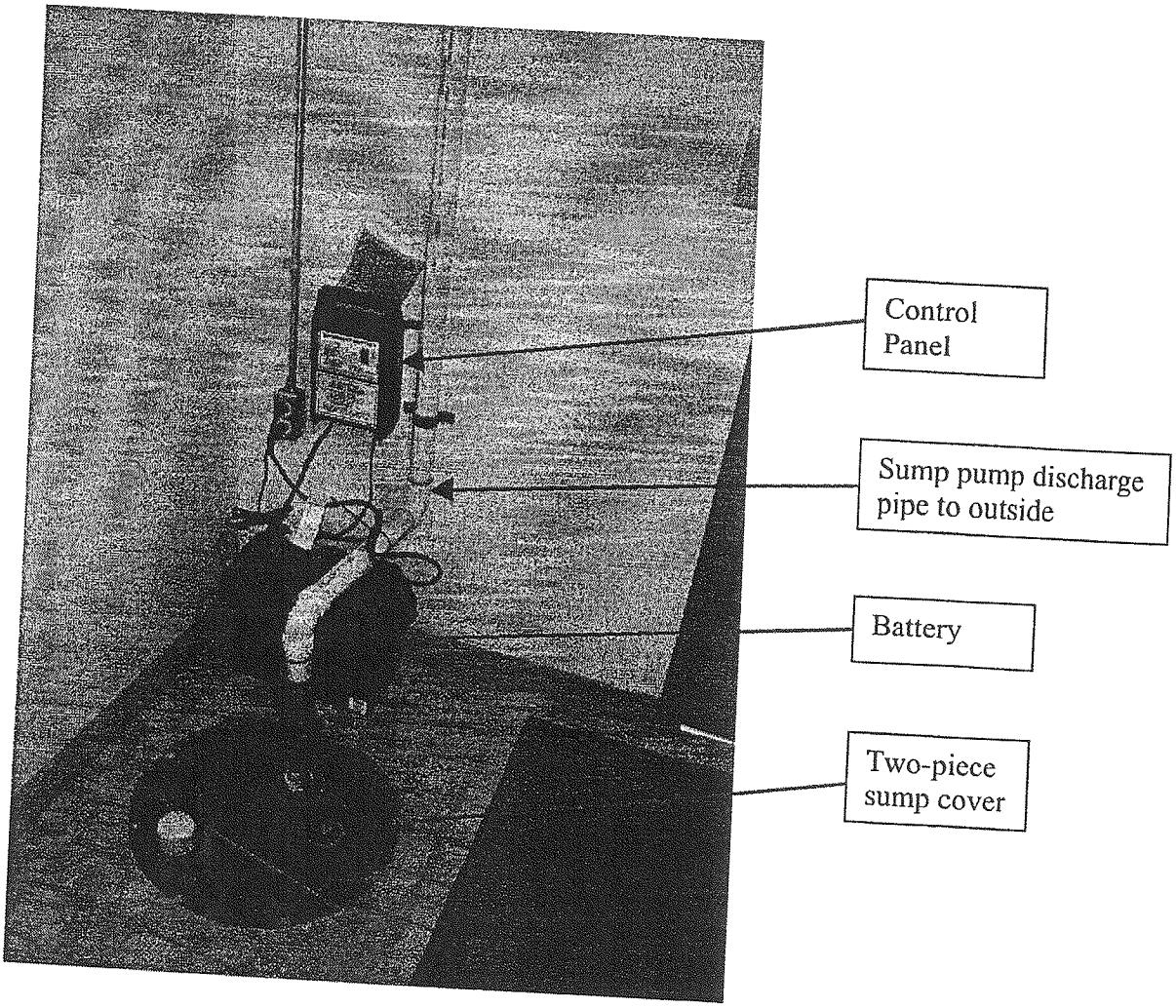
APPENDIX A

Maintenance Graphics

Sump with Two-Piece Cover
(One-piece lid has similar look without the visible seam)

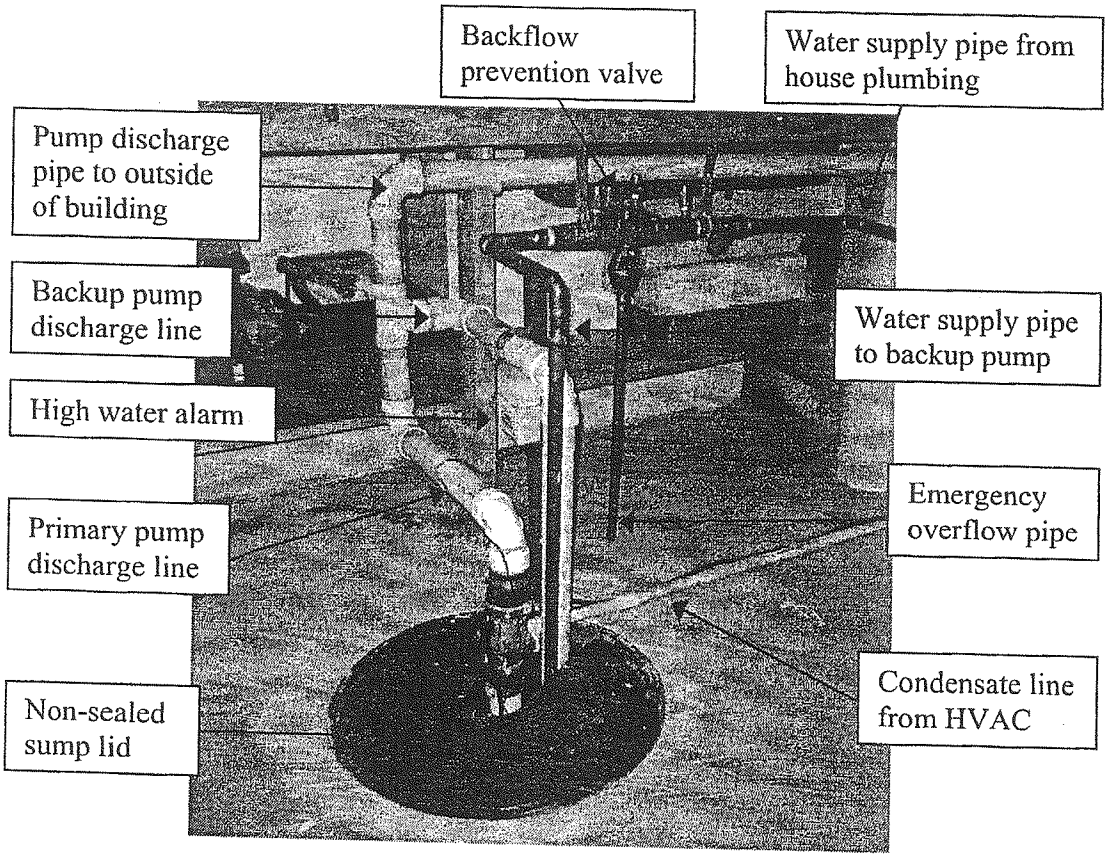


Battery Powered Backup Pump System
(Consult the manufacturer manual for maintenance recommendations and instructions)

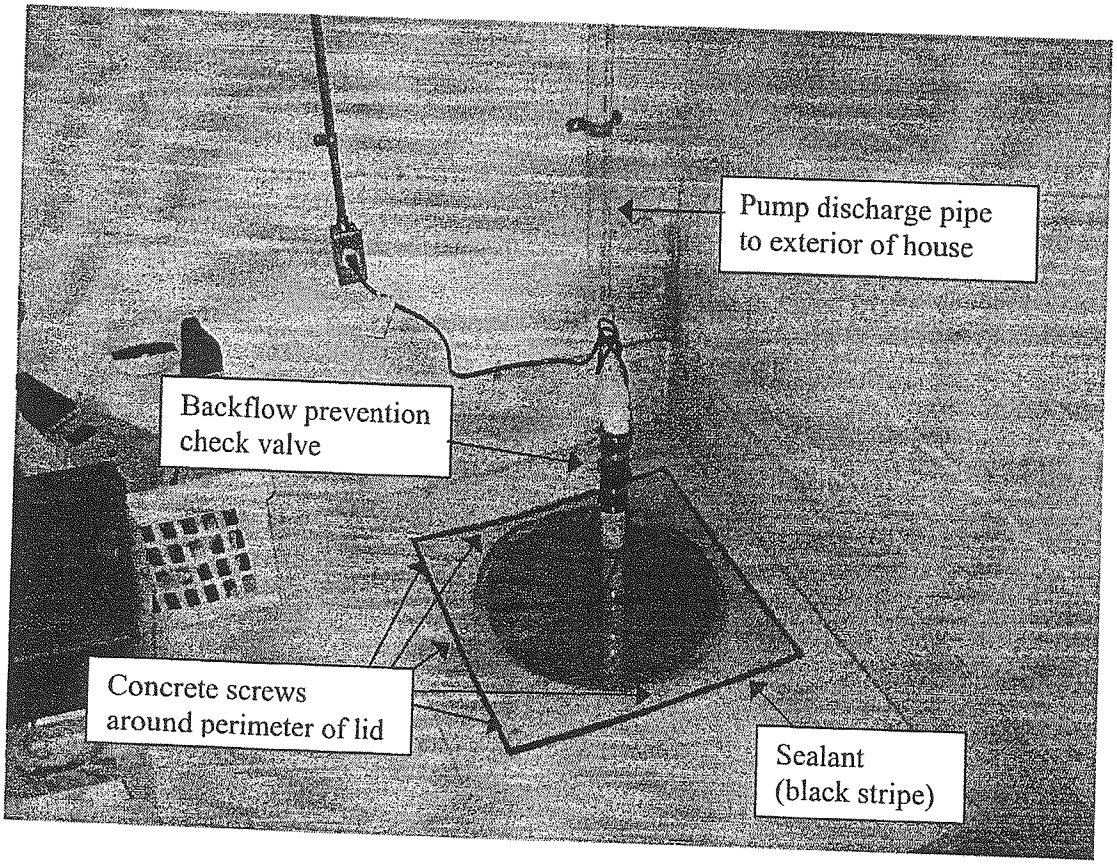


Water Powered Backup Pump System

(Consult the manufacturer manual for maintenance recommendations and instructions)



Sump with Clear Lid



MAINTENANCE LOG		
Date	Initials	Comments

STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ANITA YU, JOHN BOYER, and
MARY RAAB,

Plaintiffs,

Hon:
Case No. CC

vs.

THE CITY OF ANN ARBOR,
Defendant.

/

IRVIN A. MERMELSTEIN (P52053)
Attorney for Plaintiffs
2099 Ascot St.
Ann Arbor, MI 48103
734-717-0383

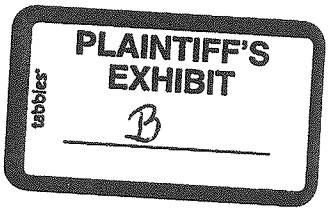
M. MICHAEL KOROI (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170
734-459-4040

WOODS OVIATT GILMAN, LLP
BY: DANIEL W. O'BRIEN, ESQ.
Pro Hac Vice application pending
Co-Counsel for Plaintiff
2 State St.
700 Crossroads Bldg.
Rochester, NY 14614
528-982-2802

/

AFFIDAVIT OF MARY RAAB

COUNTY OF WASHTENAW)
) SS:
STATE OF MICHIGAN)



Mary Raab, being duly sworn, deposes and says:

1. I make this Affidavit of my own personal knowledge and am competent to testify thereto if called as a witness.

2. I am an individual resident of the State of Michigan and the County of Washtenaw at 2273 Delaware Drive, Ann Arbor MI 48103. I was born on October 11, 1947.

3. I am the owner, with my husband, John Boyer, of the single-family residential home at that address. It is my permanent residence, which I bought in 1970, and I have lived there with my husband for 30 years. We were married on April 16, 1983.

4. I was aware that the house had been issued all necessary permits, building approvals and a Certificate of Occupancy when it was constructed. That was a part of the personal and investment decision to

buy the house within the Ann Arbor city limits, rather than in the neighboring townships where taxes are lower, and remain in the house.

5. The design and construction of the house, all as permitted and approved by the City of Ann Arbor in the 1960's, included a legal connection, in the City's right of way, for inflows from the house's external foundation (or "footing") drains.

6. The City provided a legal sewer interconnection for such inflows when the house was built and provided sewer service for such inflows until the footing drain disconnection at our home in 2002 under the City of Ann Arbor Footing Drain Disconnection Program ("FDDP").

7. When I bought this house, I was also aware that, because the house had foundation drains connected to the City of Ann Arbor sanitary sewer, it did not require a sump pump. I would have considered a sump pump undesirable, because I wished to have a house with the City's sewer service and a dry basement and no need to operate and maintain a sump and sump pump arrangement.

8. That connection to the sanitary sewers was the design basis for the very low maintenance, gravity-driven footing drain system for protection of the house from ground water and storm water around it perimeter. The house was designed and built based on building codes then existing and the City certified it for occupancy with the footing drain connection to the sanitary sewers that it declared, over three decades later, to be improper and illicit.

9. Further, the house is located within the City of Ann Arbor Morehead Sewer District, which was designated as an FDDP "Target Area" in 2001 by the City's then-Director of Public Utilities. There was no notice to us of that designation, or any appeal of the designation, or any consideration by the City of loss of value as a result of such designation.

10. The Homeowner Packet we received stated that the City's FDDP was citywide for all pre-1982 single family homes in Ann Arbor.

11. In fact, Footing Drain Disconnections ("FDDs") have only ever been required in pre-1982 single-family homes in the five sewer districts designated as Target Areas (including the Morehead Target Area) in 2001. The City has not designated any further Target Areas and all mandatory FDDs in the City have been in Target Areas. The five Target Areas together include only about 5% of the pre-1982 single family homes in the City of Ann Arbor.

12. If we had known that we were part of only a designated minority of homeowners (based on street address) required to disconnect, we would have refused the FDD.

13. I and my husband are also parts of a non-volunteer minority of Ann Arbor residents required by law and by the City-issued FDDP Maintenance Manual to provide burdensome, repetitive, and recurrent physical work and labor for the operation and maintenance of the FDD in our home and also to pay all costs incurred in performing such mandatory work and labor. The Maintenance Manual is posted at the FDDP website at www.a2fdd.com and a copy is attached as Exhibit A. There has been and is no benefit to us of an FDD, only burden. The City has told us that FDDs (including the mandatory labor and expenditure by us) are for the benefit of the public.

14. This physical labor includes regular maintenance tasks as described in the Maintenance Manual (Exhibit A) and the labor involved in bailing water by use of a Shop Vac during periods when the basement has flooded since 2001. This has included four all-night flood control episodes for my husband and me beginning in 2003.

15. We have never been paid for our mandatory physical labor and will never be paid for future mandatory physical labor under the FDDP.

16. The FDDP does not and will not compensate us for our expenses of providing mandatory operation and maintenance of the FDD. Our payments for expenses of operation and maintenance since the FDD in 2002 have been over $7,000, including replacement of the sump pump and installation of a hydraulic backup pump that was not provided by the City as part of the FDD.

17. We have also incurred the costs of electricity for the pumps and for City water to run the hydraulic backup during the regular power outages experience in the Morehead Target Area (about 2 gallons of City water per gallon of storm water removed.) The electric sump pump runs regularly year-round and continuously during significant rains, unless the power goes out. If the power goes out in a heavy rain, or even without rain, the hydraulic backup pump will run.

18. The water that has flooded our home repeatedly since the FDD in 2002, and that will continue to do so because of the FDD, is ground water or storm water. Either one is silty and dirty and contains amounts of chemicals that have leached into the soil; animal waste; and other contaminants. We have to work and perform physical labor in the water containing these pollutants in order to protect our property and belongings from the flooding caused by the FDD.

19. The City's actions have devalued our home and our surrounding real estate significantly. The City is an occupant of our home. The recurrent flooding and wetness in our home and the operation and maintenance burden of the FDD have diminished the value of our home and our surrounding real estate significantly, and interfered with the enjoyment of our home and the use of more than just the basement.

20. Our house has been devalued in relation to other comparable properties in the Lansdowne area of Ann Arbor and also in comparison to an identical pre-1982 single family home in a comparable neighborhood outside of the Target Areas. These losses are the sole result of the FDD.

21. I have suffered anxiety and concern about basement flooding since the FDD in 2002 and about the ongoing need to perform operation and maintenance work for the FDD. We do not use our basement as we did before the FDD.

22. Our dignity as homeowners has been belittled and continuously insulted by the City's permanent presence in our home and its continual publicity in City publications and reports about the difference in laws and real property protections applicable to homeowners in the Morehead and other Target

Areas as opposed to those applicable to residents outside of the Target Areas. I regard as particularly malicious the demeaning of our rights to be free from threats and demands for non-volunteer physical labor to be provided, without pay, by my husband and me as parts of a minority of citizens for the supposed benefit of the majority.

Further deponent sayeth naught.

Subscribed and sworn to
before me on this 24th
day of February, 2014

MARY RAAB

I.A. MERMELSTEIN
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF WASHTENAW
My Commission Expires July 2, 2015
Acting in the County of Washtenaw

Notary Public

Footing Drain Disconnection Program HOMEOWNER INFORMATION PACKET

City of Ann Arbor
Public Services Area
www.a2fdd.com

PLAINTIFF'S EXHIBIT
tabbies
A

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PROJECT BACKGROUND

Within the City of Ann Arbor, there are groups of homes that have experienced basement backup problems. Many of these have been the result of wastewater backing up from the sanitary sewers through basement floor drains, especially during periods of heavy rainfall. This wastewater presents a potential health risk and can cause damage to the structure and to belongings stored in the basement.

In addition, this excess groundwater places a strain on the sanitary sewer system and must be treated at the Waste Water Treatment Plant. Due to current and future regulations in the State of Michigan, it is critical the Utilities Department minimize the amount of unnecessary groundwater sent as wastewater to the Treatment Plant.

In 1999, the City formed the Sanitary Sewer Overflow Prevention Advisory Task Force to understand the causes of basement backup and develop solutions to the problem. The Task Force was comprised of homeowners, city staff and experts in related disciplines. In addition, the Task Force hired the engineering firm of CDM to assist in the data gathering and analysis. Throughout the project, the Task Force sought to provide the public with project information and solicit homeowner feedback to develop a recommendation that meets the diverse needs of the citizens.

TASK FORCE FINDINGS AND SOLUTIONS

The Task Force study determined that during heavy storms, rainwater from home footing drains overloads the sanitary sewer system and is the primary cause of basement backups. It was determined that even homes with no current basement backup problems were significant contributors to the basement backup problem for neighboring homes.

There are basically two ways to handle this problem: either reduce the amount of rainwater entering the sanitary sewer system, or provide more capacity in the system to store or carry these flows. Based on analysis and public feedback, the Task Force determined that reducing the amount of rainwater entering the system would be preferable to the public, environmentally responsible and most cost effective.

Therefore, the Task Force recommended that the Mayor and City Council implement a comprehensive citywide footing drain disconnection program within the City of Ann Arbor in order to reduce the amount of rainwater flowing into the sanitary sewer system.

The Task Force recommended a citywide program for a number of reasons.

- This basement backup problem is not confined to the five study areas.
- All buildings with connected footing drains contribute to the basement backup problem.
- Footing drain disconnection supports the City in a proactive approach to pending regulatory guidelines in the State of Michigan.
- Decreasing the amount of storm water flow that gets to the Water Treatment Plant reduces both the costs of treatment and the chances for potential overflows into the Huron River.

WHAT IS FOOTING DRAIN DISCONNECTION?

As shown on Figure 1, footing drains are small (4-inch diameter), perforated drainage pipes located near the foundation of your house. They are intended to keep rainwater that seeps through the ground from building up along the foundation or basement walls. In many homes, the downspouts, which carry rainwater from the gutters, discharge near the foundation walls. This water drains through the soils and into the footing drains. In most homes constructed before the 1980s, the footing drains are connected to the house sanitary connection (house lead) as shown in the figure above. This house lead carries the footing drain flow and wastewater from the house to the sanitary sewer system.

When it is not raining this is not normally a problem, but during a severe storm event too much rainwater can enter the sanitary sewer system. This excess flow can cause the mixture of rainwater and wastewater to backup in the house lead of some homes and cause basement backups.

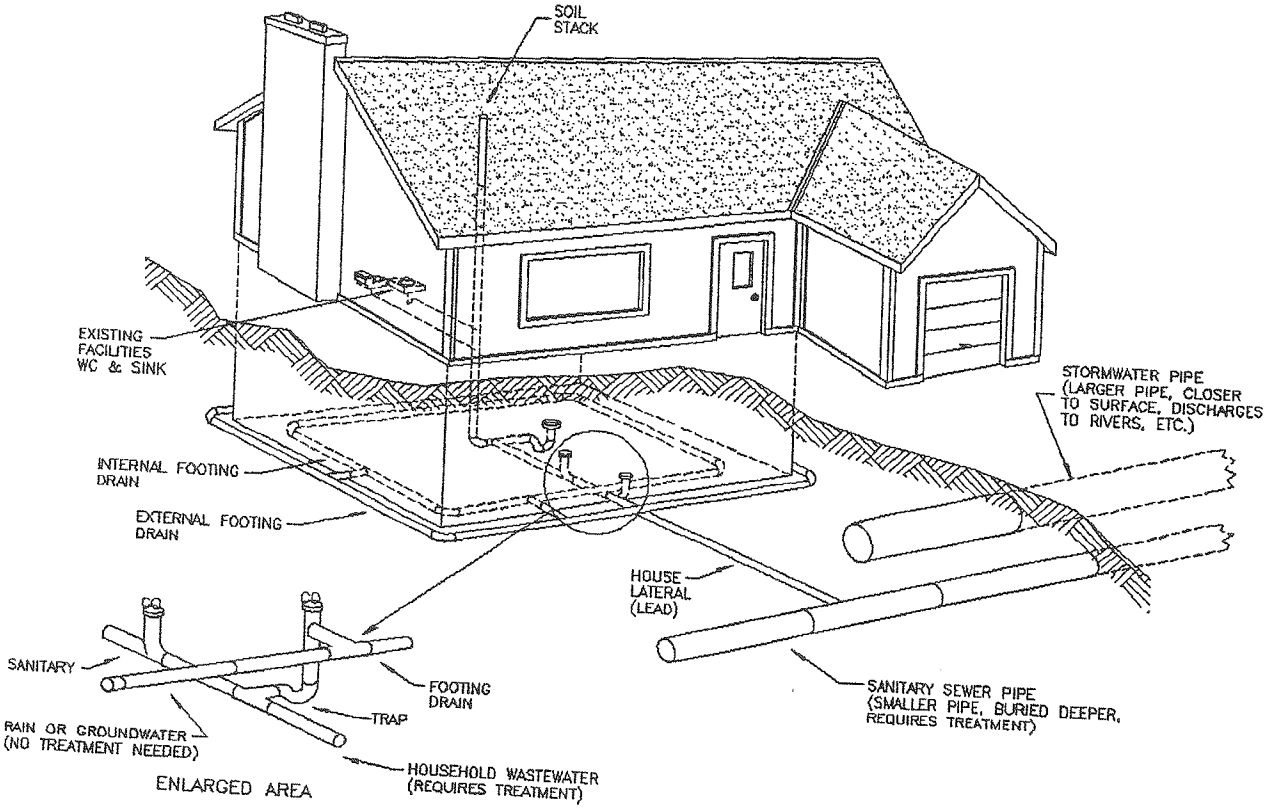


Figure 1 – Pre-construction Conditions

Footing drain disconnection is performed to remove the rainwater flows from the sanitary sewer system. This is done by disconnecting the footing drains from the house sanitary lead and installing a sump pump to move water from the footing drains into the storm water system. There may be some alternatives to sending the flow into the storm water system in some neighborhoods or homes. The creation of rain gardens or use of low areas in backyards are possibilities. A priority is placed on safe disposal of the storm water. For the vast majority of

homes the connection to the sanitary house lead is inside the basement, and the sump is installed in the basement as shown in Figure 2 below.

In homes that have experienced basement backups or are at risk for basement backup, the city can provide funding to install check valves to keep water from flowing back into the home from the sanitary sewer system.

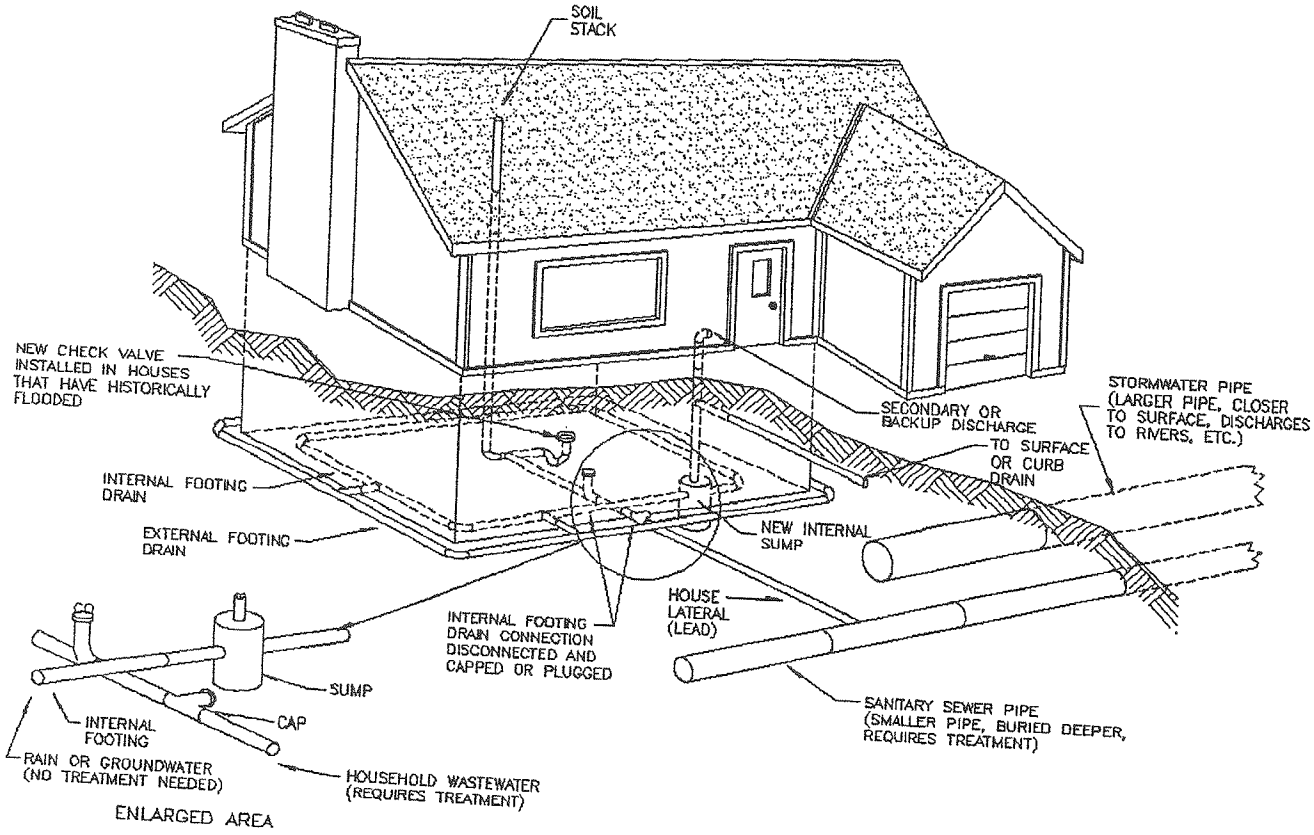


Figure 2 – Basement Sump Construction

WHY DISCONNECT FOOTING DRAINS?

