



# Public Information Meeting

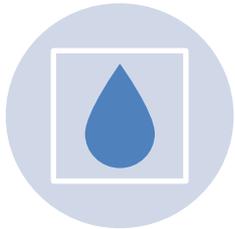
## **North Cedar Heights / Park Drive I & I Reduction Program**

**City of Cedar Falls, IA**

**April 5, 2022**



# Meeting Objectives



**What is Infiltration and Inflow?**



**Why are we doing this program?**



**Discuss program approach and details**



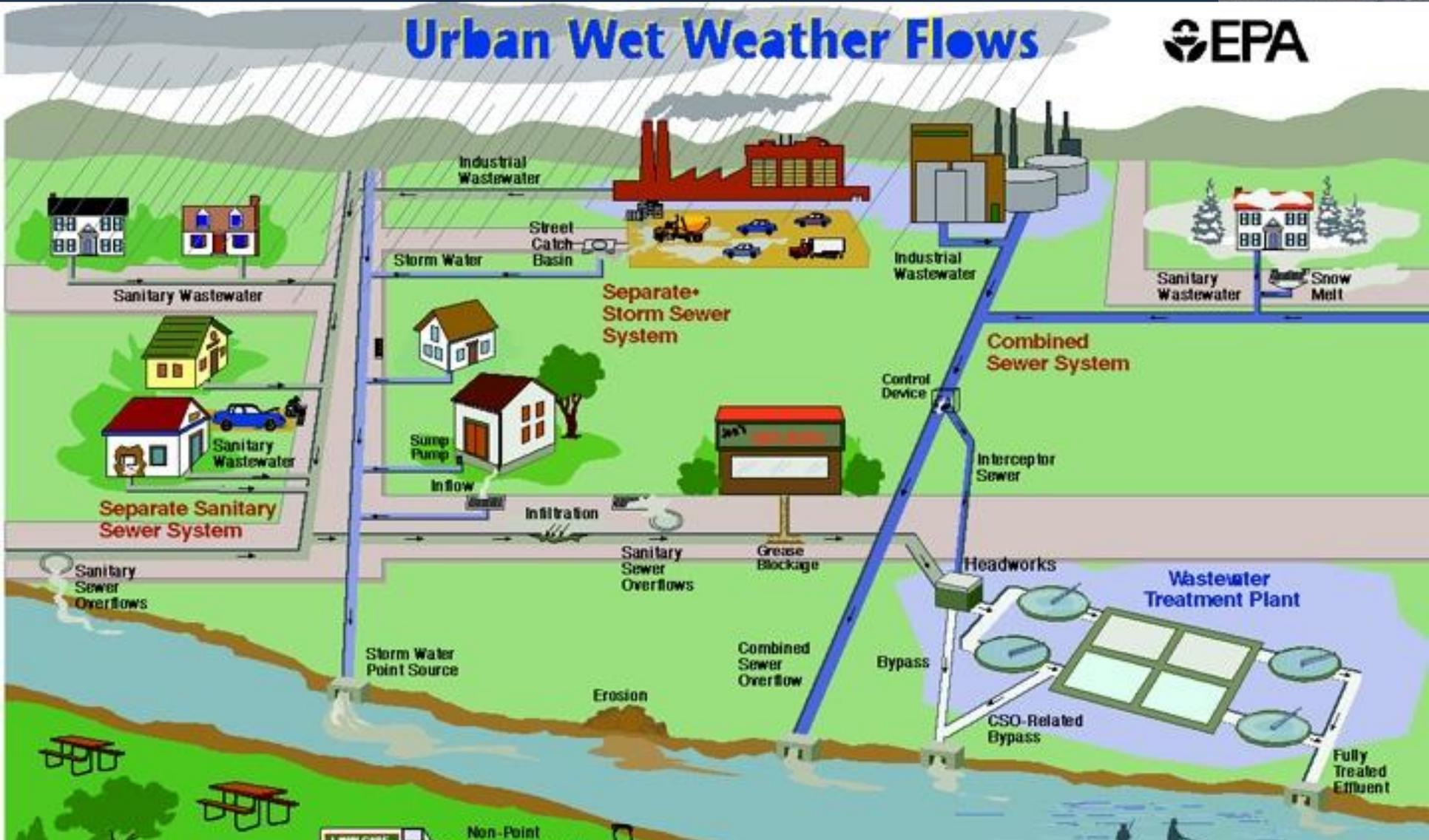
**Frequently asked questions**

# Introductions

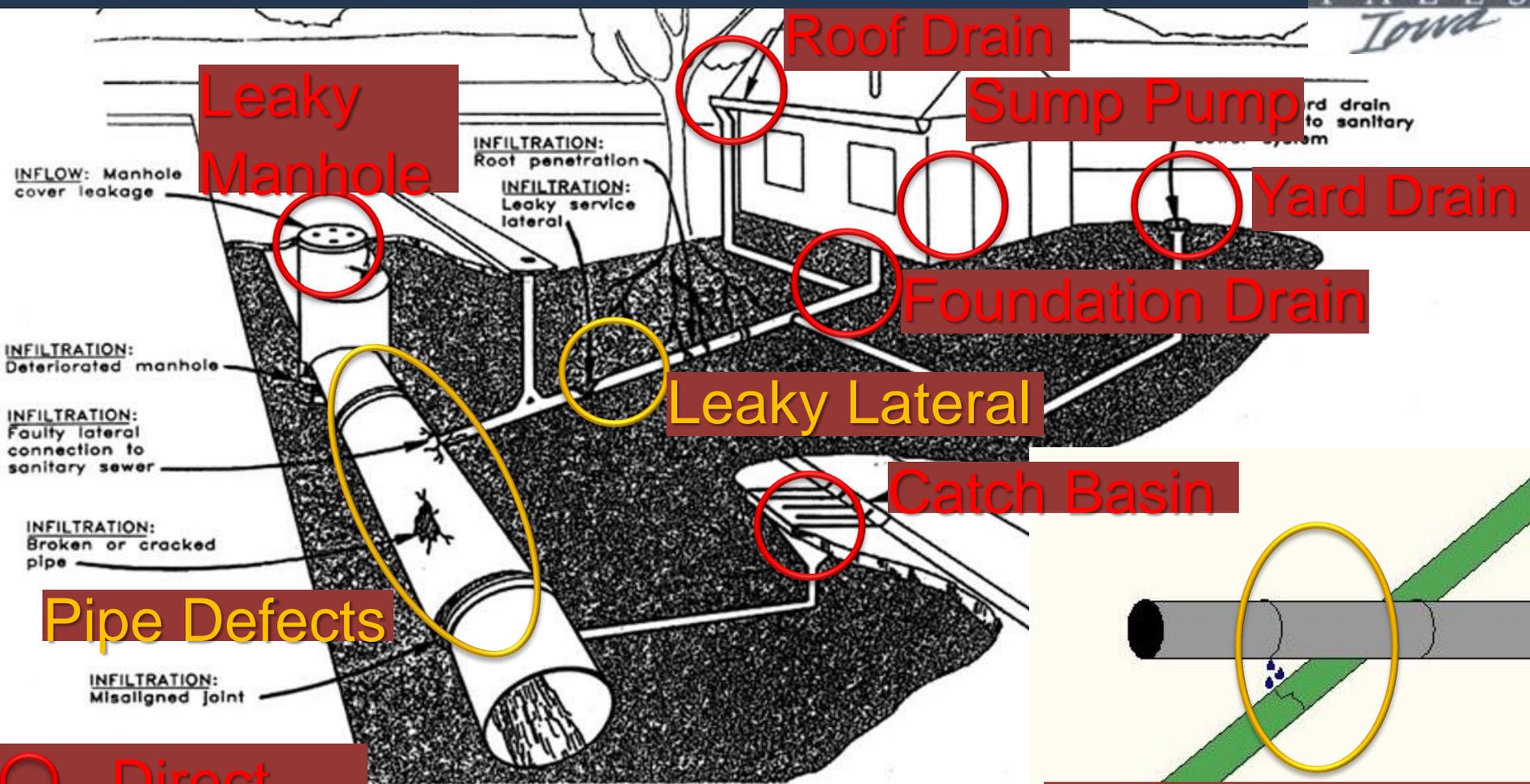
- **WHKS & Co. is a multidisciplinary Civil Engineering Firm headquartered in Mason City, Iowa, with offices in Ames, Rochester MN, East Dubuque & Springfield IL.**
- **Angie Kolz, PE is practice area leader for WHKS & Co water/wastewater department. WHKS has assisted over 30 Iowa and Minnesota communities with sump pump I&I reduction projects.**

# What is I/I? Inflow and Infiltration

## Urban Wet Weather Flows



# Some Sources of I/I



- Direct
- Indirect

## SANITARY SEWER PROBLEMS

Indirect  
 Connection