The purpose of disconnecting footing drains is to keep rainwater out of the sanitary sewer system. During dry weather, the sanitary system has plenty of capacity to carry wastewater. In neighborhoods where footing drains are connected to the sanitary system, however, rainwater can overfill the sanitary system during heavy storms resulting in the rainwater/wastewater mix backing up into basements. Keeping rainwater out of the house 'lead' greatly reduces the amount of rainwater getting into the sanitary system, which protects downstream residents and reduces costs at the wastewater treatment plant. It also frees the house connection to carry wastewater to the sanitary system.

All homes built in the City of Ann Arbor since January of 1982 have disconnected downspouts and footing drains with sump pumps in the basements or with gravity discharge leads to a storm

water system. Surface discharge of downspouts allows more rainwater from roofs to be absorbed by the ground and reduces the amount of water being treated and released into the Huron River.

Footing drain disconnection has the following advantages:

- Protects homeowners who have had sanitary backups during severe storm events.
- Takes rainwater out of the sanitary system, reducing problems for downstream residents and eliminating treatment costs for the rainwater.
- Preserves natural features and protects watershed by minimizing undesirable discharges to the Huron River.
- Provides short-term and long-term protection for those at risk.
- Provides the lowest rate impact of all the possible solutions.

WHAT WILL HAPPEN AT MY HOME?

After you receive this homeowner information packet, you should contact the FDD Construction Manager (see page 8 for contact information) to arrange for the initial assessment at your home. This will be an excellent opportunity to ask specific questions about your home, and to learn more about the steps of the program. Next, you will choose from a list of pre-qualified contractors, obtain estimates and arrange a contract. (See page 8 for a list of the contractors) The actual construction work should take from 1 to 3 days of in-home construction. Construction photos are available on the project website www.a2fdd.com.

Curb drain installation work has most likely already been performed by a city hired contractor in the lawn extension area between the curb and sidewalk. The contractor installed a 6-inch diameter pipe with individual connections for each house that will collect the flows from sump pumps in individual homes and direct it to the storm sewer. Lastly the area that was disturbed was restored with new grass seeding and occasionally sidewalk or driveway aprons were replaced.

Initial Assessment will be conducted by the FDD Construction Manager with the homeowner and will include actions to:

- Determine if your footing drains are connected
- Identify possible locations for sump pump installation
- Assess site drainage options, including identification of any needed changes in downspout connections.
- Assess options for installation of sump discharge lead (piping) to an approved discharge location.

Inside work will be confined to the basement and will include:

- Removal of a section of the basement floor to access pipes and to install the sump.
- Disconnection of the footing drains from the house lead and routing of new discharge lines.
- Installation of a new electrical circuit.
- Installation of the sump and sump pump. The sump is typically 24 inches in diameter and 30 inches deep. The cover is sealed and level with the basement floor.

- Repairs to the work area (i.e., replacing concrete, tiles, etc.)
- For homes that have previously experienced basement backup or those deemed to be at-risk for basement backup, installation of check valves on all plumbing fixtures located in the basement or a single check valve to protect all facilities in the basement.
- Clean up of the work area.

Work in the yard includes:

- Installation of a small pipe to carry footing drain water from the sump pump to the previously installed curb drain or an approved alternative.
- Cleanup and restoration of any areas impacted by the installation.

WHAT WILL IT COST? HOW IS IT FUNDED?

The City will provide funding for the 'core' work. A typical household should cost $4,100 to disconnect. Exceptional circumstances within a household may warrant payment beyond the $4,100. Prior to signing a contract, a homeowner may request additional city support which will require competitive estimates from 2 different contractors. This request will be reviewed and may be approved by the City Project Manager and, if necessary, the City Administrator. Financing for this project comes from sewer use fees. Items funded include:

- Parts and labor for standard sump and pump installation
- Parts and labor for discharge pipes
- Parts and labor for electrical work
- Basic restoration of interior and exterior work areas including lawn reseeding and if necessary restoring the floor, ceiling surface or drywall patching.

The Homeowner will be responsible for the following costs where applicable:

- Additional features or restoration beyond what is required for basic installation and items classified as home improvements or exceed building code requirements (e.g. replacement of inadequate electrical service panel, construction of new enclosure for sump, etc.)
- Backup Sump Pump - In the event of a power failure, the primary sump pump will not function. This can result in groundwater collecting around the outside of your basement walls and floor where it can seep through cracks in the concrete or through the sump lid. The plumbing contractors can install, at the homeowner's expense, either battery or water-powered backup pumps that will operate during an electrical failure or if your primary pump fails. You need to assess your desire for this additional level of protection as only you can understand the impacts moisture would have on your belongings in your basement, and the frequency of power failures in your neighborhood. Based on our experience with power failures during storm events, homeowners are advised to strongly consider the need for a backup system. (See questions 20-23 in the Frequently Asked Questions section for additional information)
- Maintenance
- **Homeowner pays all costs plus a monthly surcharge** if the work is not completed within 90 days after receiving the 90-day notice to disconnect (see required timing below)

WHAT DO I NEED TO DO?

As a homeowner please review and complete the steps below to aid in a reliable and trouble free disconnection.

1. Become informed by reviewing the supplied materials in this packet and attending the scheduled neighborhood meeting.
2. Arrange an in-home assessment with a Construction Manager to determine the need for a disconnection, discuss your options for getting the work done and get all your questions answered. We ask that during the in-home assessment/pre-inspection, to please kindly put them away until after the assessment has been completed.
3. Review the list of pre-qualified contractors (page 8) and make an appointment with one or more to receive an estimate of costs for the work to be done in your home.
4. Review costs that are funded by the City and identify any additional options you may want or need to contract for at your personal expense.
5. Submit the necessary forms to secure funding pre-approval to the Construction Manager.
   - Form 1 –Reaffirms that you understand that the contractor you hire is responsible for the work done at your property not the city of Ann Arbor. This is required of every homeowner.
   - Form 2 – This is only needed if the estimated cost exceeds the limit of $4,100. Two estimates will be needed from different contractors for funding pre-approval above the $4,100.
     When funding has been pre-approved the construction management staff will notify you by phone.
6. Ensure that the footing drain disconnection work gets completed properly:
   - Arrange a contract to get the work done with your selected contractor.
   - Discuss scheduling and basement preparation with the contractor.
   - Clear the work area so that the contractor can perform the work. (Contractor will provide specifics). If desired, add additional dust protection to exposed areas.
   - Monitor the work underway to ensure it meets your contract agreements. Consult the Construction Manager if help is needed. The contractor will arrange for city building inspections to occur during the work.
   - Review finished work with the contractor to ensure you understand maintenance and operations of your system.
7. Host a final walkthrough/post-inspection with the Construction Manager to ensure that all work has been completed according to code and according to your contract. If all work has been completed as contracted, the city will issue payment to the contractor for the pre-approved amount.
8. Provide written feedback on the contractor and the overall project to the City.

WHEN DO I NEED TO COMPLETE THIS WORK?

The City and the construction management team work actively with property owners to ensure that all requirements of this program are understood and that construction occurs in timely manner. This packet is the first outreach to homeowners. Within the next two months, any homeowners who have not initiated a contract to disconnect will receive a courtesy reminder. If no action is taken following that reminder, property owners will then receive a certified letter from the city. By city ordinance, property owners are mandated to complete the disconnection of their footing drains within 90 days of receiving a certified letter entitled "90-Day Notice" from the City. If the disconnection is not completed by the end of the 90-days the homeowners risk losing city funding for the work and possibly a surcharge on their sewer bill of $100 per month for unmetered sewage entering the system. If adjustments need to be made to the mandated

timing for completion, please communicate directly with the Construction Manager to review the unique circumstances in your home.

CONTACT NAMES AND NUMBERS

Construction Management Staff:

- Construction Managers
  - Justin Woods..... [734.794.2780]
  - Karen Duff..... [734.794.2780]
- CDM Project Manager – Jay Zawacki..... [734.794.2780]

City of Ann Arbor Staff:

- Project Manager – Anne Warrow.....[734.794.6410 ext. 43639]
- Interim Public Services Director – Craig Hupy..... [734.794.6310]

PRE-QUALIFIED CONTRACTORS

Hutzel Plumbing
Contact: Nancy Cummins
2311 S. Industrial Highway
Ann Arbor, MI 48104
Phone: (734) 665-9111
Fax: (734) 665-9238

RDC Residential Services
Contact: Richard Connors
Plymouth, MI 48170-5823
Phone: (734) 564-2801
Fax: (734) 414-0729

Bidigare Contractors
Contact: John Bidigare
P.O. Box 700464
Plymouth, MI 48170
Phone: (248) 735-1113
Fax: (248) 735-1114

Perimeter
Contact: Steve Rojeck
8385 Jackson Road
Ann Arbor, MI 48103
Phone: (734) 424-9280
Fax: (734) 424-2037

FREQUENTLY ASKED QUESTIONS

Background Questions: Reasons for Back Ups, Alternative Solutions

1. Are there alternatives to managing the water other than Footing Drain Disconnection? Why was this option chosen?

The SSO Task Force studied the issue of basement backups in 2000 to 2001 and identified three viable alternatives to solving these problems; footing drain disconnection, installing larger sewer pipes and building storage basins. This work found that footing drain disconnection (FDD) addressed the root cause of the basement backups, which was stormwater entering the sewer system during rain events. On average, every home with a connected footing drain adds 3,500 to 10,500 gallons per year of clean water that must be conveyed to the Wastewater Treatment Plant and treated before release to the Huron River. FDD was cheaper overall and, very importantly, reduced the chance of exceeding the Wastewater Treatment Plant capacity. FDD also provides the greatest security of the solutions as its capability to work effectively is not limited to certain size rainstorms.

2. Can I avoid the need for footing drain disconnection if I take actions such as redirecting my downspouts, sloping soil away from the foundation or installing low flow fixtures?

While those are excellent approaches to reduce some causes of wet basements and to reduce the volume of water that goes to the Wastewater Treatment Plant, this will not prevent enough water from entering the sewer system inappropriately. Footing drains still collect much of the rainfall that enters the ground. To protect your own and your neighbors' basements, the large volume of water entering the sewer system from rain storms must not enter the sewer system and FDD is the practical means identified to do this.

3. Why do I need to have this done and not my neighbors?

All buildings that have connected footing drains are scheduled for FDD work over the coming years. The schedule was established on a priority basis to disconnect the homes identified as needing protection from future basement backups and to accommodate a cost efficient installation process within a neighborhood.

4. I get water in my basement now. Will this solve that problem or make it worse?

This work will only address basement water problems that are caused by heavy rain events resulting in basement backups through floor drains. It will not improve or worsen other causes of wet basements such as leaks through cracks in basement walls or floors due to poor site drainage and/or poor or blocked footing drainage pipes.

5. What is the role of development in this problem? These basement backups have happened since our neighborhood has grown.

In tracking the source of the heavy flows that entered the system during rain storms in the year 2000, a Task Force of engineering professionals and community members identified that footing drains contributed 70-90% of the total volume of flow in the sewer system making this source the major cause of basement backups.

The existing sanitary sewer system without footing drain flow is more than adequate to handle recent and future development as planned for in existing treatment plant designs. New developments do not have footing drains connected to the sanitary system and will not add wet weather flows to the collection system.

Installation Process: Costs, Homeowner Choices, Restoration

6. Do I have to use a particular contractor (low bidder)?
Homeowners choose which pre-qualified contractor they want to provide them a bid. Homeowners only need to arrange one bid if the work can be accomplished within the $4,100 average estimate. If costs exceed $4,100, two estimates are needed. The homeowner may select either of the contractors, but must pay the differential between the lowest bid and the higher bid if the more costly contractor is selected.

7. Can I use another contractor who is not pre-qualified?
No. The City of Ann Arbor has developed a process for pre-qualifying contractors so that it is clear that they understand the methods and materials needed for a complete installation. Using other contractors would be more expensive for Ann Arbor to manage and would reduce the ability to support quality construction. With several contractors already pre-qualified, there is adequate choice for homeowners to make a selection. Exceptions to using the pre-qualified contractors may be allowed but the homeowner may not receive full reimbursement for all costs not pre-approved for work using pre-qualified contractors. Homeowners are encouraged to seek information/guidelines for reimbursement from FDD project staff before beginning work eligible for FDD funding. Contractors willing to do this type of work are encouraged to contact the city to seek pre-qualification status.

8. Can I perform the disconnection work myself?
Yes. Homeowners can perform the work. In this case, the homeowner would need to apply for all of the necessary permits, would have to comply with the construction specifications and materials of construction, and would be reimbursed for materials only. This reimbursement would only be made after the Construction Manager had completed the final walkthrough/post-inspection of the work.

9. What will this cost me as a homeowner?
The City will cover the costs necessary to complete an installation of the sump and basic restoration. Homeowners may choose to pay for additional items to meet their desires for more security and enhanced restoration. Some homeowners choose to purchase a backup pump or do additional landscaping work.

10. What does basic restoration mean?
Basic restoration inside the home means returning the home to the level of finish it had previous to the work. Concrete is replaced and smoothed, tiles are replaced with a closest match of available tile and the work site is cleared and cleaned. Outside the home, holes are filled in and grass seed is sown.

11. How do I know the contractor is installing quality components?
All work done by the pre-qualified contractors is in compliance with a very specific set of specifications for both the components to be used and the process for disconnection.

12. What will happen to my yard?
Every effort is made to minimize the amount of excavation and disruption in the yard. The least amount of yard disruption would be a small hole near the foundation wall where the discharge line exits your home. For more difficult installations due to the topography, type of soil or location of the discharge line, a trench across the lawn may be needed.

13. How long does construction last? How dusty is it? How disruptive?
Construction lasts for 2-3 days. Contractors protect flooring and hang protective plastic to minimize the mess. There will be concrete removed and this can generate dust and is noisy. See homeowners' surveys for rating on contractor cleanliness and courtesy.

14. How will this affect the radon levels in my basement?
Everything that is installed in the basement will be sealed, protecting the home from any additional radon exposure. If you do chose to get a water powered back-up, the lid may not be fully sealed.

15. Will my floor drain still work?
Yes. Footing drain disconnection does not affect the functioning of the floor drains. If there is a floor drain that goes to your footing drains it must be abandoned by plumbing code.

Maintenance and Operations

16. Who owns/maintains the sump, pump and additional plumbing lines?
Once installed, the sump pump and lines are owned and maintained by the homeowner.

17. What happens when my sump pump doesn't work? What if the check valves (sewage backflow prevention devices) fail?
If your sump pump stops working, water from the footing drains will not be pumped out to your discharge lines and this water can collect in your basement. As with any primary appliance, it is critical that homeowners keep sump pumps in good repair. The design life of pumps is usually five years, but most sumps pumps will operate for 10 to 15 years before needing replacement. Check valves need to be tested and maintained regularly or they could fail to operate and allow a basement backup to occur.

18. Is there a warranty?
Yes, the work and the sump pump have warrantees through your contractor.
The sump pump warranty is normally 1 year. Warranty for installation work will be outlined in your contract with the contractor.

19. Why is the City mandating a system that has potential to fail when I have never had a problem related to this before?
Any system like this does have the potential to fail, typically because of a loss of power or because the sump pump fails to operate. However, the alternative is that your home or the home of your neighbor could experience a basement backup when footing drain flows overwhelm the sewer system and the Wastewater Treatment Plant in times of heavy storms. Building code in Ann Arbor and in most other communities changed in 1982 to require that footing drains use sump pumps or similar systems to direct footing drain flows to the stormwater system or to an alternative onsite system like a rain garden or detention basin.

20. What is a backup sump pump and why would I need one?
A backup sump pump is a secondary pump that will operate if the primary sump pump fails due to a power outage or mechanical failure. Under normal conditions, the primary sump will start running when the water in the sump reaches a certain level. If a power failure occurs during a period of heavy rain, the water level will continue to rise past that level without the primary pump operating, and the water can build up in the footing drains and in the soil around the basement. Basement wetness can result from water pressure building up around the outside of the

basement walls, where it can seep through cracks in the concrete walls or floor. Water may also seep through the sump lid.

The decision to purchase a backup system is dependent upon each homeowner's individual needs. The factors that should be considered are the level of finish of the basement, the frequency of power outages, past wetness problems, and home elevation relative to surrounding areas. Power outages frequently occur during storm events and it is advisable to have a backup system installed if you are concerned about basement wetness.

21. What if I have a floor drain near the sump, wont the ground water seeping into the basement flow out through the floor drain near the sump?

Not necessarily. If the pump fails to pump out the ground water from your sump the water can build up in the footing drains and in the soil around the basement. Basement wetness can result from water pressure building up around the outside of the basement walls, where it can seep through cracks in the concrete walls or floor. The location that the water seeps through the basement walls or floor may not be near a floor drain and in that case the water may not drain out. Water may also seep through the sump lid into the basement and if there is a floor drain nearby the ground water may drain out through the floor drain without dispersing across the entire basement floor.

Please note that relying on draining the ground water out through the floor drain to the sanitary sewer system during a power outage or pump failure is counteractive to the goals of the footing drain disconnection program and it is not a reliable long term solution because it allows the water to enter the basement before it drains out, potentially causing damage.

22. What are the options for a backup system?

Backup sump pump systems are homeowner options and must be paid for by the homeowner. These backup systems exceed building code requirements and are considered a home improvement that is not fundable by City project dollars. The battery backup system is the most commonly chosen back up system by homeowners. For a short list of advantages and disadvantages of the different back-up sump pump systems please continue reading below. For further information regarding these back-up options please speak with a contractor or look up manufacturer information.

A battery back-up sump pump is an emergency backup pump that draws its power from an industry standard deep-cycle marine battery and pumps the water out of the sump during the loss of electricity or failure of the primary sump pump at half the capacity of the primary system. The pump is installed in the sump and the battery pack is on the floor nearby. Battery based systems are usually fully automatic and maintain a full charge while the power is on and switch over automatically when the power turns off (indicated by an alarm).

Advantages

- Low maintenance requirements other than replacing the battery and checking the distilled water level in battery.
- Low up front cost
- Easy to install
- Works if primary pump fails

Disadvantages

- Limited amount of energy in battery to power pump. Time varies by manufacturer of battery and backup pump, generally 7-24 hrs.
- Cost of battery replacement

A water powered back-up system is an emergency backup pump that uses the pressurized fresh water supply in the house to create suction that draws the water from the sump up through the discharge pipe to the outside of the house. It will require installing copper pipes from the nearest water supply pipe to the sump area. The pump starts automatically if the power turns off or if the primary pump fails.

Advantages

- Power provided by city water pressure. As long as there is water pressure in your house the backup pump will work.
- Works if primary pump fails

Disadvantages

- Uses about 2 gallons of pressurized fresh water to pump out 1 gallon of sump water. Water usage will show up on the water bill.
- More expensive installation cost than battery backup
- Every 3 years, a licensed certified plumber has to verify that sump water is not mixing with the pressurized potable water
- Additional water supply pipes around sump area
- Sump cover may not be radon sealed

A manual start portable gasoline generator could also be used to provide power to the primary pump. These can be found at hardware stores and can vary in price from a few hundred to several thousand dollars. It will require that an extension cord is run from generator outside the house to the sump pump. Before purchase you would also need to verify that the generator will meet your power needs including the sump pump.

Advantages

- May cost less than battery back-up pump
- Portable generator has multiple uses

Disadvantages

- Have to be home to start the generator
- May have to refuel generator often
- No second backup pump

An automatic standby generator can be used to power select circuits in the house such as the sump pump, furnace, refrigerator and other appliances during power outages. The generator would start automatically when the power goes off and can be installed to be powered by natural gas, propane or gasoline. Usually it has to be professionally installed.

Advantages

- Power selected circuits or entire house for longer periods of time
- Starts automatically

Disadvantages

- Installation and maintenance costs
- No second backup pump

23. If my sump pump fails to operate, isn't this as bad as having a basement backup?
No. If your sump pump fails, the water that comes out of your sump is clean water from the ground around your basement. Normally this would drain to the nearest floor drain. On the other hand, if there was a basement backup caused by a surcharged sanitary sewer system, there is the potential that much more flow would enter your basement. This water would contain sanitary sewage, which is a more significant problem to manage.

24. How will this effect local surface water issues? (We already have street/yard trouble)

The water that currently flows through the footing drains will be routed to the stormwater system or to an alternative discharge site like a rain garden for homes that can accommodate that within their yard. In very large storms when basement backups can take place, the stormwater drainage system is designed to pond these excess flows in the streets until the downstream drainage system can accommodate these flows. The FDD generated flows are a small portion of these flows and would normally result in less than an inch of additional standing water for short periods of time. A storm water system which holds back or delays a portion of the large volume of flow, caused by heavy rains, helps preserve the natural ecosystem of the Huron River.

25. I was told check valves were not allowed due to the potential to heave the basement floor. Is that true?

If footing drains are disconnected from the sanitary plumbing as part of a check valve installation, this problem will not occur. However, using check valves can result in heaving the basement floor IF installed when footing drains are still connected to the sewer system and if that sewer surcharges. The FDD program disconnects the footing drains from the sewer system and pumps the water out to discharge lines leading to the stormwater system to prevent this potential problem. The backflow prevention (check) valves that are installed on floor drains and other basement facilities as part of the FDD process are able to contain the pressure generated by the surcharged sewers in the basement plumbing.

26. How noisy is the pump? How often will it run?

The pump sounds much like a refrigerator motor. How often the pump runs depends on the amount of water being removed from your footing drains. In homes completed to date, this has been quite variable.

27. What happens if the discharge line freezes in the winter or is broken?

It is possible for the discharge lines to freeze as they are installed above the frost line. Normally, the water discharged from the sump pump is warm enough to flow without freezing to the storm drainage system. Additionally it is a cyclic flow which means it flows very fast while the pump is operating and hardly at all when not. This means that if the lines placed with the proper grade they should not contain water for an extended period of time therefore minimizing possible freezing. If it does freeze, there is an emergency air gap near the home that allows water to be pumped outside the house. Also, homeowner construction of fences and lawn watering systems could break the discharge line. In these cases, the emergency discharge would put the sump water next to the house until the homeowner can repair the line. The winter of 2002/2003 proved to be a good test for the potential of freezing discharge lines with several periods of extremely cold weather and a considerable frost depth. None of the 75+ installed discharge lines had any reported freezing problems.

28. How much will it cost to run my sump pump?

It has been estimated that the average property owner will pay less than a dollar a year for electricity to run the sump pump. Of course, some will be higher and some lower depending on the amount of water that is pumped.

29. If I have to replace the sump pump, what are the costs for doing this?

Sump pumps can be purchased from local home improvement and hardware stores for less than $150. Often the property owner can install these units, but it not, estimates to replace the

sump pump can be obtained from local plumbers. A common rule of thumb is that installation costs are equal to the equipment being replaced.

Legal Requirements

30. May I choose not to participate in the program? What are the consequences of that?

Participation in this program is mandated by city ordinance. The FDD program offers homeowners the opportunity to have the City pay for installation if the work is completed within the schedule of the program. If the homeowner does not comply with the notices to arrange disconnection, a surcharge of $100 per month will be charged to the homeowner for the additional costs associated with handling un-metered footing drains flows into the sewer system. Disconnection is still required and if done after the 90 day notice expires, the disconnection work would no longer be paid for by the city.

GLOSSARY OF TERMS

- *Check Valve* - pipe fitting or valve which allows flow in one direction only e.g., prevents flow from coming into the house but allows flow to leave the house when a backup condition does not exist
- *Computer Modeling* – Computer program used to simulate the behavior of the collection system.
- *Downspout* – This is the pipe that takes water from the roof gutters in most houses. This should discharge onto the lawn.
- *Flow Meters* – Used to measure flows in the sewer system.
- *Footing Drain* – A drainage pipe (or tile) that is installed around the foundation of most basements of houses. This drain makes sure that water in the ground does not make the basement damp. This is connected to the sanitary sewer, to a sump pump, or directly to the storm sewer.
- *House Leads* - sewer pipe connecting an individual house to the City sewer
- *Infiltration* – This is rainwater flow that enters the sanitary sewer system through underground cracks in sewers.
- *Infiltration Device* - underground chamber that handles flow discharged from the sump pump, this chamber allows water to infiltrate into ground rather than discharge to storm sewer (limited to sandy soils or other soils that drain well)
- *Inflow* – This is a direct connection from surface drainage into the sanitary sewer.
- *Manhole* – This is the access structure that allows field crews to inspect sewers.
- *Rain Gage* – Used to measure the amount of rain from storm events.
- *Sanitary Sewer* – Sewer pipe that conveys wastewater to the Ann Arbor Wastewater Treatment Plant.
- *Storm Sewer* – A different pipe that takes rainwater collected in catch basins located in the street and conveys these flows to a creek or river.
- *Sump Pump* - pumps footing drain flows from lowest drainage point (sump) to the City storm sewer
- *Surface Drainage* – Rainwater that flows down the street or yard to a storm drain or into a creek or river.
- *Wastewater* – The used water that flows down drains in your home.

PAGE LEFT BLANK INTENTIONALLY to use for taking notes during neighborhood meeting, initial in-home assessment and/or meetings with contractors.

STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ANITA YU, JOHN BOYER, and MARY RAAB,
Plaintiffs,

Hon:
Case No. CC

vs.

THE CITY OF ANN ARBOR,
Defendant.

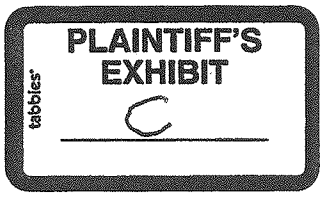
IRVIN A. MERMELSTEIN (P52053)
Attorney for Plaintiffs
2099 Ascot St.
Ann Arbor, MI 48103
734-717-0383

M. MICHAEL KOROI (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170
734-459-4040

WOODS OVIATT GILMAN, LLP
BY: DONALD W. O'BRIEN, JR., ESQ.
Pro Hac Vice application pending
Co-Counsel for Plaintiff
2 State St.
700 Crossroads Bldg.
Rochester, NY 14614
528-982-2802

AFFIDAVIT OF ANITA YU

COUNTY OF WASHTENAW)
) SS:
STATE OF MICHIGAN)



Anita Yu, being duly sworn, deposes and says:

1. I make this Affidavit of my own personal knowledge and am competent to testify thereto if called as a witness.

2. I am an individual resident of the State of Michigan and the County of Washtenaw at 2362 Georgetown Boulevard, Ann Arbor MI 48105. I was born on January 8, 1940.

3. I am the owner of the single-family residential home at that address. It is my permanent residence and I have lived there for over 40 years.

4. The house is located within the City of Ann Arbor Orchard Hills Sewer District, which was designated as an FDDP "Target Area" in 2001 by the City's then-Director of Public Utilities.

Footing Drain Disconnections ("FDDs") are and have been mandatory only in pre-1982 single-family homes located in one of the five sewer districts designated as Target Areas in 2001 (including the Orchard Hills Target Area). The City has never designated any further Target Areas and all mandatory FDDs in the City have been in Target Areas. The five Target Areas together include only about 5% of the pre-1982 single family homes in the City of Ann Arbor.

5. I attended at least one meeting to which I was invited about the FDDP with the City and received written and other information from the City or others involved in the FDDP before the FDD at my home. I understood that an FDD at my home was mandatory. I was told it was required. I would not have consented to an FDD if I had not been told personally by the City and/or one of its contractors that FDDs were required.

6. I have never experienced a sewage backup in my home or any flooding of my basement or crawlspace.

7. I had no need for a sump pump or to have my legal footing drain connection to the sanitary sewer terminated. I did not wish to have an FDD in my home and would not have had an FDD but for the fact that the FDD was mandatory.

8. I selected a plumbing company—Hutzel Company—from a few choices offered by the City for the FDD work in my home. I don't recall whether I had more than one bid. I was required to have one of these particular contractors. There may have been documents from Hutzel, but I have no copies of them.

9. My home was entered on various occasions before and during the FDD by persons working on the FDDP as part of the FDD process.

10. On May 28, 2003, representatives of Hutzel Company came to my home for purposes of an FDD estimate. I was required to get the estimate. The representatives entered my basement and crawl space areas, inspected the exterior of the crawl space and other areas and took measurements.

11. These representatives indicated a certain location in the crawlspace that they said was the suitable location for the sump crock and sump pump, which I am required to be able to get to and maintain under the FDDP.

12. The requirements for operation and maintenance of the FDD by me, as the homeowner, are set out in the City's Maintenance Manual (bearing the City Seal) that is posted at the City's FDDP Website at www.a2fdd.com. A copy of the Maintenance Manual is attached hereto as Exhibit A.

13. As pictured in the photo at Exhibit B, attached hereto, the location indicated by the Hutzel representative is inside the crawlspace and approximately 30 feet from the access panel, across an unheated and unfinished dirt crawlspace, with almost no head room.

14. As pictured in the photo at Exhibit C, attached hereto, the access panel is located in the rear of a sloped nook space in the basement under a stairway. The access is covered by a loose wooden board and is a roughly square partially framed cut-out into the crawlspace through the wall. I estimate the size of the cut-out to be about 35" x 35." The man in the picture, for scale, is my attorney, Mr. Irvin Mermelstein, who states that he is 5'8" tall. A photo me is attached at Exhibit D.

15. As the picture further shows, the cut-out is partially blocked by an HVAC vent across its width near the top of the panel, so that if I were to have to reach the sump pump if it failed, I would have had to enter the crawl space, at best, on my hands and knees. There is a light switch above the access panel inside the crawlspace that is inaccessible to almost anyone.

16. I objected to the location proposed very specifically. I asked Hutzel to excavate the FDD sump and install the sump pump in a space in or near the bathroom, the basement hallway, the laundry area, or the family room. These locations are all in the finished and accessible area of my home's basement level, rather than the crawl space location.

17. I was told by Hutzel that locating the sump in any of the locations I had requested would cost well over the amount that the City's "incentive payment" would cover (about $3,800), and that the City would require me to pay the difference if I wanted an alternate location.

18. I did not have the money to pay for an alternate location and the Hutzel representative stated that the crawlspace location was the best one for the installation in my home. I could not then and cannot now afford a contractor to come out and do the legally required FDD maintenance in the crawl space for me, as I will have to do when the sump pump fails and has to be replaced, which will be all at my own cost and expense under the FDDP.

19. The City did not provide a backup of any kind for the sump pump, though the City said publicly we should have one, and I did not buy one due to the expense.

20. The City also did not provide an essential hydraulic backup sump pump so that water would continue to be pumped out of the sump crock during power outages. Hutzel could have sold me one, but I could not afford to buy one. The sump pump runs regularly throughout the year and consumes electricity at my expense.

21. Even if I could gain access to the crawlspace, I have had a progressively disabling condition affecting my hands for many years that had already made it in 2003 difficult to manipulate the tools required to perform the maintenance tasks in the crawl space ordered by the FDDP Maintenance Manual.

22. That condition progressed to the stage where by 2012 it became difficult for me to hold and manipulate, without pain, the necessary tools for sump pump maintenance work, such as a ratchet wrench to remove the sump lid and a flashlight to inspect the pump.

23. I have been recently diagnosed with a rare late-onset degenerative and incurable muscular condition that will make it impossible to perform the mandated operation and maintenance without retaining a contractor at my sole expense, at a time when I will be growing increasingly disabled. The requirement that I do such maintenance, however, will continue in perpetuity under the FDDP and would have to be assumed by the next owner in order to comply with the FDDP's well-known requirements.

24. Prior to the FDD, I had no permanent installations in my crawlspace areas that required operation and maintenance and I had no water flowing into and through my crawl space and into a sump pump. Prior to the FDD, I had complete peace of mind concerning drainage of ground water and storm water from away from my home via a legal connection to the sanitary sewer system for inflows from my footing drains. Now, instead, I am required to operate and maintain equipment installed by force of law.

25. Hutzel Company and one or more of its subcontractors (including an electrical subcontractor) thereafter commenced construction of an FDD in my home on September 3, 2003 and completed the FDD on September 4, 2003, with the sump and sump pump at the location that Hutzel Company selected and to which I continue my objection.

26. The FDD at my home included (i) disconnection of the home's footing drains from their sanitary sewer connections; (ii) extensive demolition, construction and excavation inside and outside the crawlspace for the purpose of excavation of a 3-foot deep sump and of trenches for installation of pipes for exterior water leading through the exterior wall and into and through the crawlspace floors, and then into the sump crock installed in the crawlspace; and (iii) installation of a sump crock, sump lid, sump pump, electrical wiring and connections, and other permanent equipment.

27. The completion of the FDD intentionally redirected ground water and storm water collected in the footing drains away from the then-existing legal drainage into the City's sanitary sewer, via a legal connection thereto and instead into another connection for drainage into the crawlspace, through the crawlspace floor, and into a sump crock, where the water collects.

28. The purpose of the sump pump arrangement is to remove by electrical equipment (rather than gravity) the groundwater and storm water that collect from the sump crock and to expel it to the exterior of the house. The installation is unscientific and lacks backups or redundancy to protect against pump failure or power outages.

29. The cover on the sump is supposed to be removable for maintenance, but it is secured in place by four metal bolts, as shown in the photo attached hereto as Exhibit E. The

Maintenance Manual (Exhibit B) instructs me remove it for inspection of the sump pump and components. That would require (assuming I was able) at least one hour to two hours of my non-volunteer physical labor mandated by the FDD Ordinance and the Maintenance Manual. This labor would be, according to the City, for the supposed benefit of others, but would be without pay or the protection of laws pertaining to the health, safety and welfare of laborers.

30. The City is a permanent occupant of my home, whose occupancy is adverse to mine. I have suffered anxiety, stress and worry about the FDD since its installation where I had no worries or obligations before. I have not been paid for my past non-volunteer labor in monitoring and powering the sump pumps and I will not be paid for my future labor or expense for the FDD under the law and other City documents. I have had to spend time on the FDD that I would have rather spent with my family. My children and sons-in law have had to spend time on the FDD that could better have spent with me and their families.

31. The FDD has devalued my real estate significantly and permanently and has interfered with my use and enjoyment of my property. It is a burden to me. I am concerned about property damage in the event of flooding, including the growth of mold in flooded space. I am anxious concerning radon from the sump, because the City does not include any radon reduction as part of what the City publicly calls a "basic installation" and the impact on resale of the home.

32. The FDD in my home is a daily insult to my dignity as a homeowner and my right to determine who comes across my threshold and who makes a permanent installation on my real property, of which the City has maliciously deprived me with respect to the FDD. The City is a tenant who has paid no rent since 2003, but requires attention, concern, physical work by me or family members, and expenditures without reimbursement.

Further deponent sayeth naught.

Subscribed and sworn to
before me on this 25
day of February, 2014

ANITA YU

NOTARY PUBLIC

I.A. MERMELSTEIN
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF WASHTENAW
My Commission Expires July 2, 2015
Acting in the County of WASHTENAW

My commission expires July 2, 2015

CITY OF ANN ARBOR, MICHIGAN
100 North Fifth Avenue, P.O. Box 8647, Ann Arbor, Michigan 48107-8647
http://www.ci.ann-arbor.mi.us

Public Services Area

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!

Last Updated February 9, 2012

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 distilled 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!**
   iv. Have the backflow preventers inspected by a licensed certified plumber every 3 years.

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 repellant 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.

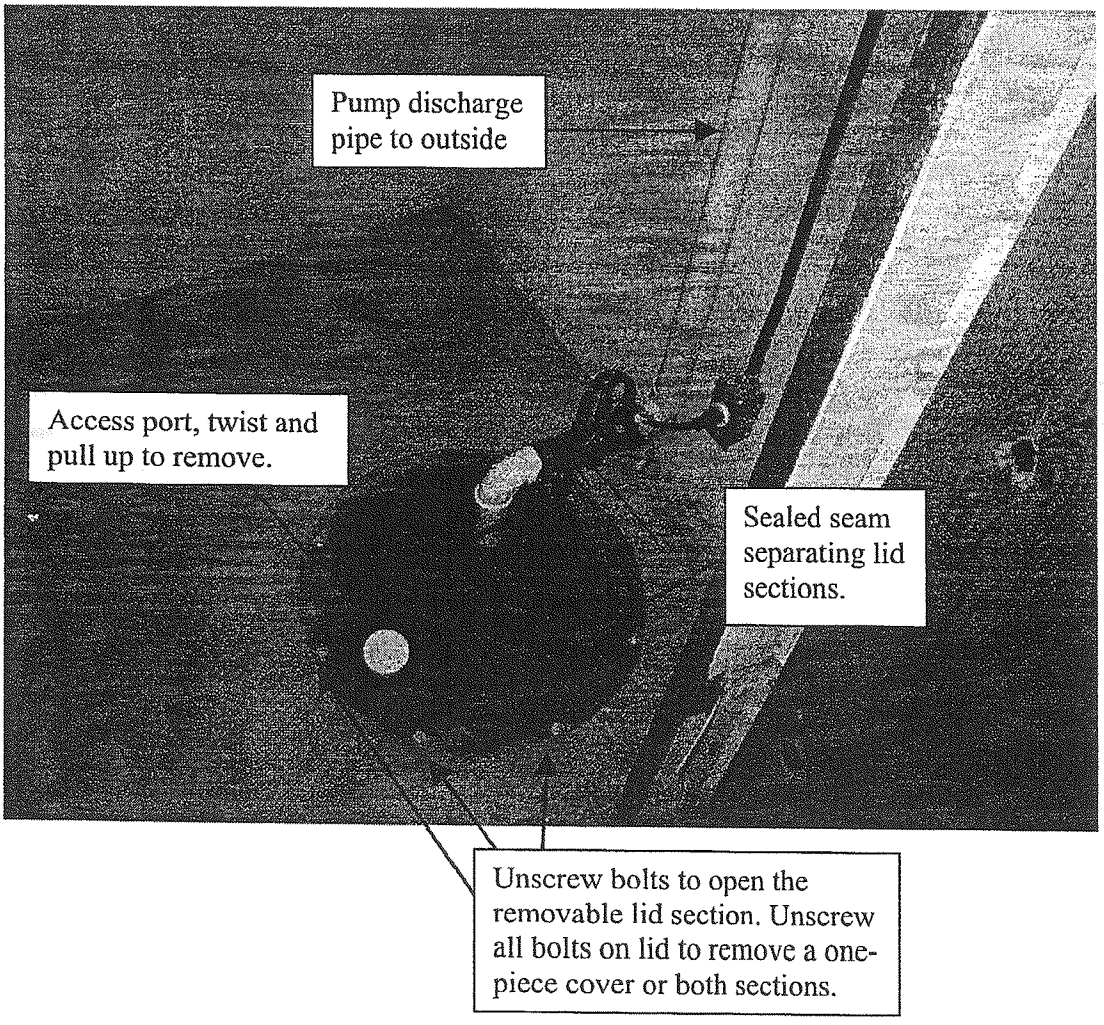
   b. Your pump manufacturer's owner's guide. If you no longer have the original copy, a replacement can usually be found at your pump manufacturer's website, refer to list below or use a search engine.
      i. Flotec Pumps - http://www.flotecpump.com/
      ii. Hydromatic Pumps – http://www.hydromatic.com/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

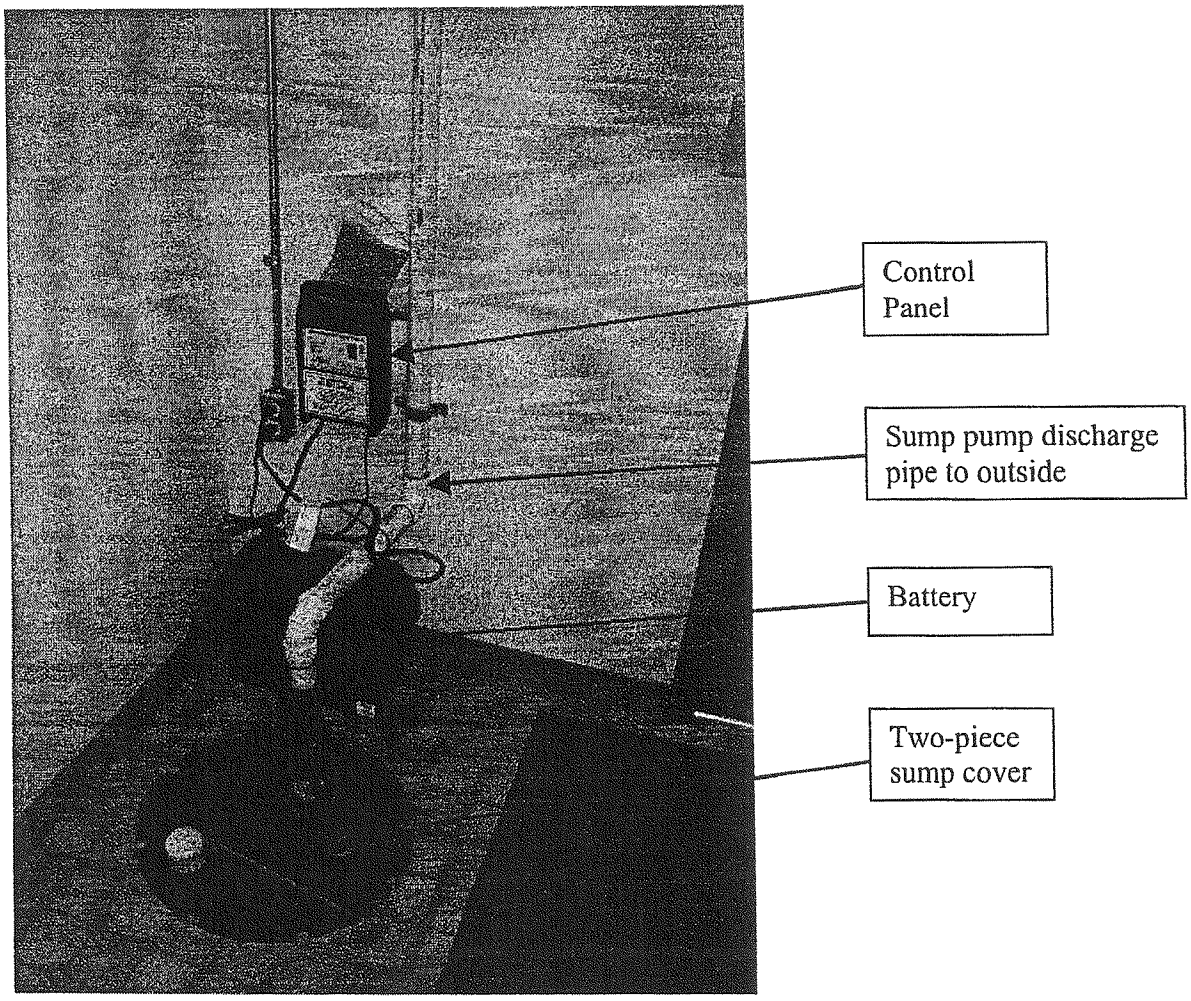
APPENDIX A

Maintenance Graphics

Sump with Two-Piece Cover
(One-piece lid has similar look without the visible seam)

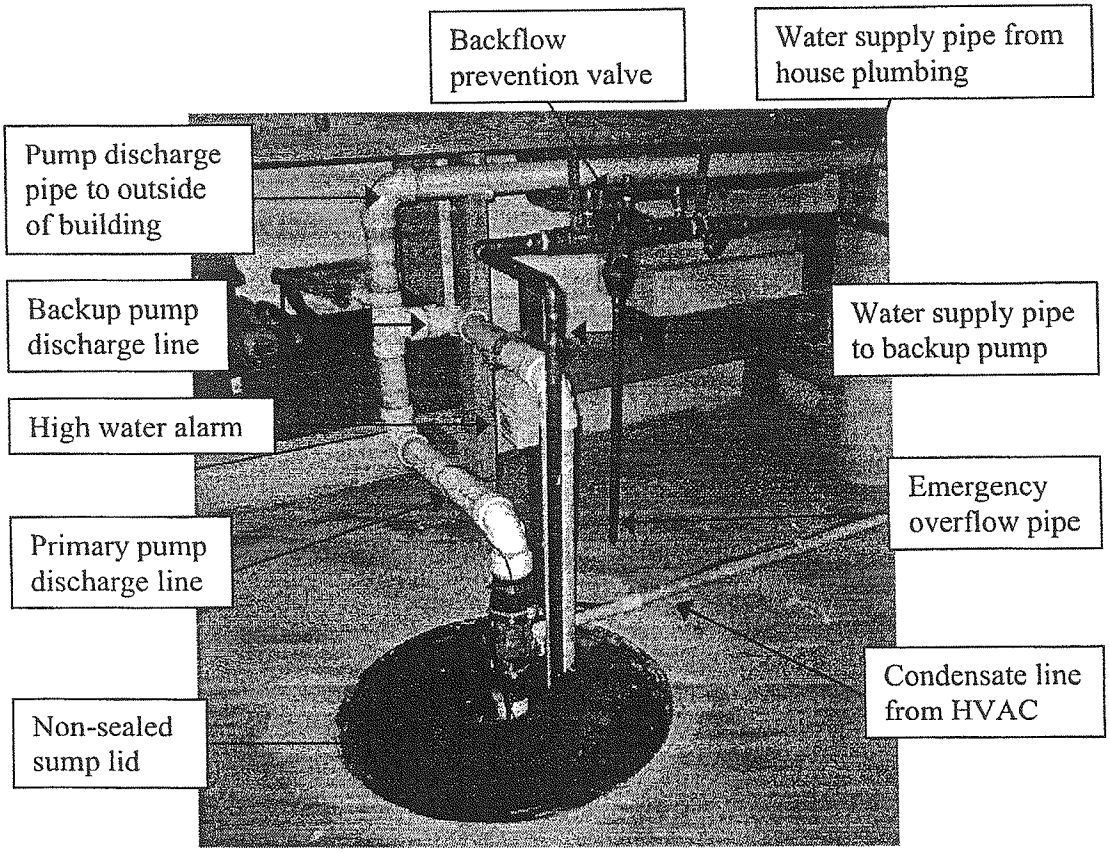


Battery Powered Backup Pump System
(Consult the manufacturer manual for maintenance recommendations and instructions)

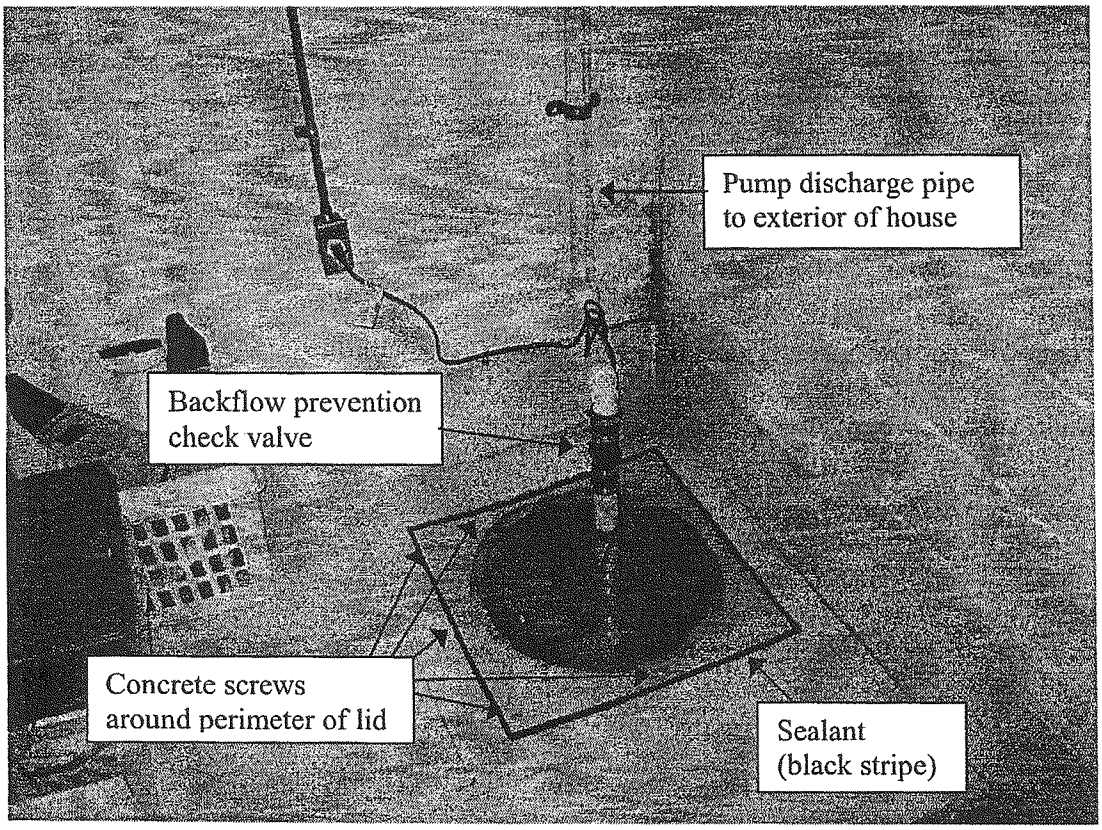


Water Powered Backup Pump System

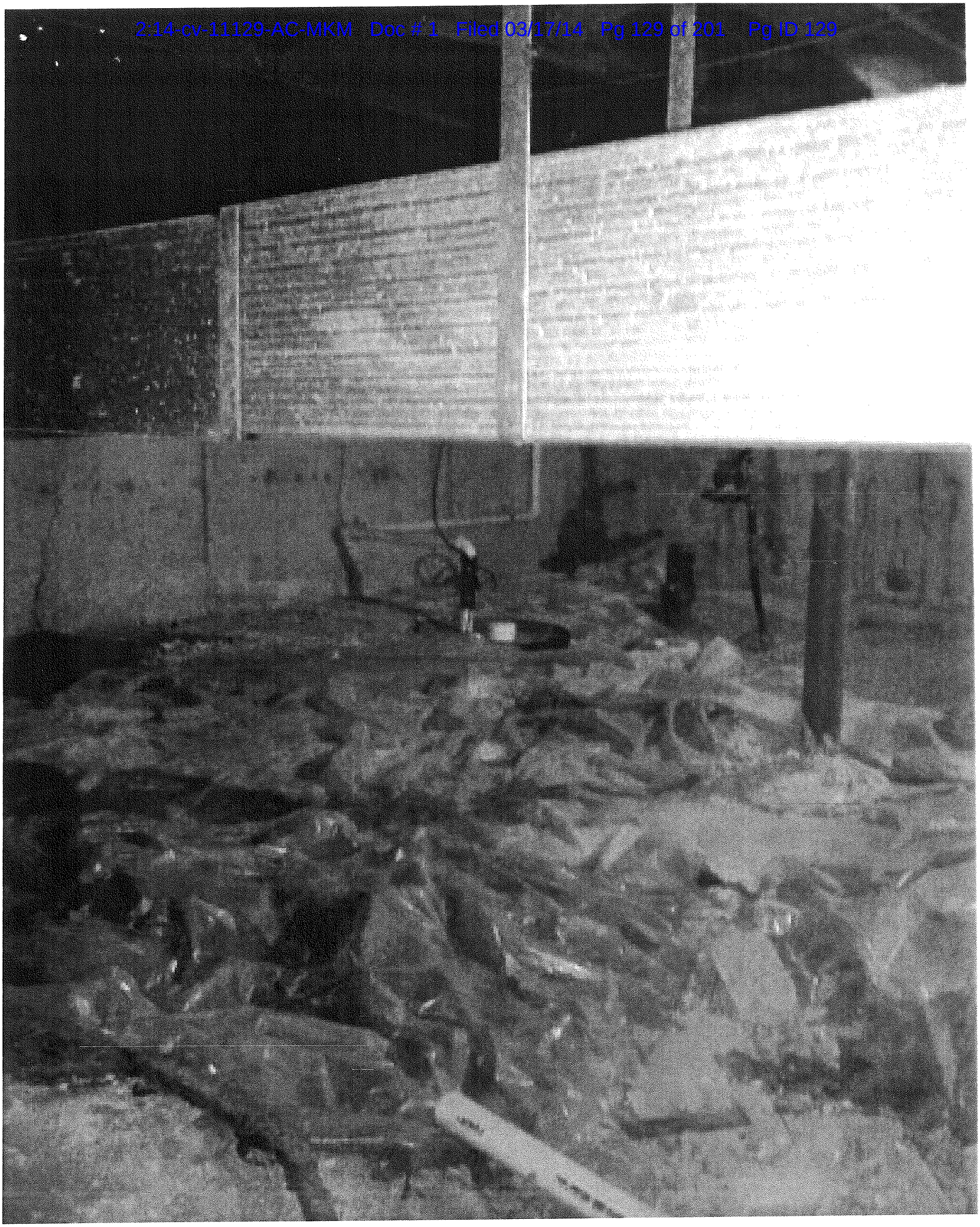
(Consult the manufacturer manual for maintenance recommendations and instructions)

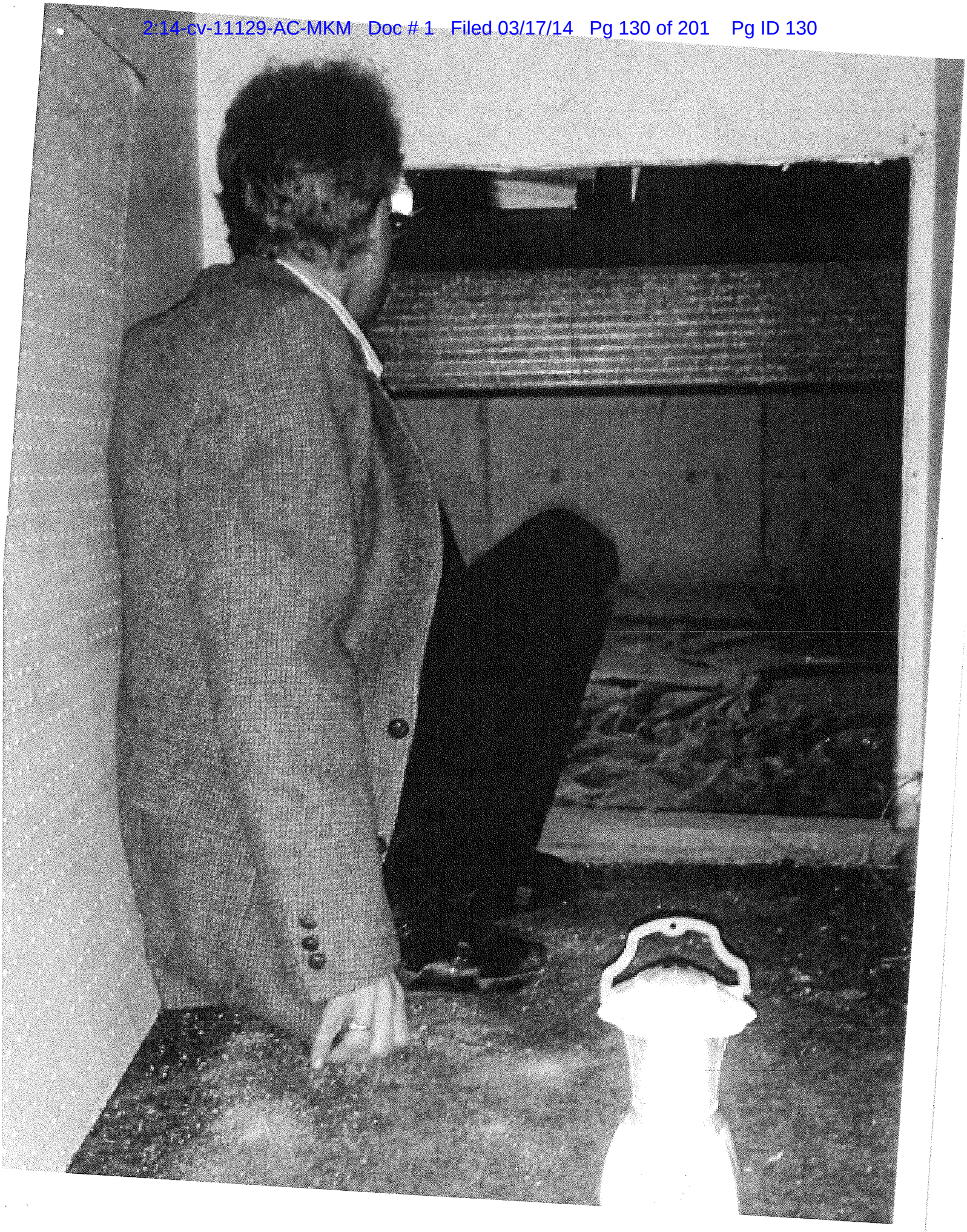


Sump with Clear Lid



MAINTENANCE LOG		
Date	**Initials**	**Comments**





STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ANITA YU, JOHN BOYER, and MARY RAAB,
Plaintiff,

Hon: Donald E. Shelton
Case No. 14-181 CC

vs.

THE CITY OF ANN ARBOR,
Defendant.

/

IRVIN A. MERMELSTEIN (P52053)
Attorney for Plaintiffs
2099 Ascot St.
Ann Arbor, MI 48103
734-717-0383

M. MICHAEL KOROI (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170
734-459-4040

/

PLAINTIFFS' AMENDED BRIEF IN SUPPORT OF MOTION FOR PRELIMINARY INJUNCTION

Now come the Plaintiffs Anita Yu, John Boyer, and Mary Raab, by and through the undersigned attorneys, Irvin A. Mermelstein and M. Michael Koroi, and submit the instant brief in support of their Amended Motion for Preliminary Injunction as follows:

STATEMENT OF FACTS

Plaintiffs John Boyer and Mary Raab reside in Ward 4 in the City of Ann Arbor (hereinafter "the City") in a house they own as husband and wife. Plaintiff Mary Raab purchased the house in 1970. Plaintiff Anita Yu resides in Ward 2 in the City of Ann Arbor, in a home of which she became sole owner in 1979.

Plaintiffs have commenced this proceeding against the City of Ann Arbor under the provisions of the Takings Clause of the Fifth Amendment of the United States Constitution, the Federal Civil Rights Act of 1871 (Chapter 42, Section 1983 of the United States Code), Article X, Section 2 of the Constitution of the State of Michigan of 1963 and Section 213.13 of the Michigan Compiled Laws Annotated.

The Plaintiffs seek just compensation, compensatory damages, injunctive relief and a declaration that Ann Arbor Ordinance 2:51.1 (hereinafter "the FDD Ordinance") is unconstitutional and that FDDs completed in the plaintiffs' homes were takings by physical invasion and physical occupation for a public use claimed by the City without prior due process or prior payment of just compensation. The City has implemented and enforced the FDD Ordinance through its Footing Drain Disconnection Program ("FDDP").

A. History of the FDDP

During the 1960's the City approved plats for subdivisions in southeastern Ann Arbor; these included three discrete phases each for both the Lansdowne and Churchill Downs developments in the Ward 4. Upon belief, the City was acutely aware that these areas clearly had groundwater problems. Upon information and belief, in one part of the land approved for the Lansdowne development, there was a large pond (then dubbed the "Cow Pond") that collected runoff and groundwater during moderately heavy and heavy springtime rainfalls.

Actual construction in Lansdowne and Churchill Downs commenced about 1966. All houses were lawfully built with foundation ("footing") drains connected to the sanitary sewer lines; as constructed, these houses passed their inspections by the City and received their respective Certificates of Occupancy.

The Michigan State Residential Building Code (One- and Two-Family Residential, Plumbing Section) was amended in 1982 by legislative action to proscribe the connection of footing drains to sanitary sewer lines. These changes in state statute did not require removal of pre-existing connections of residential footing drains to the sanitary sewers nor did it require the installation of any alternative modes of drainage or other retrofitting.

Severe rainstorms in Ann Arbor in 1998 and 2000 resulted in at least 200 basement sewer backups in the City of Ann Arbor and significant unpermitted sanitary sewer overflows ("SSO's) into the Huron River. A class action was filed on behalf of the homeowners who suffered sewer backup. Plaintiffs had not experienced such backups and were not parties to such class action. Simultaneously, the Michigan Department of Environmental Quality ("MDEQ") demanded that the City take action to end the SSO's.

B. The FDD Ordinance and Implementing Documents

In 2000, MDEQ demanded mitigation of future unpermitted SSO's, but did not mandate any particular remedial measures, such as an upgrading of the City's sewer system. This was left to the City to recommend to MDEQ. Upon information and belief, the City was unwilling to upgrade the sanitary sewers because of the amount of the projected funds required to properly upgrade and enlarge the sanitary sewer system. The City then retained Camp Dresser McKee (CDMI) to offer a "cost efficient" alternative that would satisfy the demands of the MDEQ and the public. In June of 2001, CDMI's final recommendation (expressly rejecting a sanitary sewer system upgrade as too expensive and disruptive to the use of streets) was that the City "take action to remove rain and groundwater inflow sources into the City sanitary sewer system by implementing a comprehensive citywide footing drain disconnection program within the City of Ann Arbor."

On August 20, 2001, the City approved the FDD Ordinance entitled "Program for Footing Drain Disconnection from POTW" ("FDD Ordinance," a copy of which is attached as Exhibit "1"). The FDD Ordinance has at least four major effects. First, the FDD Ordinance declared "improper" all footing drain connections at the plaintiffs' homes to the sanitary sewer system, which had been legal and in existence for over forty (40) years. The FDD Ordinance also authorized the Director of the Utility Department ("Director") for the City to designate certain City sewer districts as Target Areas and to order property owners within the Target Areas, by certified mail letter, to remedy "improper storm water inflows" from their property within ninety (90) days of the order or face a monthly non-metered user charge of one-hundred dollars ($100.00) on their sewer bills. Second, the FDD Ordinance permitted the Director to create a roster of "pre-qualified" private contractors to perform complete FDDs pursuant to the program and, also, established a system under which the property owner is obligated to enter into a purported direct contractual relationship with one of only five "Pre-Qualified" FDD contractors, and to which the City would not be a party. The City deprives owners of any part of a subsidy payment of over $4,000 available to owners who select a "Pre-Qualified" contractor.

Finally, the FDD Ordinance provides that homeowners bear the full responsibility for maintaining the FDD equipment and installation, and not the City, including the maintenance of sump pumps and other equipment, the furnishing of water and electricity, the purchase and installation of any backup systems, parts or replacements for equipment, and all needed repair work. The City has posted since 2001 at its FDDP website a Sump & Sump Pump Maintenance Guide ("Maintenance Manual"), which has prescribed the operation and maintenance ("O&M") tasks related to the FDD's completed in their homes. (A copy of the current version of the Maintenance Manual is attached as Exhibit 2.) Owners are expected to monitor the FDD.

C. The FDDP is implemented.

Upon information and belief, as of the date of the filing of the Complaint herein, over 2,000 involuntary FDD's have been completed. At no time was the City of Ann Arbor under any obligation to complete the FDDs at the plaintiffs' homes, whether imposed by federal, state, or other statute, law, regulation, court order, administrative order and/or consent agreement entered into with any agency of government, or any other legal requirement. The sole authority to mandate and then physically complete the FDDs at the plaintiffs' homes was the City's own FDD Ordinance.

The City completed an FDD in 2002 in Plaintiffs John Boyer and Mary Raab's home under the FDD Ordinance. Until then, their basement had been dry and they had experienced no flooding, dampness or other water problems in their residence. In conjunction with the disconnection of their footing drain, a sump and sump pump were installed in the basement, which discharges into their backyard. Since their footing drains were disconnected, their basement has flooded on a significant and recurring basis. Two flooding events were especially severe, with the basement living space under storm water (six inches on one occasion) while the sump pumps were completely operational (Affidavits of John Boyer at ¶¶ 11-26 and Mary Raab at ¶¶ 11-18).

Mr. Boyer and Mrs. Raab have paid the complete FDD costs (at least $7,000.00) since installation of the FDD in their home, including "upgrades" such as a six-hundred dollar ($600.00) backup hydraulic pump, together with cleanup costs, electrical charges and the costs of City water required to operate the hydraulic backup during the regular power outages experienced in their Ward 4 area (Affidavits of John Boyer at ¶ 15 and Mary Raab at ¶¶ 15-17).

The City completed Plaintiff Anita Yu's FDD in 2003. She currently does not experience flooding out of her sump, but water flows into the sump and the sump pump runs regularly. The sump pump was installed in an inaccessible location for her. She has had a disabling condition for many years that has made it impossible (without pain) to manipulate the tools required to perform the maintenance tasks in her crawl space ordered in the Maintenance Manual (Exhibit 2). She also suffers a recently-diagnosed and rare late-onset degenerative muscular condition that will make it impossible to perform the mandated O&M without retaining a contractor, **in each instance and without limit,** at her sole expense. Prior to the FDD, she never experienced any storm water flooding events or sewage back-ups within her basement or crawlspace areas and had no external water introduced into, and flowing through her crawl space floors and collecting in a sump. Prior to the FDD, she had complete peace of mind concerning drainage of ground water and storm water from her footing drains and now she is required to operate and maintain equipment installed by force of law (Affidavit of Anita Yu at ¶¶ 10-29).

D. The Plaintiffs' rights have been violated

The Plaintiff's homes were constructed decades ago pursuant to building permits in conformity with then-applicable building codes and laws and the Plaintiffs or their predecessors-in-title were issued Certificates of Occupancy at that time by the City. The Plaintiffs acquired **vested property rights** in the completed construction of their homes, including the previously-approved connections of their footing drains to the City's sanitary sewer system.

Upon information and belief, the FDD Ordinance was not passed in response to emergency conditions or an imminent threat to public health, safety or welfare. Rather, the FDD Ordinance was enacted as the cheapest means for the City to show mitigation of the surcharged conditions of the sanitary sewer system to both the public at large and to the MDEQ.

Inclusion into the FDD program is selective and at the discretion of the City. Only about 5% of houses in the City constructed prior to 1982 have been required by the City to be in the FDD program. **All** are located in the only five Target Areas the City has ever designated under the FDD Ordinance. The City has never announced plans to designate further target areas.

Those that are chosen to be mandatory participants in the FDDP are supplied with a "Homeowner Information Packet" bearing the City Seal, which includes the City's statement of the amount and type of work to be done as part of the FDD process. This includes "inspection" of their properties; construction and contracting details; with diagrams showing permanent interior and exterior work included in the FDD. A copy of the current online version (www.a2fdd.com) of the Homeowner Information Packet is attached as Exhibit "3". A 2002 printed version of the Homeowner Packet, which is similar in most material respects, was hand-delivered by employees of the City and a City contractor to Plaintiffs Boyer and Raab at their home, and is attached as Exhibit 4.

Under authority of the FDD Ordinance, the City took a planned sequence of actions directed specifically at the plaintiffs, and continues to do so. Some major steps commenced and authorized by the City are as follows:

(A) The plaintiffs' receipt of the Homeowner's Packet and/or the first posting thereof in 2001 at the City's FDDP website, www.a2fdd.com ;

(B) Multiple "required" inspections and visits by City employees, CDMI, and FDD contractors, selected from the list of only five companies "pre-qualified" by the City;

(C) City-funded non-public meetings by City and contractor employees with homeowners in groups of about 15 to 30, by invitation only, for the apparent purpose of controlling the process of completing FDDs in the invitees' homes; and

(D) The physical invasions and permanent physical occupations described in the Affidavits of each of the plaintiffs herein.

The Homeowner Packet, in fact, is the only apparent authority for multiple entries by City representatives, CDMI, and pre-qualified FDD contractor into almost 2000 houses for inspections before and after FDD installations. None of these entries have been made pursuant to a warrant, in response to a fire or any emergency, or even under a building permit. Homeowners who have completed FDDs are also performing non-volunteer physical labor mandated by the FDD Ordinance and its implementing documents, without compensation for their work or the monetary expenses of their work or the payment for a contractor to perform their labor. The FDDP Maintenance Manual is supplied to homeowners and describes some of these labor burdens –it is a standing work order. (The Maintenance Manual is attached as Exhibit 2). Additionally, the affidavits presented in support of the motion at bar describe operations tasks that the homeowner must perform that are not described in the FDD Maintenance Manual (Exhibit 2).

Homeowners are strongly encouraged by the City in the Homeowner Packet to purchase a back-up battery and/or hydraulic back-up pump as part of an FDD, but the City does not underwrite the cost of such equipment, which experience has shown is necessary to the reliability and redundancy of the sump pumps.

Plaintiff Anita Yu did not receive a back-up battery as part of the installation. She needs one for protection against power outages, but has not purchased one due its cost and maintenance requirements. If she bought a backup, she will have to recharge the sixty-pound battery after it discharges due to a power outage. Without charging equipment for the battery paid from her savings, she would need to arrange for a contractor or for charging at a recharging station.

The City also has unchecked authority under the FDD Ordinance to issue additional orders to the homeowner later to take further steps at the owner's sole expense to mitigate the

home's "improper" inflows from FDD's. The FDD Ordinance provides no rights of administrative appeal or other due process with respect to disconnection or designation orders of the Director.

The City via its City Attorney's Office is publicly on record as stating that a specific purpose of the FDD Ordinance - passed in 2001 - was to bring homes constructed prior to 1982 into compliance with a later-enacted plumbing code (requiring sump pumps in construction) effective January 1, 1982 and that such change in 1982 was in fact retroactive to earlier single family residential homes. Plaintiffs' home are of 1960's and 1970's vintage, respectively.

Plaintiffs' Complaint herein alleges seven discrete causes of action (1) Violation of MCL 213.33 (improper taking); (2) Violation of Article X, Section II of Michigan Constitution (Takings Clause); (3) Fifth Amendment of US Constitution (Takings Clause); (4) Federal Civil Rights Act of 1871 (42 USC 1983); (5) Preliminary and Permanent Injunctive Relief; (6) Declaratory Judgment Relief and (7) Attorney fees.

Plaintiffs bring the motion at bar for issuance of a preliminary injunction.

ARGUMENT

A preliminary injunction preserves the Court's power to render a meaningful decision on the merits. *Stenberg v. Cheker Oil Co.*, 573 F.2d 921, 925 (6th Cir. 1978). The maintenance of the status quo is the "last actual, peaceable, non-contested status preceding the pending controversy." *Compass v. McMath*, 185 Mich. App. 724 (1990); *Bratton v. DAIIE,* 120 Mich. App. 73 (1982). Injunctive relief is authorized under 42 USC 1983. *Henson v. City of St. Francis*, 322 F. Supp. 1034 (E.D. Wis. 1970).

The courts employ two tests to determine if a preliminary injunction is warranted; the four-factor test and the balance of hardships test.

The four-factor test adopted by the Sixth Circuit is set out in *Mason County Med. Ass'n v. Knochel*, 563 F.2d , 256 (6th Cir. 1977), and the Michigan Supreme Court's formulation was adopted in *Michigan State Employee Ass'n v. Dep't of Mental Health*, 421 Mich. 152 (1984). The four factors in considering whether a preliminary injunction is appropriate are (1) whether the plaintiff has shown a substantial likelihood of success on the merits; (2) whether the plaintiff has shown "irreparable injury"; (3) whether issuing a preliminary injunction will cause substantial harm to others (or whether harm to the plaintiff in the absence of a preliminary injunction outweighs the harm to defendant if a preliminary injunction is granted); and (4) whether the public interest will be served by issuing a preliminary injunction. *Mason County Med. Ass'n,* 421 Mich. at 157-158; *see also Southern Milk Sales Inc. v. Martin*, 924 F.2d 98 (6th Cir. 1991). These four factors guide the courts in considering whether to grant a preliminary injunction; they are not a "rigid and comprehensive" test for determining whether a preliminary injunction is warranted. *Friendship Materials Inc. v. Michigan Brick Inc.*, 679 F.2d 100, 102 (6th Cir. 1982). See also *In re DeLorean Motor Car Co.*, 755 F.2d 1223, 1229 (6th Cir. 1985) (relative importance of four factors is variable in balancing thereof).

Federal courts use the "balance of hardships" test to determine whether preliminary injunctive relief is warranted. Under this test, the movant must show "sufficient, serious questions going to the merits to make them a fair ground for litigation and a balance of hardships tipping decidedly toward the party requesting preliminary relief." *Friendship Materials Inc. v. Michigan Brick Inc*, 679 F.2d 100, 103 (6th Cir. 1982). Plaintiffs meet both tests.

POINT I

PLAINTIFFS HAVE A SUBSTANTIAL LIKELIHOOD OF SUCCESS ON THE MERITS ON MULTIPLE THEORIES

Where a likelihood of success on the merits exists, an unconstitutional ordinance may be preliminarily enjoined. *See Fehribac v. City of Troy*, 341 F. Supp. 2d 727 (E.D. Mich. 2004).

In *Loretto v. Teleprompter Manhattan CATV Corp*, 458 U.S. 419 (1982), the Supreme Court held that a permanent physical occupation authorized by the government is a "taking" without regard to even an "important public interest" it may serve. *Loretto* at 435. In *Loretto,* the physical occupation was of the owner's apartment building was limited to installation of a single cable wire, several brackets and screws, and a metallic box immediately below the roofline on the exterior of the building. Installation was done under a New York law requiring a landlord to permit a cable company to install cable wires and hardware on apartment buildings.

Under *Loretto,* a physical occupation pursuant to an enforced consent, which occupation creates a burden on the homeowner that is only "more than trivial," always gives rise to a *per se* Fifth Amendment taking. The total volume occupied by the installation that was rejected in *Loretto* was about **one-eighth of one cubic foot**. Cable wires do not require O&M by the owner or the incurrence of expense and do nothing to disturb the general peace of mind of the affected parties. The occupation here is much larger; the permanent physical installation here has caused basement flooding and consumes electricity. An FDD requires operation and maintenance by a home's occupants (young, old, and disabled alike) and at their significant and ongoing expense. This an overwhelming burden on the plaintiffs measured by the Supreme Court's near-zero tolerance in *Loretto* for any burden from a physical occupation on the property owner . The Plaintiffs herein have a substantial likelihood of showing every element of a per se Fifth Amendment taking by physical occupation under Loretto and the full line of cases cited therein.

In Michigan, takings by physical occupation of private real property give rise to a cause of action for inverse condemnation. *Difronzo v. Village of Port Sanilac,* 116 Mich. App. 148

(1988). Under both *Hart v. City of Detroit*, 416 Mich. 488 (1982) and Difronzo, supra, physical occupations of private real estate are governed by a fifteen year statute of limitations based on the view that inverse condemnation by physical occupation is most akin to adverse possession.

Plaintiffs, further, had vested property rights to their homes' existing construction, before the FDD in their homes, including their connections to the City's sanitary sewer lines prior to the 1982 amendments to the Michigan Residential Building Code. They could not be divested of those rights by the FDD Ordinance. *See City of Lansing v. Dawley*, 247 Mich. 394 (1929); *Expert Steel Treating Co. v. City of Clawson*, 368 Mich. 619 (1962); *see esp. Laisy v. City of Shaker Heights,* 33 Ohio Misc.2d 3 (Ct. Common Pleas, 1986) (trial court enjoined footing drain disconnection based on owner's vested property rights under a building permit issued before ordinance enacted). The right of exclusion or the right of complete possession and enjoyment is one of the essential elements of property in land. *Vanderlip v. Grand Rapids*, 73 Mich. 522, 533 (1889). In *Peterman v. Dep't of Natural Resources*, 446 Mich. 177 (1994), it was held that:

> Any injury to the property of an individual which deprives the owner of the ordinary use thereof is equivalent to a taking, and entitles him to compensation. So a partial destruction or diminution of value of property by an act of government, which directly and not merely incidentally affects it, is to that extent an appropriation.

446 Mich. at 190 (citations omitted). Where the invasion and permanent occupation is by a physical object installed by, or with authority from government, a taking occurs within the meaning of the constitutions without more. *Peterman* at 189 n.16. When there is an alleged physical invasion of realty arising from government action, a lawsuit is ripe for judicial review; *see Lingle v. Chevron USA Inc*, 544 U.S. 528, 537 (2005).

In *Ashley v. City of Detroit*, 35 Mich. 296 (1877), the Court said:

> ... a municipal charter never gives and never could give authority to appropriate the freehold of a citizen without compensation, whether it be done through an actual taking of it for streets or buildings, or by flooding it so as to interfere with the owner's possession. His property right is appropriated in the one case as much as in the other.

35 Mich. App. at 296 (citation omitted); *see also Estate Dev. Co. v. Oakland County Rd. Comm'n*, 2011 Mich. App. LEXIS 587 (2011). Moreover, it is immaterial whether the government acts through contractors or other intermediaries so long as the government puts "the destructive force in motion." *Peterman, supra*, at 196.

The City has created and implemented a large-scale public program openly based on physical occupations of private real property, including the properties of these plaintiffs, for a claimed public use without a mention of condemnation, prior due process or just compensation. The City, after a study and recommendation by CDMI, specifically chose physical invasion and physical occupancy as the means for such takings. *Loretto* held unambiguously that physical occupations cannot be justified by government even on the basis of an "important public benefit." *Loretto, supra*, at pp. 427-32. The City has also imposed on plaintiffs duties of non-volunteer work and physical labor for the maintenance and operation of FDDs, as well as mandatory assumption of expenses necessary to performing such mandatory work and physical labor. The plaintiffs have a substantial likelihood of succeed on the issue of the nature of FDDs as physical occupations.

POINT II

THERE IS A CLEAR SHOWING OF SUSTAINED HARM TO PLAINTIFFS THAT OUTWEIGHS ANY INTEREST OF THE CITY IN ENFORCING THE FDD ORDINANCE

The Michigan Supreme Court set out the balancing of hardships test in *Niedzialik v. Journeyman Barbers Hairdressers & Cosmetologists Int'l Union of America Local 552 AFL*, 331 Mich. 296, 301-302 (1951). *Michigan State Employees Ass'n v. Dep't of Mental Health*, 421 Mich. 152 (1984) unambiguously adopted the four-factor test set out in *Niedzialik, supra*. *See Consumers Power v. Mich. Public Serv. Comm'n*, 415 Mich. 134, 152 (1982) ("The object of the preliminary injunction [is] to preserve the status quo by averting irreparable injury to either party").

In the case at bar the hardships that Plaintiffs are sustaining are borne out by their affidavits herein and are impermissible under *Loretto*. Plaintiffs should be protected by a preliminary injunction barring the City from further implementation, administration and enforcement of the FDD Ordinance.

POINT III

PLAINTIFFS HAVE SHOWN IRREPARABLE INJURY HEREIN DUE TO THE ENFORCEMENT OF THE FDD ORDINANCE

"Irreparable injury," also referred to by jurists as "inadequacy of legal remedies," has traditionally been the most material element in deciding whether to impose a preliminary injunction. This analysis reflects two interests: (a) equity cannot intervene where an adequate remedy at law exists; and (2) if injury is irreparable, the Court will be unable to render an effective remedy after trial unless a preliminary injunction is entered. *Friendship Material Inc., supra*, at 104; *Paw Paw Wine Distributors Inc. v. Joseph E Seagram & Sons*, 603 F. Supp. 398, 401 (W.D. Mich. 1985).

The courts have sought to clearly and in uniform manner apply and analyze the notion of "irreparable injury". In *Merrill Lynch Pierce Fenner & Smith, Inc. v. EF Hutton & Co*, 403 F.

Supp. 335, 343 (E.D. Mich. 1975), the court held that the movant needs to make a showing of "a non-compensable injury, for which there is no legal measure of damages or none that can be determined with a sufficient degree of certainty." One treatise states that the court's analysis of "irreparable injury" involves balancing the costs and risks to the defendant and to the judiciary in allowing equitable relief against the risks to plaintiff of having to accept the legal remedy. Under this analysis, a finding of "irreparable injury" derives from a court's conclusion based upon the other elements or factors. *See Laycock, The Death of the Irreparable Injury Rule*, 103 Harv. L. Rev. 687, 765 (1990).

The courts have found irreparable injury where defendant's conduct materially affects the plaintiff's use of realty, which has deemed unique. See, e.g., *Bormans Inc v. Great Scott Supermarkets Inc.*, 433 F. Supp. 343 (E.D. Mich. 1975); *Bales v. State Highway Commission*, 72 Mich. App. 50 (1976). In *Zurcher v. Herveant*, 238 Mich. App. 267, 307 (2000) the Court found that, because land is unique, an equitable judicial ruling to prevent irreparable injury was called for even though damage claims were being heard by a jury. *Id.* at 306 n.24. In actions for inverse condemnation by physical occupation, the existence and nature of the taking is necessarily addressed first, with injunctive relief necessary if the parties proceed to trial on the just compensation.

The Plaintiffs' affidavits attest to the continuing physical occupation of their homes, the burden on their fundamental rights to be free from *per se* takings of their private real property, and the continuing insult to their dignity as homeowners from the physical occupation of their real property by the City. The affidavits are also evidence of the application of a requirement for physical labor by a small minority of the City's population for the supposed benefit of all others, without either pay or the right to equal protection of the law.

The FDDP is a combination of enforced physical occupation; mandated free labor for ongoing O&M on working machinery; and mandated unreimbursed payment of the expenses of providing such O&M. Its continued application to the plaintiffs cannot be remedied without preliminary injunctive relief. Equity is needed to halt this and to lessen the continuing effects of anxiety, worry, and mental anguish that result directly from plaintiffs' FDDs. The plaintiffs suffer not only the burden of labor, but the insult that the labor is demanded by government for free.

Finally, a preliminary injunction will likely lessen the probability of a multiplicity of suits. Further FDDs and implementation of the FDD Ordinance will inevitably give rise to additional legal actions by Target Area residents to whom the law is applied.

POINT IV

EQUITY WILL ENJOIN INTERFERENCE WITH ENJOYMENT AND USE OF LAND WHERE THE INVASION IS OF A CONTINUOUS CHARACTER

A person shall not be allowed to destroy the property of another by a series of threatened trespasses and leave him only the remedy of monetary damages at law. The FDD Ordinance is a continual threat of continued occupancy. Equity is available to enjoin the threatened injury at any period in its perpetration, and thereby prevent a multiplicity of suits. *Stone v. Roscommon Lumber Co.*, 59 Mich. 24 (1886). The court in *Schadewald v. Brule*, 225 Mich. App. 26 (1997), a takings case, held:

> When an injury is irreparable, the interference **is of a permanent or continuous character, or** the remedy at law will not afford adequate relief, a bill for injunction is an appropriate remedy...

225 Mich. App. at 40 (Emphasis supplied); *see also Soergel v. Preston*, 141 Mich. App. 585 (1985) (injunction against sewer line construction).

These burdens clearly exceed the "more than trivial" burden standard in *Loretto*. Moreover, the forced installations of the sump, sump pump and related equipment continue to degrade the Plaintiffs' property values.

POINT V

THE PUBLIC INTEREST IS ADVANCED BY THE GRANT OF A PRELIMINARY INJUNCTION

There is no public interest advanced by the FDDP because *Loretto* expressly forbids physical occupations as a means to advance public purposes, nor is it advanced by the FDDP's mandate for non-volunteer physical labor. Given the likelihood of success by the plaintiffs, the public interest will be served by a preliminary injunction that avoids continued harm to persons and property until this action is fully and finally litigated.

CONCLUSION

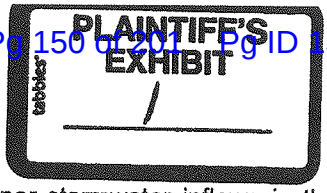
For the foregoing reasons, a preliminary injunction should issue against the Defendant, its agents representatives and employees and all others acting on its behalf or in its stead, enjoining and restraining further implementation and enforcement of the FDD Ordinance.

DATED: March 7, 2014

IRVIN A. MERMELSTEIN, ESQ.

2099 Ascot Street
Ann Arbor, Michigan 48103
734-717-0383
nrglaw@gmail.com

M. MICHAEL KOROI (P44470)



2:51.1. Program for footing drain disconnect from POTW.

(1) *Purpose:* The purpose of this Program is to significantly reduce improper stormwater inflows in the most cost-effective manner, in order to eliminate or reduce instances of surcharged sanitary sewers due to improper inflows, which are inimical to public health and welfare; reduce the chance of a sanitary sewer backup into occupied premises; and to maximize efficient operation of the District's wastewater treatment plants.

(2) *Definitions:* For purposes of Section 2:51.1 of the Ann Arbor City Code:

1. Improper stormwater inflow shall mean any direct connections (inflow) to the public sewer of sump pumps (including overflows), exterior floor drains, downspouts, foundation drains, and other direct sources of inflow (including but not limited to visible evidence of ground/surface water entering drains through doors or crack in floors and walls) as noted during field inspections by the Utility Department.

2. Participating owner(s) shall mean those persons that own property within a target area as may have been defined by the Director and who have notified the Director of their decision to participate in the program within 90 days of having been ordered by the Director to correct improper stormwater inflows from their property and meet the eligibility requirements of Section 2:51.1(4).

(3) *Scope of Program:* All improper stormwater inflow disconnection costs shall be at the owner's expense, except, in accordance with this funded program, the POTW may either reimburse the participating owner of a premises, or pay directly to the participating owner's contractor, for qualifying work up to a maximum of $3,700.00 ("Funding Cap"), or as may be adjusted under 2:51.1(12), for corrective work to remove improper stormwater inflows for which the initial building construction permit was in existence prior to January 1, 1982 or prior to the date the premises became under City of Ann Arbor jurisdiction. This funding program is referred to in this Section as the "Reimbursement Program," regardless of whether payment is made as reimbursement to the participating property owner or as direct payment to the participating property owner's contractor.

(4) *Eligible Participants.* This program may be utilized only for: (a) Improper stormwater inflows for which the initial building construction permit was in existence prior to January 1, 1982 or, (b) for premises in areas which came into the jurisdiction of the City of Ann Arbor at a later date, improper stormwater inflows which were in existence prior to the date of such inclusion.

(5) In every instance where the Director is required to act or approve an action, the action or approval may be performed by a person designated, in writing, by the Director to act as his or her designee.

(6) *Target Areas; Orders.* The Director may implement and make available this Reimbursement Program throughout the City, or instead only in target areas within the City determined by the Director as having the highest priority for reduction of stormwater inflows based on surcharging problems. When the Director issues orders for removal of improper stormwater inflows in an area where the program is being implemented, the Director shall inform the owner of the availability of the Reimbursement Program. Participation in the Reimbursement Program shall be voluntary; owners declining to participate shall be required to proceed with removal of the improper inflow at the owner's expense.

(7) *Scope of Work.* The Director shall determine for each participating premises the scope of work for reduction of improper stormwater inflows and sewer backup prevention, which may be paid for with Program funds, with the goal of achieving the most cost-efficient and timely reductions. If work paid for under this Program does not eliminate every improper stormwater inflow for a participating premises, the Director is not precluded from issuing supplemental orders under Chapter 28 of Title II concerning the participating premises. For each participating premises the maximum cost which may be paid with POTW funds to an owner or owner selected contractor shall be the Funding Cap set under 2:51.1(3) or as may be adjusted under 2:51.1(12). If additional work is required it shall be performed at owner expense.

(8) *Approved Contractors.* The Director may establish a list of private contractors or contractor teams (referred to as "contractor (s)" throughout this section) approved for performing work under this Program based on qualifications including experience, quality of work and insurance. Participating owners may propose additional contractors for inclusion in the approved list.

(9) *Contractor Selection.* Participating owners shall select an approved contractor in accordance with a process established by the Director. Participating Owners may either select a private contractor from the list or agree to perform the work by him or herself.

1. If the participating owner selects a contractor from the list of approved private contractors to perform the work, after Director review and approval of the contractor selection and contract price, the owner shall contract with the selected contractor for performance of the approved scope of work. The City of Ann Arbor shall not be a party to the contract. The owner's contract shall require the contractor to secure any building permits as may be necessary and shall specify that the owner's final payment to the contractor shall not be made until (i) the work is inspected and approved by the Director and approved by the owner, whose approval shall not be unreasonable withheld, (ii) a release of lien from all contractors or subcontractors performing work on the premises is obtained.

2. If the participating owner elects to perform the work his or herself, the scope of work, plans and specifications shall be approved in advance by the Director. The Director may establish rules authorizing reimbursement or partial

reimbursement for owner-performed work. No payment shall be made until the work is complete, inspected and approved by the Director. To be eligible for reimbursement, a request for payment must be accompanied by supporting receipts for materials, supplies and equipment.

(10) *Release.* As a condition to participation in the program the owner shall release the City of Ann Arbor, and their officers and employees from all liability relating to the work.

(11) *Payment.* After the work is inspected and approved by the Director and approved by the owner, the Director shall authorize payment for 100% of the cost of the approved work (subject to the funding cap set under 2:51.1(3) or as may be adjusted under 2:51.1(12)) from POTW funds approved for this purpose. Partial payments may not be made except that, at the sole discretion of the Director, a final payment may be made, less a reasonable retention for ensuring the completion of punch list items. Payment may be made to the owner, to the contractor, or jointly to the owner and contractor, in the Director's sole discretion.

(12) *Funding Cap Appeals.*

1. Notwithstanding any maximum reimbursement amount stated elsewhere within this section, the Director, upon a written request from a participating owner, may approve an amount 35% greater than the maximum where extraordinary construction or configuration circumstances require additional construction activity that cause extraordinary expense to achieve the program goals. Extraordinary construction or configuration circumstances do not include those situations where upgrades to the property that do or may increase the value of the property are required to accomplish the sanitary sewer disconnect. The written request from a participating homeowner must be received by the Director no later than 30 days after substantial completion of the construction of the approved scope of work.

2. Notwithstanding any maximum reimbursement amount stated elsewhere within this Section, the City Administrator, upon a written request from a participating owner may approve an increase of any amount, not withstanding any maximum amount stated elsewhere with this Code, in the Funding Cap for a particular premises where extraordinary construction or configuration circumstances require additional construction activity that cause extraordinary expense to achieve the program goals and those expenses can not be accommodated within the 35% available under 2:51.1(12)1. The written request must be delivered to the City Administrator and must be received no later than 30 days after substantial completion of the construction of the approved scope of work.

3. Unless specific appeal procedures are otherwise provided in this code, participating owners aggrieved by a decision regarding a reimbursement amount may appeal that decision. Persons aggrieved by the decision of the Director shall file a written appeal to the City Administrator within 5 days of the decision. Persons aggrieved by the decision of the City Administrator shall file a written appeal of the City Administrator's decision to the City Council within 5 days of the decision.

(13) *Maintenance.* Participating owners shall be responsible for maintaining any improvements constructed under this Program.

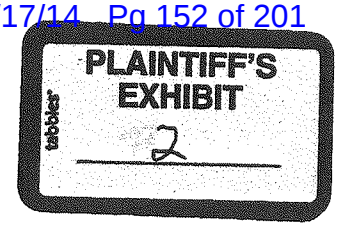
(14) *Director Rules.* Within the limitations set forth by this Section 2:51.1, the Director may establish such further criteria and rules as are required to implement this Program.

(15) *Surcharge; Disconnection; Enforcement.*

1. The Director or designee shall provide written notice by certified mail to the sewer user, property owner or other responsible person of any violation of Section 2:51.1 of this Code. This notice shall describe the nature of the violation, the corrective measures necessary to achieve compliance, the time period for compliance, the amount of the monthly surcharge until corrected and the appeal process.

2. For structures or property with actual or potential improper stormwater inflows, the sewer user, property owner or other responsible person shall be given 90 days to correct the illegal or improper activities or facilities contributing to the discharge, infiltration of inflow into the POTW. If corrective measures to eliminate the illegal or improper discharge, infiltration or inflow into the POTW are not completed and approved by the Utility Director or designee, within 90 days from the date of the notice provided in section 2:51.1(15)1, then the director shall impose upon the sewer user, property owner or other responsible person a monthly surcharge in the amount of one hundred dollars ($100.00) per month until the required corrective measures are completed and approved. If the property owner or responsible party fails to pay the monthly surcharge when due and payable, then the city may terminate the water and sewer connections and service to the property and disconnect the customer from the system. Any unpaid charges shall be collected as provided under Chapter 29 of Title II.

(Ord. No. 32-01, § 1, 8-20-01; Ord. No. 37-02, § 1, 9-3-02)



CITY OF ANN ARBOR, MICHIGAN
100 North Fifth Avenue, P.O. Box 8647, Ann Arbor, Michigan 48107-8647
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Public Services Area

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!

Last Updated February 9, 2012

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 distilled 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!**
   iv. Have the backflow preventers inspected by a licensed certified plumber every 3 years.

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 repellant 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.

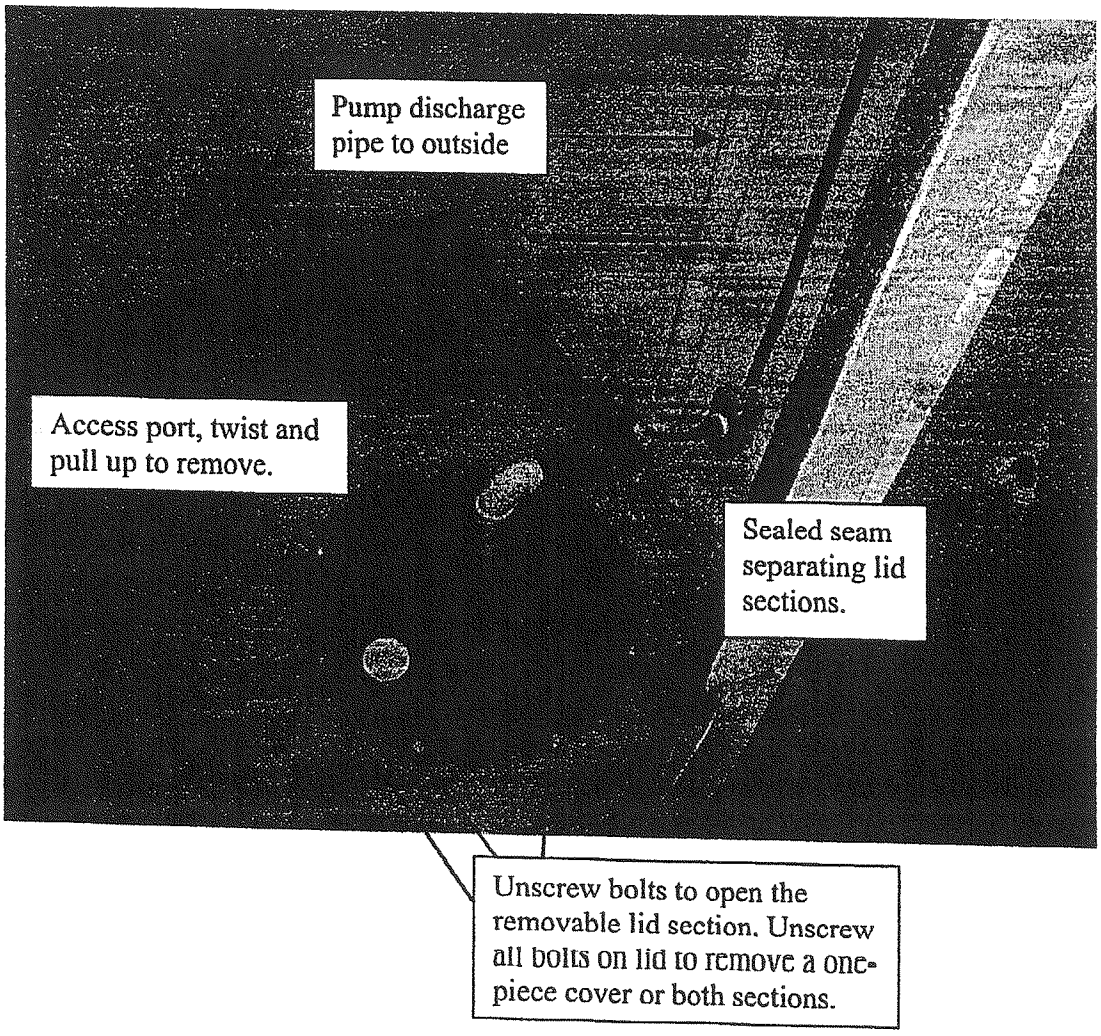
   b. Your pump manufacturer's owner's guide. If you no longer have the original copy, a replacement can usually be found at your pump manufacturer's website, refer to list below or use a search engine.
      i. Flotec Pumps - http://www.flotecpump.com/
      ii. Hydromatic Pumps – http://www.hydromatic.com/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

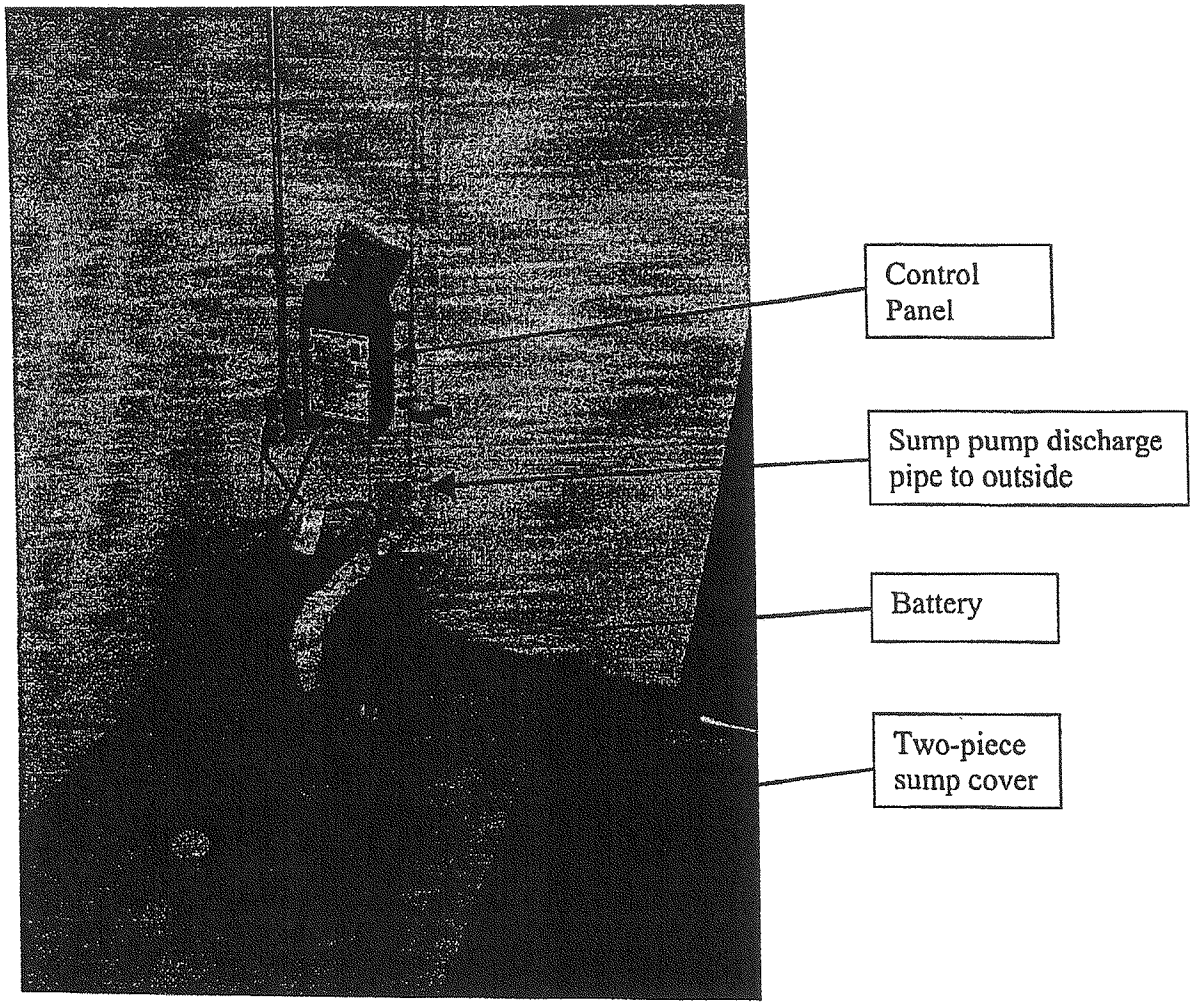
APPENDIX A

Maintenance Graphics

Sump with Two-Piece Cover
(One-piece lid has similar look without the visible seam)

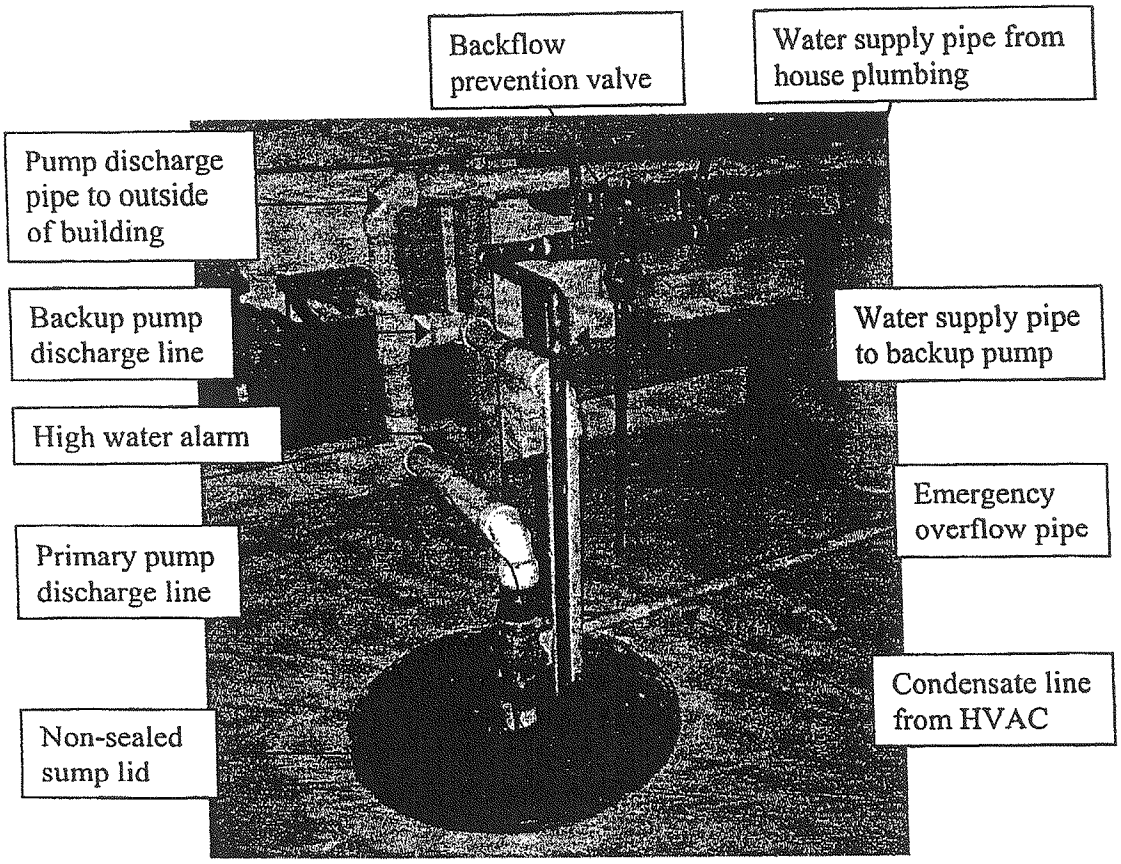


Battery Powered Backup Pump System
(Consult the manufacturer manual for maintenance recommendations and instructions)

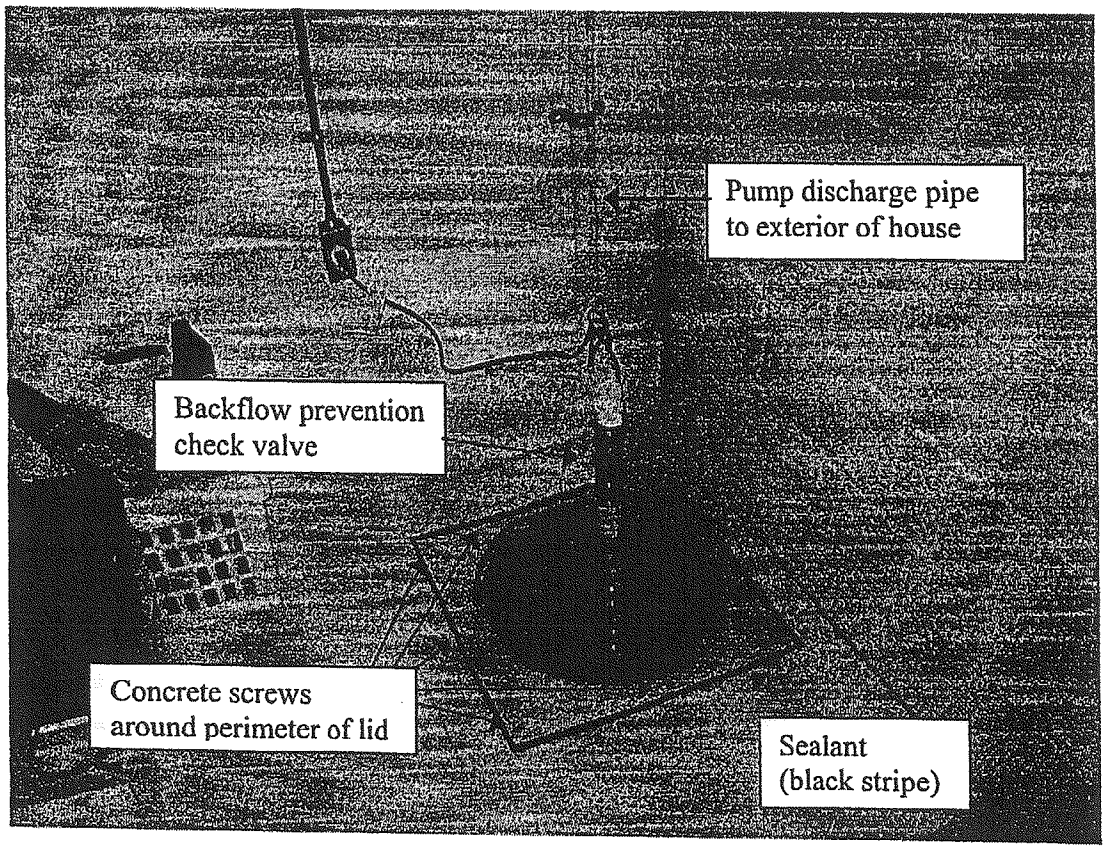


Water Powered Backup Pump System

(Consult the manufacturer manual for maintenance recommendations and instructions)



Sump with Clear Lid



MAINTENANCE LOG		
Date	**Initials**	**Comments**

STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ANITA YU, JOHN BOYER, and
MARY RAAB,
Plaintiffs,

Hon:
Case No. CC

vs.

THE CITY OF ANN ARBOR,
Defendant.

/

IRVIN A. MERMELSTEIN (P52053)
Attorney for Plaintiffs
2099 Ascot St.
Ann Arbor, MI 48103
734-717-0383

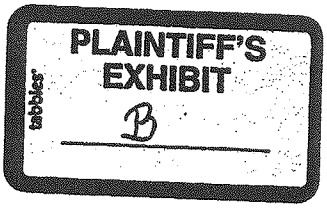
M. MICHAEL KOROI (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170
734-459-4040

WOODS OVIATT GILMAN, LLP
BY: DANIEL W. O'BRIEN, ESQ.
Pro Hac Vice application pending
Co-Counsel for Plaintiff
2 State St.
700 Crossroads Bldg.
Rochester, NY 14614
528-982-2802

/

AFFIDAVIT OF MARY RAAB

COUNTY OF WASHTENAW)
) SS:
STATE OF MICHIGAN)



Mary Raab, being duly sworn, deposes and says:

1. I make this Affidavit of my own personal knowledge and am competent to testify thereto if called as a witness.

2. I am an individual resident of the State of Michigan and the County of Washtenaw at 2273 Delaware Drive, Ann Arbor MI 48103. I was born on October 11, 1947.

3. I am the owner, with my husband, John Boyer, of the single-family residential home at that address. It is my permanent residence, which I bought in 1970, and I have lived there with my husband for 30 years. We were married on April 16, 1983.

4. I was aware that the house had been issued all necessary permits, building approvals and a Certificate of Occupancy when it was constructed. That was a part of the personal and investment decision to

buy the house within the Ann Arbor city limits, rather than in the neighboring townships where taxes are lower, and remain in the house.

5. The design and construction of the house, all as permitted and approved by the City of Ann Arbor in the 1960's, included a legal connection, in the City's right of way, for inflows from the house's external foundation (or "footing") drains.

6. The City provided a legal sewer interconnection for such inflows when the house was built and provided sewer service for such inflows until the footing drain disconnection at our home in 2002 under the City of Ann Arbor Footing Drain Disconnection Program ("FDDP").

7. When I bought this house, I was also aware that, because the house had foundation drains connected to the City of Ann Arbor sanitary sewer, it did not require a sump pump. I would have considered a sump pump undesirable, because I wished to have a house with the City's sewer service and a dry basement and no need to operate and maintain a sump and sump pump arrangement.

8. That connection to the sanitary sewers was the design basis for the very low maintenance, gravity-driven footing drain system for protection of the house from ground water and storm water around it perimeter. The house was designed and built based on building codes then existing and the City certified it for occupancy with the footing drain connection to the sanitary sewers that it declared, over three decades later, to be improper and illicit.

9. Further, the house is located within the City of Ann Arbor Morehead Sewer District, which was designated as an FDDP "Target Area" in 2001 by the City's then-Director of Public Utilities. There was no notice to us of that designation, or any appeal of the designation, or any consideration by the City of loss of value as a result of such designation.

10. The Homeowner Packet we received stated that the City's FDDP was citywide for all pre-1982 single family homes in Ann Arbor.

11. In fact, Footing Drain Disconnections ("FDDs") have only ever been required in pre-1982 single-family homes in the five sewer districts designated as Target Areas (including the Morehead Target Area) in 2001. The City has not designated any further Target Areas and all mandatory FDDs in the City have been in Target Areas. The five Target Areas together include only about 5% of the pre-1982 single family homes in the City of Ann Arbor.

12. If we had known that we were part of only a designated minority of homeowners (based on street address) required to disconnect, we would have refused the FDD.

13. I and my husband are also parts of a non-volunteer minority of Ann Arbor residents required by law and by the City-issued FDDP Maintenance Manual to provide burdensome, repetitive, and recurrent physical work and labor for the operation and maintenance of the FDD in our home and also to pay all costs incurred in performing such mandatory work and labor. The Maintenance Manual is posted at the FDDP website at www.a2fdd.com and a copy is attached as Exhibit A. There has been and is no benefit to us of an FDD, only burden. The City has told us that FDDs (including the mandatory labor and expenditure by us) are for the benefit of the public.

14. This physical labor includes regular maintenance tasks as described in the Maintenance Manual (Exhibit A) and the labor involved in bailing water by use of a Shop Vac during periods when the basement has flooded since 2001. This has included four all-night flood control episodes for my husband and me beginning in 2003.

15. We have never been paid for our mandatory physical labor and will never be paid for future mandatory physical labor under the FDDP.

16. The FDDP does not and will not compensate us for our expenses of providing mandatory operation and maintenance of the FDD. Our payments for expenses of operation and maintenance since the FDD in 2002 have been over $7,000, including replacement of the sump pump and installation of a hydraulic backup pump that was not provided by the City as part of the FDD.

17. We have also incurred the costs of electricity for the pumps and for City water to run the hydraulic backup during the regular power outages experience in the Morehead Target Area (about 2 gallons of City water per gallon of storm water removed.) The electric sump pump runs regularly year-round and continuously during significant rains, unless the power goes out. If the power goes out in a heavy rain, or even without rain, the hydraulic backup pump will run.

18. The water that has flooded our home repeatedly since the FDD in 2002, and that will continue to do so because of the FDD, is ground water or storm water. Either one is silty and dirty and contains amounts of chemicals that have leached into the soil; animal waste; and other contaminants. We have to work and perform physical labor in the water containing these pollutants in order to protect our property and belongings from the flooding caused by the FDD.

19. The City's actions have devalued our home and our surrounding real estate significantly. The City is an occupant of our home. The recurrent flooding and wetness in our home and the operation and maintenance burden of the FDD have diminished the value of our home and our surrounding real estate significantly, and interfered with the enjoyment of our home and the use of more than just the basement.

20. Our house has been devalued in relation to other comparable properties in the Lansdowne area of Ann Arbor and also in comparison to an identical pre-1982 single family home in a comparable neighborhood outside of the Target Areas. These losses are the sole result of the FDD.

21. I have suffered anxiety and concern about basement flooding since the FDD in 2002 and about the ongoing need to perform operation and maintenance work for the FDD. We do not use our basement as we did before the FDD.

22. Our dignity as homeowners has been belittled and continuously insulted by the City's permanent presence in our home and its continual publicity in City publications and reports about the difference in laws and real property protections applicable to homeowners in the Morehead and other Target

Areas as opposed to those applicable to residents outside of the Target Areas. I regard as particularly malicious the demeaning of our rights to be free from threats and demands for non-volunteer physical labor to be provided, without pay, by my husband and me as parts of a minority of citizens for the supposed benefit of the majority.

Further deponent sayeth naught.

Subscribed and sworn to
before me on this 24th
day of February, 2014

MARY RAAB

I.A. MERMELSTEIN
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF WASHTENAW
My Commission Expires July 2, 2015
Acting in the County of Washtenaw

Notary Public

Footing Drain Disconnection Program HOMEOWNER INFORMATION PACKET

City of Ann Arbor
Public Services Area
www.a2fdd.com

TABLE OF CONTENTS

PROJECT BACKGROUND

Within the City of Ann Arbor, there are groups of homes that have experienced basement backup problems. Many of these have been the result of wastewater backing up from the sanitary sewers through basement floor drains, especially during periods of heavy rainfall. This wastewater presents a potential health risk and can cause damage to the structure and to belongings stored in the basement.

In addition, this excess groundwater places a strain on the sanitary sewer system and must be treated at the Waste Water Treatment Plant. Due to current and future regulations in the State of Michigan, it is critical the Utilities Department minimize the amount of unnecessary groundwater sent as wastewater to the Treatment Plant.

In 1999, the City formed the Sanitary Sewer Overflow Prevention Advisory Task Force to understand the causes of basement backup and develop solutions to the problem. The Task Force was comprised of homeowners, city staff and experts in related disciplines. In addition, the Task Force hired the engineering firm of CDM to assist in the data gathering and analysis. Throughout the project, the Task Force sought to provide the public with project information and solicit homeowner feedback to develop a recommendation that meets the diverse needs of the citizens.

TASK FORCE FINDINGS AND SOLUTIONS

The Task Force study determined that during heavy storms, rainwater from home footing drains overloads the sanitary sewer system and is the primary cause of basement backups. It was determined that even homes with no current basement backup problems were significant contributors to the basement backup problem for neighboring homes.

There are basically two ways to handle this problem: either reduce the amount of rainwater entering the sanitary sewer system, or provide more capacity in the system to store or carry these flows. Based on analysis and public feedback, the Task Force determined that reducing the amount of rainwater entering the system would be preferable to the public, environmentally responsible and most cost effective.

Therefore, the Task Force recommended that the Mayor and City Council implement a comprehensive citywide footing drain disconnection program within the City of Ann Arbor in order to reduce the amount of rainwater flowing into the sanitary sewer system.

The Task Force recommended a citywide program for a number of reasons.

- This basement backup problem is not confined to the five study areas.
- All buildings with connected footing drains contribute to the basement backup problem.
- Footing drain disconnection supports the City in a proactive approach to pending regulatory guidelines in the State of Michigan.
- Decreasing the amount of storm water flow that gets to the Water Treatment Plant reduces both the costs of treatment and the chances for potential overflows into the Huron River.

WHAT IS FOOTING DRAIN DISCONNECTION?

As shown on Figure 1, footing drains are small (4-inch diameter), perforated drainage pipes located near the foundation of your house. They are intended to keep rainwater that seeps through the ground from building up along the foundation or basement walls. In many homes, the downspouts, which carry rainwater from the gutters, discharge near the foundation walls. This water drains through the soils and into the footing drains. In most homes constructed before the 1980s, the footing drains are connected to the house sanitary connection (house lead) as shown in the figure above. This house lead carries the footing drain flow and wastewater from the house to the sanitary sewer system.

When it is not raining this is not normally a problem, but during a severe storm event too much rainwater can enter the sanitary sewer system. This excess flow can cause the mixture of rainwater and wastewater to backup in the house lead of some homes and cause basement backups.

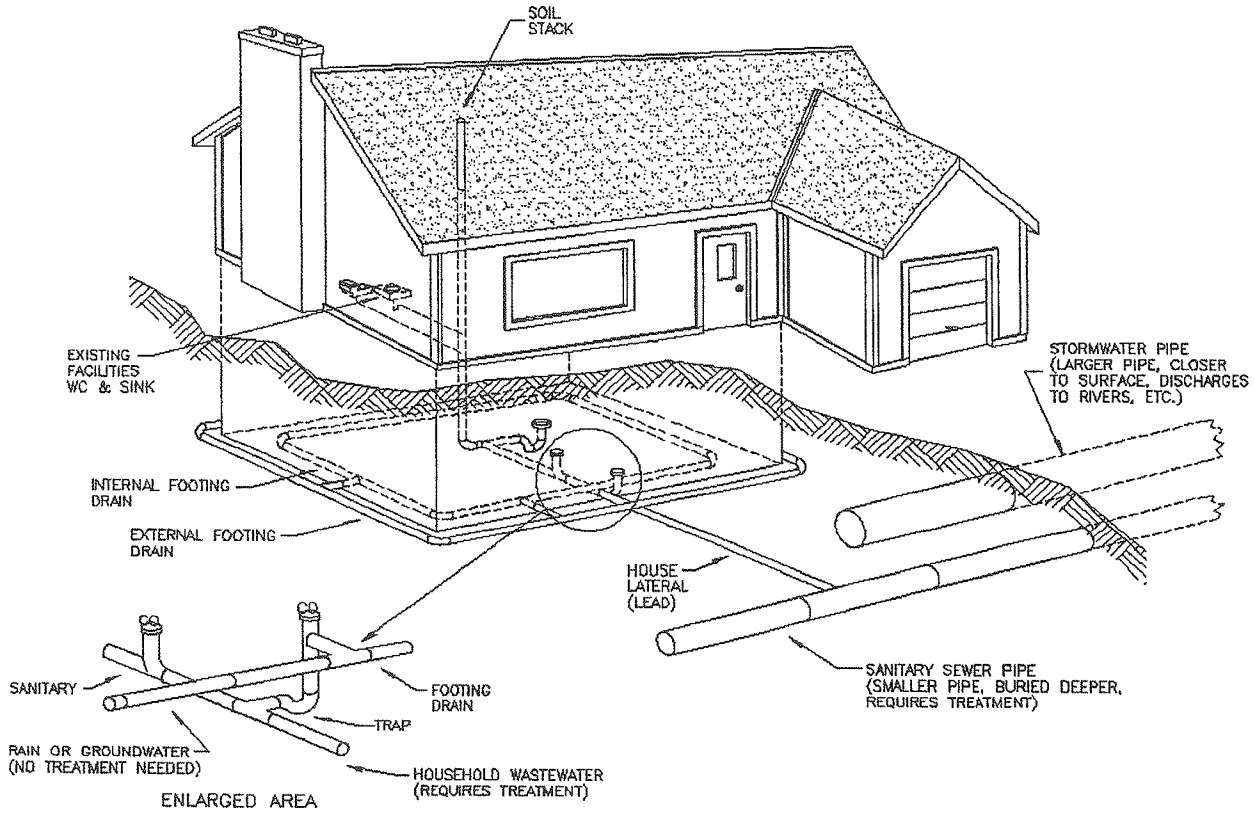


Figure 1 – Pre-construction Conditions

Footing drain disconnection is performed to remove the rainwater flows from the sanitary sewer system. This is done by disconnecting the footing drains from the house sanitary lead and installing a sump pump to move water from the footing drains into the storm water system. There may be some alternatives to sending the flow into the storm water system in some neighborhoods or homes. The creation of rain gardens or use of low areas in backyards are possibilities. A priority is placed on safe disposal of the storm water. For the vast majority of

homes the connection to the sanitary house lead is inside the basement, and the sump is installed in the basement as shown in Figure 2 below.

In homes that have experienced basement backups or are at risk for basement backup, the city can provide funding to install check valves to keep water from flowing back into the home from the sanitary sewer system.

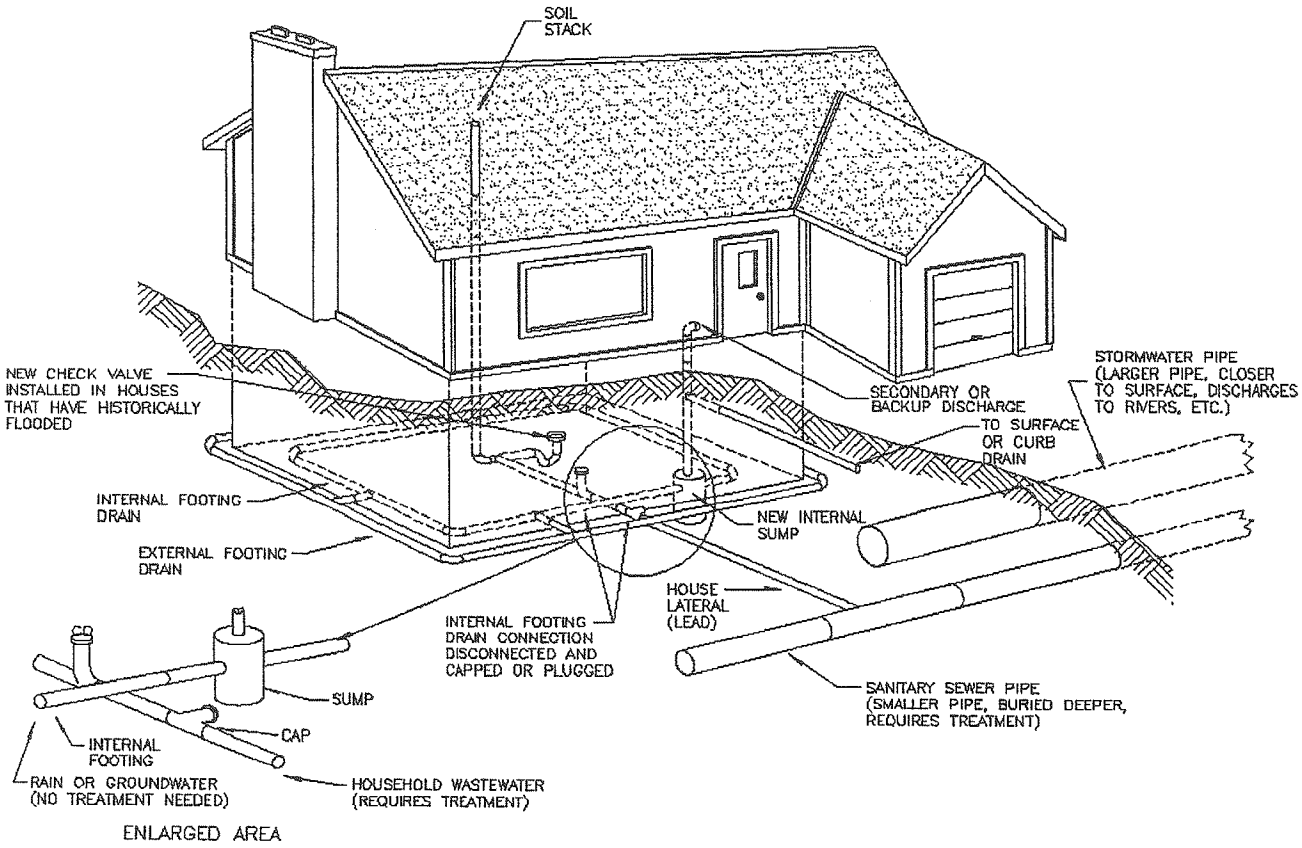


Figure 2 – Basement Sump Construction

WHY DISCONNECT FOOTING DRAINS?

The purpose of disconnecting footing drains is to keep rainwater out of the sanitary sewer system. During dry weather, the sanitary system has plenty of capacity to carry wastewater. In neighborhoods where footing drains are connected to the sanitary system, however, rainwater can overfill the sanitary system during heavy storms resulting in the rainwater/wastewater mix backing up into basements. Keeping rainwater out of the house 'lead' greatly reduces the amount of rainwater getting into the sanitary system, which protects downstream residents and reduces costs at the wastewater treatment plant. It also frees the house connection to carry wastewater to the sanitary system.

All homes built in the City of Ann Arbor since January of 1982 have disconnected downspouts and footing drains with sump pumps in the basements or with gravity discharge leads to a storm

water system. Surface discharge of downspouts allows more rainwater from roofs to be absorbed by the ground and reduces the amount of water being treated and released into the Huron River.

Footing drain disconnection has the following advantages:

- Protects homeowners who have had sanitary backups during severe storm events.
- Takes rainwater out of the sanitary system, reducing problems for downstream residents and eliminating treatment costs for the rainwater.
- Preserves natural features and protects watershed by minimizing undesirable discharges to the Huron River.
- Provides short-term and long-term protection for those at risk.
- Provides the lowest rate impact of all the possible solutions.

WHAT WILL HAPPEN AT MY HOME?

After you receive this homeowner information packet, you should contact the FDD Construction Manager (see page 8 for contact information) to arrange for the initial assessment at your home. This will be an excellent opportunity to ask specific questions about your home, and to learn more about the steps of the program. Next, you will choose from a list of pre-qualified contractors, obtain estimates and arrange a contract. (See page 8 for a list of the contractors) The actual construction work should take from 1 to 3 days of in-home construction. Construction photos are available on the project website www.a2fdd.com.

Curb drain installation work has most likely already been performed by a city hired contractor in the lawn extension area between the curb and sidewalk. The contractor installed a 6-inch diameter pipe with individual connections for each house that will collect the flows from sump pumps in individual homes and direct it to the storm sewer. Lastly the area that was disturbed was restored with new grass seeding and occasionally sidewalk or driveway aprons were replaced.

Initial Assessment will be conducted by the FDD Construction Manager with the homeowner and will include actions to:

- Determine if your footing drains are connected
- Identify possible locations for sump pump installation
- Assess site drainage options, including identification of any needed changes in downspout connections.
- Assess options for installation of sump discharge lead (piping) to an approved discharge location.

Inside work will be confined to the basement and will include:

- Removal of a section of the basement floor to access pipes and to install the sump.
- Disconnection of the footing drains from the house lead and routing of new discharge lines.
- Installation of a new electrical circuit.
- Installation of the sump and sump pump. The sump is typically 24 inches in diameter and 30 inches deep. The cover is sealed and level with the basement floor.

- Repairs to the work area (i.e., replacing concrete, tiles, etc.)
- For homes that have previously experienced basement backup or those deemed to be at-risk for basement backup, installation of check valves on all plumbing fixtures located in the basement or a single check valve to protect all facilities in the basement.
- Clean up of the work area.

Work in the yard includes:

- Installation of a small pipe to carry footing drain water from the sump pump to the previously installed curb drain or an approved alternative.
- Cleanup and restoration of any areas impacted by the installation.

WHAT WILL IT COST? HOW IS IT FUNDED?

The City will provide funding for the 'core' work. A typical household should cost $4,100 to disconnect. Exceptional circumstances within a household may warrant payment beyond the $4,100. Prior to signing a contract, a homeowner may request additional city support which will require competitive estimates from 2 different contractors. This request will be reviewed and may be approved by the City Project Manager and, if necessary, the City Administrator. Financing for this project comes from sewer use fees. Items funded include:

- Parts and labor for standard sump and pump installation
- Parts and labor for discharge pipes
- Parts and labor for electrical work
- Basic restoration of interior and exterior work areas including lawn reseeding and if necessary restoring the floor, ceiling surface or drywall patching.

The Homeowner will be responsible for the following costs where applicable:

- Additional features or restoration beyond what is required for basic installation and items classified as home improvements or exceed building code requirements (e.g. replacement of inadequate electrical service panel, construction of new enclosure for sump, etc.)
- Backup Sump Pump - In the event of a power failure, the primary sump pump will not function. This can result in groundwater collecting around the outside of your basement walls and floor where it can seep through cracks in the concrete or through the sump lid. The plumbing contractors can install, at the homeowner's expense, either battery or water-powered backup pumps that will operate during an electrical failure or if your primary pump fails. You need to assess your desire for this additional level of protection as only you can understand the impacts moisture would have on your belongings in your basement, and the frequency of power failures in your neighborhood. Based on our experience with power failures during storm events, homeowners are advised to strongly consider the need for a backup system. (See questions 20-23 in the Frequently Asked Questions section for additional information)
- Maintenance
- **Homeowner pays all costs plus a monthly surcharge** if the work is not completed within 90 days after receiving the 90-day notice to disconnect (see required timing below)

WHAT DO I NEED TO DO?

As a homeowner please review and complete the steps below to aid in a reliable and trouble free disconnection.

1. Become informed by reviewing the supplied materials in this packet and attending the scheduled neighborhood meeting.
2. Arrange an in-home assessment with a Construction Manager to determine the need for a disconnection, discuss your options for getting the work done and get all your questions answered. We ask that during the in-home assessment/pre-inspection, to please kindly put them away until after the assessment has been completed.
3. Review the list of pre-qualified contractors (page 8) and make an appointment with one or more to receive an estimate of costs for the work to be done in your home.
4. Review costs that are funded by the City and identify any additional options you may want or need to contract for at your personal expense.
5. Submit the necessary forms to secure funding pre-approval to the Construction Manager.
   - Form 1 –Reaffirms that you understand that the contractor you hire is responsible for the work done at your property not the city of Ann Arbor. This is required of every homeowner.
   - Form 2 – This is only needed if the estimated cost exceeds the limit of $4,100. Two estimates will be needed from different contractors for funding pre-approval above the $4,100.

     When funding has been pre-approved the construction management staff will notify you by phone.
6. Ensure that the footing drain disconnection work gets completed properly:
   - Arrange a contract to get the work done with your selected contractor.
   - Discuss scheduling and basement preparation with the contractor.
   - Clear the work area so that the contractor can perform the work. (Contractor will provide specifics). If desired, add additional dust protection to exposed areas.
   - Monitor the work underway to ensure it meets your contract agreements. Consult the Construction Manager if help is needed. The contractor will arrange for city building inspections to occur during the work.
   - Review finished work with the contractor to ensure you understand maintenance and operations of your system.
7. Host a final walkthrough/post-inspection with the Construction Manager to ensure that all work has been completed according to code and according to your contract. If all work has been completed as contracted, the city will issue payment to the contractor for the pre-approved amount.
8. Provide written feedback on the contractor and the overall project to the City.

WHEN DO I NEED TO COMPLETE THIS WORK?

The City and the construction management team work actively with property owners to ensure that all requirements of this program are understood and that construction occurs in timely manner. This packet is the first outreach to homeowners. Within the next two months, any homeowners who have not initiated a contract to disconnect will receive a courtesy reminder. If no action is taken following that reminder, property owners will then receive a certified letter from the city. By city ordinance, property owners are mandated to complete the disconnection of their footing drains within 90 days of receiving a certified letter entitled "90-Day Notice" from the City. If the disconnection is not completed by the end of the 90-days the homeowners risk losing city funding for the work and possibly a surcharge on their sewer bill of $100 per month for unmetered sewage entering the system. If adjustments need to be made to the mandated

timing for completion, please communicate directly with the Construction Manager to review the unique circumstances in your home.

CONTACT NAMES AND NUMBERS

Construction Management Staff:

- Construction Managers
  - Justin Woods..... [734.794.2780]
  - Karen Duff..... [734.794.2780]
- CDM Project Manager – Jay Zawacki..... [734.794.2780]

City of Ann Arbor Staff:

- Project Manager – Anne Warrow.....[734.794.6410 ext. 43639]
- Interim Public Services Director – Craig Hupy..... [734.794.6310]

PRE-QUALIFIED CONTRACTORS

Hutzel Plumbing
Contact: Nancy Cummins
2311 S. Industrial Highway
Ann Arbor, MI 48104
Phone: (734) 665-9111
Fax: (734) 665-9238

RDC Residential Services
Contact: Richard Connors
Plymouth, MI 48170-5823
Phone: (734) 564-2801
Fax: (734) 414-0729

Bidigare Contractors
Contact: John Bidigare
P.O. Box 700464
Plymouth, MI 48170
Phone: (248) 735-1113
Fax: (248) 735-1114

Perimeter
Contact: Steve Rojeck
8385 Jackson Road
Ann Arbor, MI 48103
Phone: (734) 424-9280
Fax: (734) 424-2037

FREQUENTLY ASKED QUESTIONS

Background Questions: Reasons for Back Ups, Alternative Solutions

1. Are there alternatives to managing the water other than Footing Drain Disconnection? Why was this option chosen?

The SSO Task Force studied the issue of basement backups in 2000 to 2001 and identified three viable alternatives to solving these problems; footing drain disconnection, installing larger sewer pipes and building storage basins. This work found that footing drain disconnection (FDD) addressed the root cause of the basement backups, which was stormwater entering the sewer system during rain events. On average, every home with a connected footing drain adds 3,500 to 10,500 gallons per year of clean water that must be conveyed to the Wastewater Treatment Plant and treated before release to the Huron River. FDD was cheaper overall and, very importantly, reduced the chance of exceeding the Wastewater Treatment Plant capacity. FDD also provides the greatest security of the solutions as its capability to work effectively is not limited to certain size rainstorms.

2. Can I avoid the need for footing drain disconnection if I take actions such as redirecting my downspouts, sloping soil away from the foundation or installing low flow fixtures?

While those are excellent approaches to reduce some causes of wet basements and to reduce the volume of water that goes to the Wastewater Treatment Plant, this will not prevent enough water from entering the sewer system inappropriately. Footing drains still collect much of the rainfall that enters the ground. To protect your own and your neighbors' basements, the large volume of water entering the sewer system from rain storms must not enter the sewer system and FDD is the practical means identified to do this.

3. Why do I need to have this done and not my neighbors?

All buildings that have connected footing drains are scheduled for FDD work over the coming years. The schedule was established on a priority basis to disconnect the homes identified as needing protection from future basement backups and to accommodate a cost efficient installation process within a neighborhood.

4. I get water in my basement now. Will this solve that problem or make it worse?

This work will only address basement water problems that are caused by heavy rain events resulting in basement backups through floor drains. It will not improve or worsen other causes of wet basements such as leaks through cracks in basement walls or floors due to poor site drainage and/or poor or blocked footing drainage pipes.

5. What is the role of development in this problem? These basement backups have happened since our neighborhood has grown.

In tracking the source of the heavy flows that entered the system during rain storms in the year 2000, a Task Force of engineering professionals and community members identified that footing drains contributed 70-90% of the total volume of flow in the sewer system making this source the major cause of basement backups.

The existing sanitary sewer system without footing drain flow is more than adequate to handle recent and future development as planned for in existing treatment plant designs. New developments do not have footing drains connected to the sanitary system and will not add wet weather flows to the collection system.

Installation Process: Costs, Homeowner Choices, Restoration

6. Do I have to use a particular contractor (low bidder)?
Homeowners choose which pre-qualified contractor they want to provide them a bid. Homeowners only need to arrange one bid if the work can be accomplished within the $4,100 average estimate. If costs exceed $4,100, two estimates are needed. The homeowner may select either of the contractors, but must pay the differential between the lowest bid and the higher bid if the more costly contractor is selected.

7. Can I use another contractor who is not pre-qualified?
No. The City of Ann Arbor has developed a process for pre-qualifying contractors so that it is clear that they understand the methods and materials needed for a complete installation. Using other contractors would be more expensive for Ann Arbor to manage and would reduce the ability to support quality construction. With several contractors already pre-qualified, there is adequate choice for homeowners to make a selection. Exceptions to using the pre-qualified contractors may be allowed but the homeowner may not receive full reimbursement for all costs not pre-approved for work using pre-qualified contractors. Homeowners are encouraged to seek information/guidelines for reimbursement from FDD project staff before beginning work eligible for FDD funding. Contractors willing to do this type of work are encouraged to contact the city to seek pre-qualification status.

8. Can I perform the disconnection work myself?
Yes. Homeowners can perform the work. In this case, the homeowner would need to apply for all of the necessary permits, would have to comply with the construction specifications and materials of construction, and would be reimbursed for materials only. This reimbursement would only be made after the Construction Manager had completed the final walkthrough/post-inspection of the work.

9. What will this cost me as a homeowner?
The City will cover the costs necessary to complete an installation of the sump and basic restoration. Homeowners may choose to pay for additional items to meet their desires for more security and enhanced restoration. Some homeowners choose to purchase a backup pump or do additional landscaping work.

10. What does basic restoration mean?
Basic restoration inside the home means returning the home to the level of finish it had previous to the work. Concrete is replaced and smoothed, tiles are replaced with a closest match of available tile and the work site is cleared and cleaned. Outside the home, holes are filled in and grass seed is sown.

11. How do I know the contractor is installing quality components?
All work done by the pre-qualified contractors is in compliance with a very specific set of specifications for both the components to be used and the process for disconnection.

12. What will happen to my yard?
Every effort is made to minimize the amount of excavation and disruption in the yard. The least amount of yard disruption would be a small hole near the foundation wall where the discharge line exits your home. For more difficult installations due to the topography, type of soil or location of the discharge line, a trench across the lawn may be needed.

13. How long does construction last? How dusty is it? How disruptive?
Construction lasts for 2-3 days. Contractors protect flooring and hang protective plastic to minimize the mess. There will be concrete removed and this can generate dust and is noisy. See homeowners' surveys for rating on contractor cleanliness and courtesy.

14. How will this affect the radon levels in my basement?
Everything that is installed in the basement will be sealed, protecting the home from any additional radon exposure. If you do chose to get a water powered back-up, the lid may not be fully sealed.

15. Will my floor drain still work?
Yes. Footing drain disconnection does not affect the functioning of the floor drains. If there is a floor drain that goes to your footing drains it must be abandoned by plumbing code.

Maintenance and Operations

16. Who owns/maintains the sump, pump and additional plumbing lines?
Once installed, the sump pump and lines are owned and maintained by the homeowner.

17. What happens when my sump pump doesn't work? What if the check valves (sewage backflow prevention devices) fail?
If your sump pump stops working, water from the footing drains will not be pumped out to your discharge lines and this water can collect in your basement. As with any primary appliance, it is critical that homeowners keep sump pumps in good repair. The design life of pumps is usually five years, but most sumps pumps will operate for 10 to 15 years before needing replacement. Check valves need to be tested and maintained regularly or they could fail to operate and allow a basement backup to occur.

18. Is there a warranty?
Yes, the work and the sump pump have warrantees through your contractor.
The sump pump warranty is normally 1 year. Warranty for installation work will be outlined in your contract with the contractor.

19. Why is the City mandating a system that has potential to fail when I have never had a problem related to this before?
Any system like this does have the potential to fail, typically because of a loss of power or because the sump pump fails to operate. However, the alternative is that your home or the home of your neighbor could experience a basement backup when footing drain flows overwhelm the sewer system and the Wastewater Treatment Plant in times of heavy storms. Building code in Ann Arbor and in most other communities changed in 1982 to require that footing drains use sump pumps or similar systems to direct footing drain flows to the stormwater system or to an alternative onsite system like a rain garden or detention basin.

20. What is a backup sump pump and why would I need one?
A backup sump pump is a secondary pump that will operate if the primary sump pump fails due to a power outage or mechanical failure. Under normal conditions, the primary sump will start running when the water in the sump reaches a certain level. If a power failure occurs during a period of heavy rain, the water level will continue to rise past that level without the primary pump operating, and the water can build up in the footing drains and in the soil around the basement. Basement wetness can result from water pressure building up around the outside of the

basement walls, where it can seep through cracks in the concrete walls or floor. Water may also seep through the sump lid.

The decision to purchase a backup system is dependent upon each homeowner's individual needs. The factors that should be considered are the level of finish of the basement, the frequency of power outages, past wetness problems, and home elevation relative to surrounding areas. Power outages frequently occur during storm events and it is advisable to have a backup system installed if you are concerned about basement wetness.

21. What if I have a floor drain near the sump, wont the ground water seeping into the basement flow out through the floor drain near the sump?

Not necessarily. If the pump fails to pump out the ground water from your sump the water can build up in the footing drains and in the soil around the basement. Basement wetness can result from water pressure building up around the outside of the basement walls, where it can seep through cracks in the concrete walls or floor. The location that the water seeps through the basement walls or floor may not be near a floor drain and in that case the water may not drain out. Water may also seep through the sump lid into the basement and if there is a floor drain nearby the ground water may drain out through the floor drain without dispersing across the entire basement floor.

Please note that relying on draining the ground water out through the floor drain to the sanitary sewer system during a power outage or pump failure is counteractive to the goals of the footing drain disconnection program and it is not a reliable long term solution because it allows the water to enter the basement before it drains out, potentially causing damage.

22. What are the options for a backup system?

Backup sump pump systems are homeowner options and must be paid for by the homeowner. These backup systems exceed building code requirements and are considered a home improvement that is not fundable by City project dollars. The battery backup system is the most commonly chosen back up system by homeowners. For a short list of advantages and disadvantages of the different back-up sump pump systems please continue reading below. For further information regarding these back-up options please speak with a contractor or look up manufacturer information.

A battery back-up sump pump is an emergency backup pump that draws its power from an industry standard deep-cycle marine battery and pumps the water out of the sump during the loss of electricity or failure of the primary sump pump at half the capacity of the primary system. The pump is installed in the sump and the battery pack is on the floor nearby. Battery based systems are usually fully automatic and maintain a full charge while the power is on and switch over automatically when the power turns off (indicated by an alarm).

Advantages

- Low maintenance requirements other than replacing the battery and checking the distilled water level in battery.
- Low up front cost
- Easy to install
- Works if primary pump fails

Disadvantages

- Limited amount of energy in battery to power pump. Time varies by manufacturer of battery and backup pump, generally 7-24 hrs.
- Cost of battery replacement

A water powered back-up system is an emergency backup pump that uses the pressurized fresh water supply in the house to create suction that draws the water from the sump up through the discharge pipe to the outside of the house. It will require installing copper pipes from the nearest water supply pipe to the sump area. The pump starts automatically if the power turns off or if the primary pump fails.

Advantages
- Power provided by city water pressure. As long as there is water pressure in your house the backup pump will work.
- Works if primary pump fails

Disadvantages
- Uses about 2 gallons of pressurized fresh water to pump out 1 gallon of sump water. Water usage will show up on the water bill.
- More expensive installation cost than battery backup
- Every 3 years, a licensed certified plumber has to verify that sump water is not mixing with the pressurized potable water
- Additional water supply pipes around sump area
- Sump cover may not be radon sealed

A manual start portable gasoline generator could also be used to provide power to the primary pump. These can be found at hardware stores and can vary in price from a few hundred to several thousand dollars. It will require that an extension cord is run from generator outside the house to the sump pump. Before purchase you would also need to verify that the generator will meet your power needs including the sump pump.

Advantages
- May cost less than battery back-up pump
- Portable generator has multiple uses

Disadvantages
- Have to be home to start the generator
- May have to refuel generator often
- No second backup pump

An automatic standby generator can be used to power select circuits in the house such as the sump pump, furnace, refrigerator and other appliances during power outages. The generator would start automatically when the power goes off and can be installed to be powered by natural gas, propane or gasoline. Usually it has to be professionally installed.

Advantages
- Power selected circuits or entire house for longer periods of time
- Starts automatically

Disadvantages
- Installation and maintenance costs
- No second backup pump

23. If my sump pump fails to operate, isn't this as bad as having a basement backup?
No. If your sump pump fails, the water that comes out of your sump is clean water from the ground around your basement. Normally this would drain to the nearest floor drain. On the other hand, if there was a basement backup caused by a surcharged sanitary sewer system, there is the potential that much more flow would enter your basement. This water would contain sanitary sewage, which is a more significant problem to manage.

24. How will this effect local surface water issues? (We already have street/yard trouble)

The water that currently flows through the footing drains will be routed to the stormwater system or to an alternative discharge site like a rain garden for homes that can accommodate that within their yard. In very large storms when basement backups can take place, the stormwater drainage system is designed to pond these excess flows in the streets until the downstream drainage system can accommodate these flows. The FDD generated flows are a small portion of these flows and would normally result in less than an inch of additional standing water for short periods of time. A storm water system which holds back or delays a portion of the large volume of flow, caused by heavy rains, helps preserve the natural ecosystem of the Huron River.

25. I was told check valves were not allowed due to the potential to heave the basement floor. Is that true?

If footing drains are disconnected from the sanitary plumbing as part of a check valve installation, this problem will not occur. However, using check valves can result in heaving the basement floor IF installed when footing drains are still connected to the sewer system and if that sewer surcharges. The FDD program disconnects the footing drains from the sewer system and pumps the water out to discharge lines leading to the stormwater system to prevent this potential problem. The backflow prevention (check) valves that are installed on floor drains and other basement facilities as part of the FDD process are able to contain the pressure generated by the surcharged sewers in the basement plumbing.

26. How noisy is the pump? How often will it run?

The pump sounds much like a refrigerator motor. How often the pump runs depends on the amount of water being removed from your footing drains. In homes completed to date, this has been quite variable.

27. What happens if the discharge line freezes in the winter or is broken?

It is possible for the discharge lines to freeze as they are installed above the frost line. Normally, the water discharged from the sump pump is warm enough to flow without freezing to the storm drainage system. Additionally it is a cyclic flow which means it flows very fast while the pump is operating and hardly at all when not. This means that if the lines placed with the proper grade they should not contain water for an extended period of time therefore minimizing possible freezing. If it does freeze, there is an emergency air gap near the home that allows water to be pumped outside the house. Also, homeowner construction of fences and lawn watering systems could break the discharge line. In these cases, the emergency discharge would put the sump water next to the house until the homeowner can repair the line. The winter of 2002/2003 proved to be a good test for the potential of freezing discharge lines with several periods of extremely cold weather and a considerable frost depth. None of the 75+ installed discharge lines had any reported freezing problems.

28. How much will it cost to run my sump pump?

It has been estimated that the average property owner will pay less than a dollar a year for electricity to run the sump pump. Of course, some will be higher and some lower depending on the amount of water that is pumped.

29. If I have to replace the sump pump, what are the costs for doing this?

Sump pumps can be purchased from local home improvement and hardware stores for less than $150. Often the property owner can install these units, but it not, estimates to replace the

sump pump can be obtained from local plumbers. A common rule of thumb is that installation costs are equal to the equipment being replaced.

Legal Requirements

30. May I choose not to participate in the program? What are the consequences of that?

Participation in this program is mandated by city ordinance. The FDD program offers homeowners the opportunity to have the City pay for installation if the work is completed within the schedule of the program. If the homeowner does not comply with the notices to arrange disconnection, a surcharge of $100 per month will be charged to the homeowner for the additional costs associated with handling un-metered footing drains flows into the sewer system. Disconnection is still required and if done after the 90 day notice expires, the disconnection work would no longer be paid for by the city.

GLOSSARY OF TERMS

- *Check Valve* - pipe fitting or valve which allows flow in one direction only e.g., prevents flow from coming into the house but allows flow to leave the house when a backup condition does not exist
- *Computer Modeling* – Computer program used to simulate the behavior of the collection system.
- *Downspout* – This is the pipe that takes water from the roof gutters in most houses. This should discharge onto the lawn.
- *Flow Meters* – Used to measure flows in the sewer system.
- *Footing Drain* – A drainage pipe (or tile) that is installed around the foundation of most basements of houses. This drain makes sure that water in the ground does not make the basement damp. This is connected to the sanitary sewer, to a sump pump, or directly to the storm sewer.
- *House Leads* - sewer pipe connecting an individual house to the City sewer
- *Infiltration* – This is rainwater flow that enters the sanitary sewer system through underground cracks in sewers.
- *Infiltration Device* - underground chamber that handles flow discharged from the sump pump, this chamber allows water to infiltrate into ground rather than discharge to storm sewer (limited to sandy soils or other soils that drain well)
- *Inflow* – This is a direct connection from surface drainage into the sanitary sewer.
- *Manhole* – This is the access structure that allows field crews to inspect sewers.
- *Rain Gage* – Used to measure the amount of rain from storm events.
- *Sanitary Sewer* – Sewer pipe that conveys wastewater to the Ann Arbor Wastewater Treatment Plant.
- *Storm Sewer* – A different pipe that takes rainwater collected in catch basins located in the street and conveys these flows to a creek or river.
- *Sump Pump* - pumps footing drain flows from lowest drainage point (sump) to the City storm sewer
- *Surface Drainage* – Rainwater that flows down the street or yard to a storm drain or into a creek or river.
- *Wastewater* – The used water that flows down drains in your home.

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Footing Drain Disconnection HOMEOWNER INFORMATION

City of Ann Arbor
Public Services Area

Footing Drain Disconnection Program

www.a2fdd.com

PROJECT BACKGROUND

Within the City of Ann Arbor, there are groups of homes that have experienced basement backup problems. Many of these have been the result of wastewater backing up from the sanitary sewers through basement floor drains, especially during periods of heavy rainfall. This wastewater presents a potential health risk and can cause damage to the structure and to belongings stored in the basement.

In addition, this excess groundwater places a strain on the sanitary sewer system and must be treated at the Waste Water Treatment Plant. Due to current and future regulations in the State of Michigan, it is critical the Utilities Department minimize the amount of unnecessary groundwater sent as wastewater to the Treatment Plant.

In 1999, the City formed the Sanitary Sewer Overflow Prevention Advisory Task Force to understand the causes of basement backup and develop solutions to the problem. The Task Force was comprised of homeowners, city staff and experts in related disciplines. In addition, the Task Force hired the engineering firm of CDM to assist in the data gathering and analysis. Throughout the project, the Task Force sought to provide the public with project information and solicit homeowner feedback to develop a recommendation that meets the diverse needs of the citizens.

TASK FORCE FINDINGS AND SOLUTIONS

The Task Force study determined that during heavy storms, rainwater from home footing drains overloads the sanitary sewer system and is the primary cause of basement backups. It was determined that even homes with no current basement backup problems were significant contributors to the basement backup problem for neighboring homes.

There are basically two ways to handle this problem: either reduce the amount of rainwater entering the sanitary sewer system, or provide more capacity in the system to store or carry these flows. Based on analysis and public feedback, the Task Force determined that reducing the amount of rainwater entering the system would be preferable to the public, environmentally responsible and most cost effective.

Therefore, the Task Force recommended that the Mayor and City Council implement a comprehensive citywide footing drain disconnection program within the City of Ann Arbor in order to reduce the amount of rainwater flowing into the sanitary sewer system.

The Task Force recommended a citywide program for a number of reasons.

- This basement backup problem is not confined to the five study areas.
- All buildings with connected footing drains contribute to the basement backup problem.
- Footing drain disconnection supports the City in a proactive approach to pending regulatory guidelines in the State of Michigan.
- Decreasing the amount of storm water flow that gets to the Water Treatment Plant reduces both the costs of treatment and the chances for potential overflows into the Huron River.

WHAT IS FOOTING DRAIN DISCONNECTION?

As shown on Figure 1, footing drains are small (4-inch diameter), perforated drainage pipes located near the foundation of your house. They are intended to keep rainwater that seeps through the ground from building up along the foundation or basement walls. In many homes, the downspouts, which carry rainwater from the gutters, discharge near the foundation walls. This water drains through the soils and into the footing drains. In most homes constructed before the 1980s, the footing drains are connected to the house sanitary connection (house lead) as shown in the figure above. This house lead carries the footing drain flow and wastewater from the house to the sanitary sewer system.

When it is not raining this is not normally a problem, but during a severe storm event too much rainwater can enter the sanitary sewer system. This excess flow can cause the mixture of rainwater and wastewater to backup in the house lead of some homes and cause basement backups.

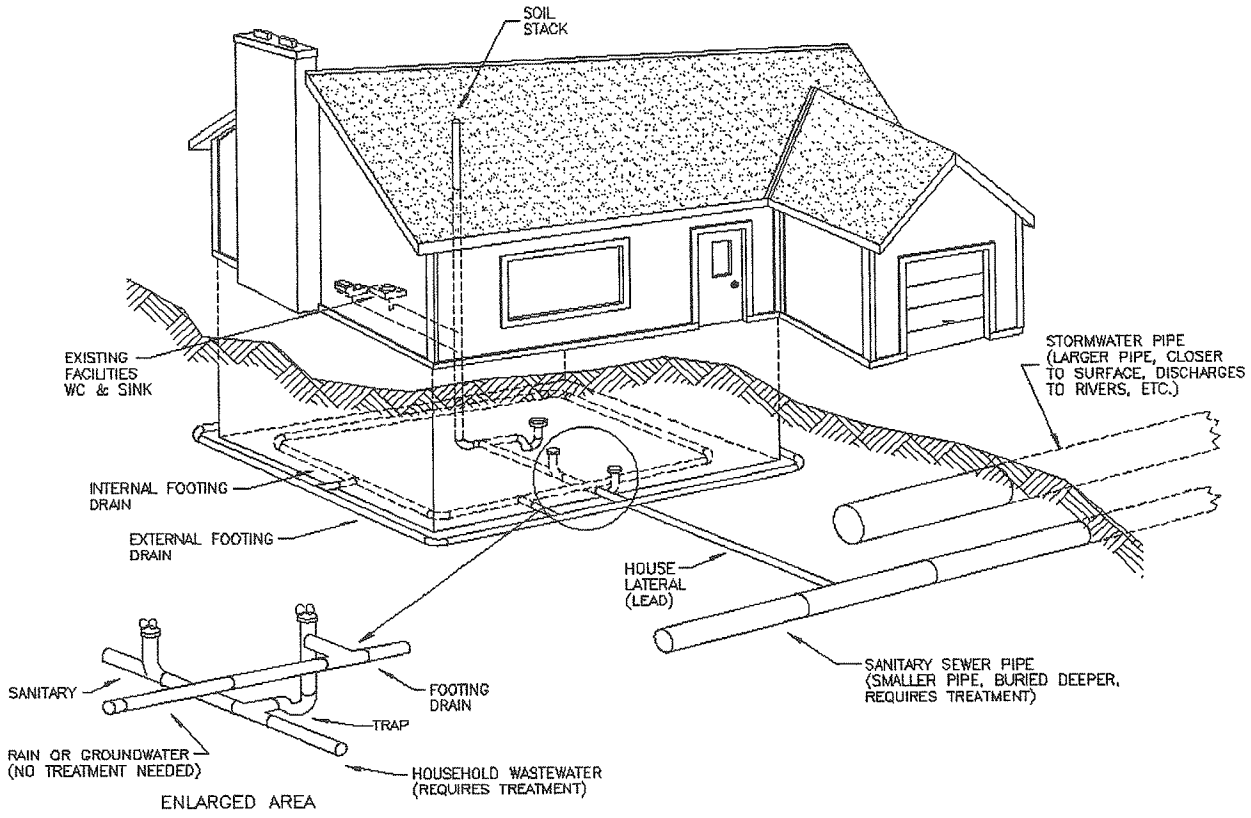

Figure 1 – Pre-construction Conditions

Footing drain disconnection is performed to remove the rainwater flows from the sanitary sewer system. This is done by disconnecting the footing drains from the house sanitary lead and installing a sump pump to move water from the footing drains into the storm water system. There may be some alternatives to sending the flow into the storm water system in some neighborhoods or homes. The creation of rain gardens or use of low areas in backyards are possibilities. A priority is placed on safe disposal of the storm water. For the vast majority of

homes the connection to the sanitary house lead is inside the basement, and the sump is installed in the basement as shown in Figure 2 below.

In homes that have experienced basement backups or are at risk for basement backup, the city can provide funding to install check valves to keep water from flowing back into the home from the sanitary sewer system.

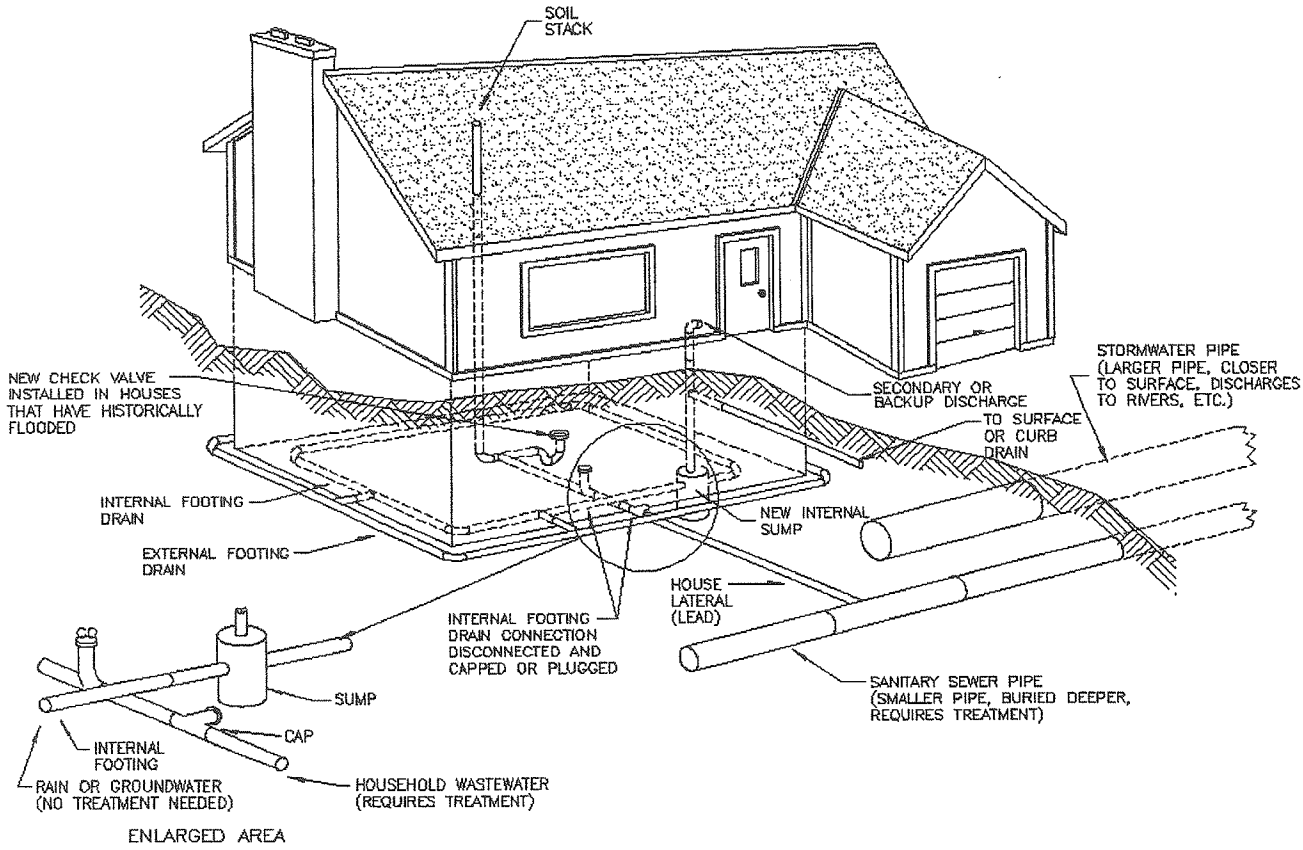

Figure 2 – Basement Sump Construction

WHY DISCONNECT FOOTING DRAINS?

The purpose of disconnecting footing drains is to keep rainwater out of the sanitary sewer system. During dry weather, the sanitary system has plenty of capacity to carry wastewater. In neighborhoods where footing drains are connected to the sanitary system, however, rainwater can overfill the sanitary system during heavy storms resulting in the rainwater/wastewater mix backing up into basements. Keeping rainwater out of the house 'lead' greatly reduces the amount of rainwater getting into the sanitary system, which protects downstream residents and reduces costs at the wastewater treatment plant. It also frees the house connection to carry wastewater to the sanitary system.

All homes built in the City of Ann Arbor since January of 1982 have disconnected downspouts and footing drains with sump pumps in the basements or with gravity discharge leads to a storm

water system. Surface discharge of downspouts allows more rainwater from roofs to be absorbed by the ground and reduces the amount of water being treated and released into the Huron River.

Footing drain disconnection has the following advantages:

- Protects homeowners who have had sanitary backups during severe storm events.
- Takes rainwater out of the sanitary system, reducing problems for downstream residents and eliminating treatment costs for the rainwater.
- Preserves natural features and protects watershed by minimizing undesirable discharges to the Huron River.
- Provides short-term and long-term protection for those at risk.
- Provides the lowest rate impact of all the possible solutions.

WHAT WILL HAPPEN AT MY HOME?

After you receive this homeowner information packet, you should contact the FDD Construction Manager (see page 8 for contact information) to arrange for the initial assessment at your home. This will be an excellent opportunity to ask specific questions about your home, and to learn more about the steps of the program. Next, you will choose from a list of pre-qualified contractors, obtain estimates and arrange a contract. (See page 8 for a list of the contractors) The actual construction work should take from 1 to 3 days of in-home construction. Construction photos are available on the project website www.a2fdd.com.

Curb drain installation work has most likely already been performed by a city hired contractor in the lawn extension area between the curb and sidewalk. The contractor installed a 6-inch diameter pipe with individual connections for each house that will collect the flows from sump pumps in individual homes and direct it to the storm sewer. Lastly the area that was disturbed was restored with new grass seeding and occasionally sidewalk or driveway aprons were replaced.

Initial Assessment will be conducted by the FDD Construction Manager with the homeowner and will include actions to:

- Determine if your footing drains are connected
- Identify possible locations for sump pump installation
- Assess site drainage options, including identification of any needed changes in downspout connections.
- Assess options for installation of sump discharge lead (piping) to an approved discharge location.

Inside work will be confined to the basement and will include:

- Removal of a section of the basement floor to access pipes and to install the sump.
- Disconnection of the footing drains from the house lead and routing of new discharge lines.
- Installation of a new electrical circuit.
- Installation of the sump and sump pump. The sump is typically 24 inches in diameter and 30 inches deep. The cover is sealed and level with the basement floor.

- Repairs to the work area (i.e., replacing concrete, tiles, etc.)
- For homes that have previously experienced basement backup or those deemed to be at-risk for basement backup, installation of check valves on all plumbing fixtures located in the basement or a single check valve to protect all facilities in the basement.
- Clean up of the work area.

Work in the yard includes:

- Installation of a small pipe to carry footing drain water from the sump pump to the previously installed curb drain or an approved alternative.
- Cleanup and restoration of any areas impacted by the installation.

WHAT WILL IT COST? HOW IS IT FUNDED?

The City will provide funding for the 'core' work. A typical household should cost $4,100 to disconnect. Exceptional circumstances within a household may warrant payment beyond the $4,100. Prior to signing a contract, a homeowner may request additional city support which will require competitive estimates from 2 different contractors. This request will be reviewed and may be approved by the City Project Manager and, if necessary, the City Administrator. Financing for this project comes from sewer use fees. Items funded include:

- Parts and labor for standard sump and pump installation
- Parts and labor for discharge pipes
- Parts and labor for electrical work
- Basic restoration of interior and exterior work areas including lawn reseeding and if necessary restoring the floor, ceiling surface or drywall patching.

The Homeowner will be responsible for the following costs where applicable:

- Additional features or restoration beyond what is required for basic installation and items classified as home improvements or exceed building code requirements (e.g. replacement of inadequate electrical service panel, construction of new enclosure for sump, etc.)
- Backup Sump Pump - In the event of a power failure, the primary sump pump will not function. This can result in groundwater collecting around the outside of your basement walls and floor where it can seep through cracks in the concrete or through the sump lid. The plumbing contractors can install, at the homeowner's expense, either battery or water-powered backup pumps that will operate during an electrical failure or if your primary pump fails. You need to assess your desire for this additional level of protection as only you can understand the impacts moisture would have on your belongings in your basement, and the frequency of power failures in your neighborhood. Based on our experience with power failures during storm events, homeowners are advised to strongly consider the need for a backup system. (See questions 20-23 in the Frequently Asked Questions section for additional information)
- Maintenance
- **Homeowner pays all costs plus a monthly surcharge** if the work is not completed within 90 days after receiving the 90-day notice to disconnect (see required timing below)

WHAT DO I NEED TO DO?

As a homeowner please review and complete the steps below to aid in a reliable and trouble free disconnection.

1. Become informed by reviewing the supplied materials in this packet and attending the scheduled neighborhood meeting.
2. Arrange an in-home assessment with a Construction Manager to determine the need for a disconnection, discuss your options for getting the work done and get all your questions answered. We ask that during the in-home assessment/pre-inspection, to please kindly put them away until after the assessment has been completed.
3. Review the list of pre-qualified contractors (page 8) and make an appointment with one or more to receive an estimate of costs for the work to be done in your home.
4. Review costs that are funded by the City and identify any additional options you may want or need to contract for at your personal expense.
5. Submit the necessary forms to secure funding pre-approval to the Construction Manager.
   - Form 1 –Reaffirms that you understand that the contractor you hire is responsible for the work done at your property not the city of Ann Arbor. This is required of every homeowner.
   - Form 2 – This is only needed if the estimated cost exceeds the limit of $4,100. Two estimates will be needed from different contractors for funding pre-approval above the $4,100.

     When funding has been pre-approved the construction management staff will notify you by phone.
6. Ensure that the footing drain disconnection work gets completed properly:
   - Arrange a contract to get the work done with your selected contractor.
   - Discuss scheduling and basement preparation with the contractor.
   - Clear the work area so that the contractor can perform the work. (Contractor will provide specifics). If desired, add additional dust protection to exposed areas.
   - Monitor the work underway to ensure it meets your contract agreements. Consult the Construction Manager if help is needed. The contractor will arrange for city building inspections to occur during the work.
   - Review finished work with the contractor to ensure you understand maintenance and operations of your system.
7. Host a final walkthrough/post-inspection with the Construction Manager to ensure that all work has been completed according to code and according to your contract. If all work has been completed as contracted, the city will issue payment to the contractor for the pre-approved amount.
8. Provide written feedback on the contractor and the overall project to the City.

WHEN DO I NEED TO COMPLETE THIS WORK?

The City and the construction management team work actively with property owners to ensure that all requirements of this program are understood and that construction occurs in timely manner. This packet is the first outreach to homeowners. Within the next two months, any homeowners who have not initiated a contract to disconnect will receive a courtesy reminder. If no action is taken following that reminder, property owners will then receive a certified letter from the city. By city ordinance, property owners are mandated to complete the disconnection of their footing drains within 90 days of receiving a certified letter entitled "90-Day Notice" from the City. If the disconnection is not completed by the end of the 90-days the homeowners risk losing city funding for the work and possibly a surcharge on their sewer bill of $100 per month for unmetered sewage entering the system. If adjustments need to be made to the mandated

timing for completion, please communicate directly with the Construction Manager to review the unique circumstances in your home.

CONTACT NAMES AND NUMBERS

Construction Management Staff:

- Construction Managers
  - Justin Woods ..... [734.794.2780]
  - Karen Duff ..... [734.794.2780]
- CDM Project Manager – Jay Zawacki ..... [734.794.2780]

City of Ann Arbor Staff:

- Project Manager – Anne Warrow .....[734.794.6410 ext. 43639]
- Interim Public Services Director – Craig Hupy ..... [734.794.6310]

PRE-QUALIFIED CONTRACTORS

Hutzel Plumbing
Contact: Nancy Cummins
2311 S. Industrial Highway
Ann Arbor, MI 48104
Phone: (734) 665-9111
Fax: (734) 665-9238

RDC Residential Services
Contact: Richard Connors
Plymouth, MI 48170-5823
Phone: (734) 564-2801
Fax: (734) 414-0729

Bidigare Contractors
Contact: John Bidigare
P.O. Box 700464
Plymouth, MI 48170
Phone: (248) 735-1113
Fax: (248) 735-1114

Perimeter
Contact: Steve Rojeck
8385 Jackson Road
Ann Arbor, MI 48103
Phone: (734) 424-9280
Fax: (734) 424-2037

FREQUENTLY ASKED QUESTIONS

Background Questions: Reasons for Back Ups, Alternative Solutions

1. Are there alternatives to managing the water other than Footing Drain Disconnection? Why was this option chosen?

The SSO Task Force studied the issue of basement backups in 2000 to 2001 and identified three viable alternatives to solving these problems; footing drain disconnection, installing larger sewer pipes and building storage basins. This work found that footing drain disconnection (FDD) addressed the root cause of the basement backups, which was stormwater entering the sewer system during rain events. On average, every home with a connected footing drain adds 3,500 to 10,500 gallons per year of clean water that must be conveyed to the Wastewater Treatment Plant and treated before release to the Huron River. FDD was cheaper overall and, very importantly, reduced the chance of exceeding the Wastewater Treatment Plant capacity. FDD also provides the greatest security of the solutions as its capability to work effectively is not limited to certain size rainstorms.

2. Can I avoid the need for footing drain disconnection if I take actions such as redirecting my downspouts, sloping soil away from the foundation or installing low flow fixtures?

While those are excellent approaches to reduce some causes of wet basements and to reduce the volume of water that goes to the Wastewater Treatment Plant, this will not prevent enough water from entering the sewer system inappropriately. Footing drains still collect much of the rainfall that enters the ground. To protect your own and your neighbors' basements, the large volume of water entering the sewer system from rain storms must not enter the sewer system and FDD is the practical means identified to do this.

3. Why do I need to have this done and not my neighbors?

All buildings that have connected footing drains are scheduled for FDD work over the coming years. The schedule was established on a priority basis to disconnect the homes identified as needing protection from future basement backups and to accommodate a cost efficient installation process within a neighborhood.

4. I get water in my basement now. Will this solve that problem or make it worse?

This work will only address basement water problems that are caused by heavy rain events resulting in basement backups through floor drains. It will not improve or worsen other causes of wet basements such as leaks through cracks in basement walls or floors due to poor site drainage and/or poor or blocked footing drainage pipes.

5. What is the role of development in this problem? These basement backups have happened since our neighborhood has grown.

In tracking the source of the heavy flows that entered the system during rain storms in the year 2000, a Task Force of engineering professionals and community members identified that footing drains contributed 70-90% of the total volume of flow in the sewer system making this source the major cause of basement backups.

The existing sanitary sewer system without footing drain flow is more than adequate to handle recent and future development as planned for in existing treatment plant designs. New developments do not have footing drains connected to the sanitary system and will not add wet weather flows to the collection system.

Installation Process: Costs, Homeowner Choices, Restoration

6. Do I have to use a particular contractor (low bidder)?
Homeowners choose which pre-qualified contractor they want to provide them a bid. Homeowners only need to arrange one bid if the work can be accomplished within the $4,100 average estimate. If costs exceed $4,100, two estimates are needed. The homeowner may select either of the contractors, but must pay the differential between the lowest bid and the higher bid if the more costly contractor is selected.

7. Can I use another contractor who is not pre-qualified?
No. The City of Ann Arbor has developed a process for pre-qualifying contractors so that it is clear that they understand the methods and materials needed for a complete installation. Using other contractors would be more expensive for Ann Arbor to manage and would reduce the ability to support quality construction. With several contractors already pre-qualified, there is adequate choice for homeowners to make a selection. Exceptions to using the pre-qualified contractors may be allowed but the homeowner may not receive full reimbursement for all costs not pre-approved for work using pre-qualified contractors. Homeowners are encouraged to seek information/guidelines for reimbursement from FDD project staff before beginning work eligible for FDD funding. Contractors willing to do this type of work are encouraged to contact the city to seek pre-qualification status.

8. Can I perform the disconnection work myself?
Yes. Homeowners can perform the work. In this case, the homeowner would need to apply for all of the necessary permits, would have to comply with the construction specifications and materials of construction, and would be reimbursed for materials only. This reimbursement would only be made after the Construction Manager had completed the final walkthrough/post-inspection of the work.

9. What will this cost me as a homeowner?
The City will cover the costs necessary to complete an installation of the sump and basic restoration. Homeowners may choose to pay for additional items to meet their desires for more security and enhanced restoration. Some homeowners choose to purchase a backup pump or do additional landscaping work.

10. What does basic restoration mean?
Basic restoration inside the home means returning the home to the level of finish it had previous to the work. Concrete is replaced and smoothed, tiles are replaced with a closest match of available tile and the work site is cleared and cleaned. Outside the home, holes are filled in and grass seed is sown.

11. How do I know the contractor is installing quality components?
All work done by the pre-qualified contractors is in compliance with a very specific set of specifications for both the components to be used and the process for disconnection.

12. What will happen to my yard?
Every effort is made to minimize the amount of excavation and disruption in the yard. The least amount of yard disruption would be a small hole near the foundation wall where the discharge line exits your home. For more difficult installations due to the topography, type of soil or location of the discharge line, a trench across the lawn may be needed.

13. How long does construction last? How dusty is it? How disruptive?
Construction lasts for 2-3 days. Contractors protect flooring and hang protective plastic to minimize the mess. There will be concrete removed and this can generate dust and is noisy. See homeowners' surveys for rating on contractor cleanliness and courtesy.

14. How will this affect the radon levels in my basement?
Everything that is installed in the basement will be sealed, protecting the home from any additional radon exposure. If you do chose to get a water powered back-up, the lid may not be fully sealed.

15. Will my floor drain still work?
Yes. Footing drain disconnection does not affect the functioning of the floor drains. If there is a floor drain that goes to your footing drains it must be abandoned by plumbing code.

Maintenance and Operations

16. Who owns/maintains the sump, pump and additional plumbing lines?
Once installed, the sump pump and lines are owned and maintained by the homeowner.

17. What happens when my sump pump doesn't work? What if the check valves (sewage backflow prevention devices) fail?
If your sump pump stops working, water from the footing drains will not be pumped out to your discharge lines and this water can collect in your basement. As with any primary appliance, it is critical that homeowners keep sump pumps in good repair. The design life of pumps is usually five years, but most sumps pumps will operate for 10 to 15 years before needing replacement. Check valves need to be tested and maintained regularly or they could fail to operate and allow a basement backup to occur.

18. Is there a warranty?
Yes, the work and the sump pump have warrantees through your contractor.
The sump pump warranty is normally 1 year. Warranty for installation work will be outlined in your contract with the contractor.

19. Why is the City mandating a system that has potential to fail when I have never had a problem related to this before?
Any system like this does have the potential to fail, typically because of a loss of power or because the sump pump fails to operate. However, the alternative is that your home or the home of your neighbor could experience a basement backup when footing drain flows overwhelm the sewer system and the Wastewater Treatment Plant in times of heavy storms. Building code in Ann Arbor and in most other communities changed in 1982 to require that footing drains use sump pumps or similar systems to direct footing drain flows to the stormwater system or to an alternative onsite system like a rain garden or detention basin.

20. What is a backup sump pump and why would I need one?
A backup sump pump is a secondary pump that will operate if the primary sump pump fails due to a power outage or mechanical failure. Under normal conditions, the primary sump will start running when the water in the sump reaches a certain level. If a power failure occurs during a period of heavy rain, the water level will continue to rise past that level without the primary pump operating, and the water can build up in the footing drains and in the soil around the basement. Basement wetness can result from water pressure building up around the outside of the

basement walls, where it can seep through cracks in the concrete walls or floor. Water may also seep through the sump lid.

The decision to purchase a backup system is dependent upon each homeowner's individual needs. The factors that should be considered are the level of finish of the basement, the frequency of power outages, past wetness problems, and home elevation relative to surrounding areas. Power outages frequently occur during storm events and it is advisable to have a backup system installed if you are concerned about basement wetness.

21. What if I have a floor drain near the sump, wont the ground water seeping into the basement flow out through the floor drain near the sump?

Not necessarily. If the pump fails to pump out the ground water from your sump the water can build up in the footing drains and in the soil around the basement. Basement wetness can result from water pressure building up around the outside of the basement walls, where it can seep through cracks in the concrete walls or floor. The location that the water seeps through the basement walls or floor may not be near a floor drain and in that case the water may not drain out. Water may also seep through the sump lid into the basement and if there is a floor drain nearby the ground water may drain out through the floor drain without dispersing across the entire basement floor.

Please note that relying on draining the ground water out through the floor drain to the sanitary sewer system during a power outage or pump failure is counteractive to the goals of the footing drain disconnection program and it is not a reliable long term solution because it allows the water to enter the basement before it drains out, potentially causing damage.

22. What are the options for a backup system?

Backup sump pump systems are homeowner options and must be paid for by the homeowner. These backup systems exceed building code requirements and are considered a home improvement that is not fundable by City project dollars. The battery backup system is the most commonly chosen back up system by homeowners. For a short list of advantages and disadvantages of the different back-up sump pump systems please continue reading below. For further information regarding these back-up options please speak with a contractor or look up manufacturer information.

A battery back-up sump pump is an emergency backup pump that draws its power from an industry standard deep-cycle marine battery and pumps the water out of the sump during the loss of electricity or failure of the primary sump pump at half the capacity of the primary system. The pump is installed in the sump and the battery pack is on the floor nearby. Battery based systems are usually fully automatic and maintain a full charge while the power is on and switch over automatically when the power turns off (indicated by an alarm).

Advantages

- Low maintenance requirements other than replacing the battery and checking the distilled water level in battery.
- Low up front cost
- Easy to install
- Works if primary pump fails

Disadvantages

- Limited amount of energy in battery to power pump. Time varies by manufacturer of battery and backup pump, generally 7-24 hrs.
- Cost of battery replacement

A water powered back-up system is an emergency backup pump that uses the pressurized fresh water supply in the house to create suction that draws the water from the sump up through the discharge pipe to the outside of the house. It will require installing copper pipes from the nearest water supply pipe to the sump area. The pump starts automatically if the power turns off or if the primary pump fails.

Advantages
- Power provided by city water pressure. As long as there is water pressure in your house the backup pump will work.
- Works if primary pump fails

Disadvantages
- Uses about 2 gallons of pressurized fresh water to pump out 1 gallon of sump water. Water usage will show up on the water bill.
- More expensive installation cost than battery backup
- Every 3 years, a licensed certified plumber has to verify that sump water is not mixing with the pressurized potable water
- Additional water supply pipes around sump area
- Sump cover may not be radon sealed

A manual start portable gasoline generator could also be used to provide power to the primary pump. These can be found at hardware stores and can vary in price from a few hundred to several thousand dollars. It will require that an extension cord is run from generator outside the house to the sump pump. Before purchase you would also need to verify that the generator will meet your power needs including the sump pump.

Advantages
- May cost less than battery back-up pump
- Portable generator has multiple uses

Disadvantages
- Have to be home to start the generator
- May have to refuel generator often
- No second backup pump

An automatic standby generator can be used to power select circuits in the house such as the sump pump, furnace, refrigerator and other appliances during power outages. The generator would start automatically when the power goes off and can be installed to be powered by natural gas, propane or gasoline. Usually it has to be professionally installed.

Advantages
- Power selected circuits or entire house for longer periods of time
- Starts automatically

Disadvantages
- Installation and maintenance costs
- No second backup pump

23. If my sump pump fails to operate, isn't this as bad as having a basement backup?
No. If your sump pump fails, the water that comes out of your sump is clean water from the ground around your basement. Normally this would drain to the nearest floor drain. On the other hand, if there was a basement backup caused by a surcharged sanitary sewer system, there is the potential that much more flow would enter your basement. This water would contain sanitary sewage, which is a more significant problem to manage.

24. How will this effect local surface water issues? (We already have street/yard trouble)

The water that currently flows through the footing drains will be routed to the stormwater system or to an alternative discharge site like a rain garden for homes that can accommodate that within their yard. In very large storms when basement backups can take place, the stormwater drainage system is designed to pond these excess flows in the streets until the downstream drainage system can accommodate these flows. The FDD generated flows are a small portion of these flows and would normally result in less than an inch of additional standing water for short periods of time. A storm water system which holds back or delays a portion of the large volume of flow, caused by heavy rains, helps preserve the natural ecosystem of the Huron River.

25. I was told check valves were not allowed due to the potential to heave the basement floor. Is that true?

If footing drains are disconnected from the sanitary plumbing as part of a check valve installation, this problem will not occur. However, using check valves can result in heaving the basement floor IF installed when footing drains are still connected to the sewer system and if that sewer surcharges. The FDD program disconnects the footing drains from the sewer system and pumps the water out to discharge lines leading to the stormwater system to prevent this potential problem. The backflow prevention (check) valves that are installed on floor drains and other basement facilities as part of the FDD process are able to contain the pressure generated by the surcharged sewers in the basement plumbing.

26. How noisy is the pump? How often will it run?

The pump sounds much like a refrigerator motor. How often the pump runs depends on the amount of water being removed from your footing drains. In homes completed to date, this has been quite variable.

27. What happens if the discharge line freezes in the winter or is broken?

It is possible for the discharge lines to freeze as they are installed above the frost line. Normally, the water discharged from the sump pump is warm enough to flow without freezing to the storm drainage system. Additionally it is a cyclic flow which means it flows very fast while the pump is operating and hardly at all when not. This means that if the lines placed with the proper grade they should not contain water for an extended period of time therefore minimizing possible freezing. If it does freeze, there is an emergency air gap near the home that allows water to be pumped outside the house. Also, homeowner construction of fences and lawn watering systems could break the discharge line. In these cases, the emergency discharge would put the sump water next to the house until the homeowner can repair the line. The winter of 2002/2003 proved to be a good test for the potential of freezing discharge lines with several periods of extremely cold weather and a considerable frost depth. None of the 75+ installed discharge lines had any reported freezing problems.

28. How much will it cost to run my sump pump?

It has been estimated that the average property owner will pay less than a dollar a year for electricity to run the sump pump. Of course, some will be higher and some lower depending on the amount of water that is pumped.

29. If I have to replace the sump pump, what are the costs for doing this?

Sump pumps can be purchased from local home improvement and hardware stores for less than $150. Often the property owner can install these units, but it not, estimates to replace the

sump pump can be obtained from local plumbers. A common rule of thumb is that installation costs are equal to the equipment being replaced.

Legal Requirements

30. May I choose not to participate in the program? What are the consequences of that?

Participation in this program is mandated by city ordinance. The FDD program offers homeowners the opportunity to have the City pay for installation if the work is completed within the schedule of the program. If the homeowner does not comply with the notices to arrange disconnection, a surcharge of $100 per month will be charged to the homeowner for the additional costs associated with handling un-metered footing drains flows into the sewer system. Disconnection is still required and if done after the 90 day notice expires, the disconnection work would no longer be paid for by the city.

GLOSSARY OF TERMS

- *Check Valve* - pipe fitting or valve which allows flow in one direction only e.g., prevents flow from coming into the house but allows flow to leave the house when a backup condition does not exist
- *Computer Modeling* – Computer program used to simulate the behavior of the collection system.
- *Downspout* – This is the pipe that takes water from the roof gutters in most houses. This should discharge onto the lawn.
- *Flow Meters* – Used to measure flows in the sewer system.
- *Footing Drain* – A drainage pipe (or tile) that is installed around the foundation of most basements of houses. This drain makes sure that water in the ground does not make the basement damp. This is connected to the sanitary sewer, to a sump pump, or directly to the storm sewer.
- *House Leads* - sewer pipe connecting an individual house to the City sewer
- *Infiltration* – This is rainwater flow that enters the sanitary sewer system through underground cracks in sewers.
- *Infiltration Device* - underground chamber that handles flow discharged from the sump pump, this chamber allows water to infiltrate into ground rather than discharge to storm sewer (limited to sandy soils or other soils that drain well)
- *Inflow* – This is a direct connection from surface drainage into the sanitary sewer.
- *Manhole* – This is the access structure that allows field crews to inspect sewers.
- *Rain Gage* – Used to measure the amount of rain from storm events.
- *Sanitary Sewer* – Sewer pipe that conveys wastewater to the Ann Arbor Wastewater Treatment Plant.
- *Storm Sewer* – A different pipe that takes rainwater collected in catch basins located in the street and conveys these flows to a creek or river.
- *Sump Pump* - pumps footing drain flows from lowest drainage point (sump) to the City storm sewer
- *Surface Drainage* – Rainwater that flows down the street or yard to a storm drain or into a creek or river.
- *Wastewater* – The used water that flows down drains in your home.

PAGE LEFT BLANK INTENTIONALLY to use for taking notes during neighborhood meeting, initial in-home assessment and/or meetings with contractors.

Exhibit C, Notice of Deposition of Abigail Elias

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

ANITA YU, JOHN BOYER, and
MARY RAAB,

Plaintiffs,

v.

CITY OF ANN ARBOR,

Defendant.

/

Case No.
Hon.

[formerly 22nd Circuit Court,
Michigan - Case No. 14-181-CC;
Hon. Donald E. Sheltonj

Irvin A. Mermelstein (P52053)
Attorney for Plaintiffs
2099 Ascot St.
Ann Arbor, MI 48103
(734) 717-0383
nrglaw@gmail.com

M. Michael Koroi (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170
(734) 459-4040
mmkoroi@sbcglobal.net

Woods Oviatt Gilman, LLC
By: Donald W. O'Brien, Jr., Esq.
Pro Hac Vice Application pending in
22nd Circuit Court, Michigan
Co-Counsel for Plaintiff
2 State St., 700 Crossroads Bldg.
Rochester, NY 14614
(528) 982-2802
dobrien@woodsoviatt.com

Office of the City Attorney
Stephen K. Postema (P38871)
Abigail Elias (P34941)
Attorneys for Defendant City of Ann
Arbor
301 E. Huron St., P.O. Box 8647
Ann Arbor, MI 48107
(734) 794-6170
spostema@a2gov.org
aelias@a2gov.org

/

Exhibit C, Notice of Deposition of Abigail Elias

STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ANITA YU, JOHN BOYER, and MARY JEAN RAAB,

Plaintiff,

Hon: Donald E. Shelton
Case No. 14-181 CC

vs.

THE CITY OF ANN ARBOR,

Defendant.

/

IRVIN A. MERMELSTEIN (P52053)
Attorney for Plaintiffs
2099 Ascot St.
Ann Arbor, MI 48103
734-717-0383

M. MICHAEL KOROI (P44470)
Co-Counsel for Plaintiffs
150 N. Main St.
Plymouth, MI 48170
734-459-4040

/

NOTICE OF TAKING DEPOSITION OF ABIGAIL ELIAS

TO: Defendant City of Ann Arbor

Please take notice that the deposition upon oral examination of Defendant's managing agent and employee Abigail Elias shall be taken before a Notary Public on Thursday, April 10, 2014 at 10:30 a.m. at Office of the City Attorney, Larcom Building, 301 E. Huron, Ann Arbor, Michigan. This deposition is being taken pursuant to MCR 2.305, 2.306, and 2.308.

Respectfully submitted,

M. Michael Koroi

M. MICHAEL KOROI (P44470)
Attorney for Plaintiffs

March 7, 2014
boyer.not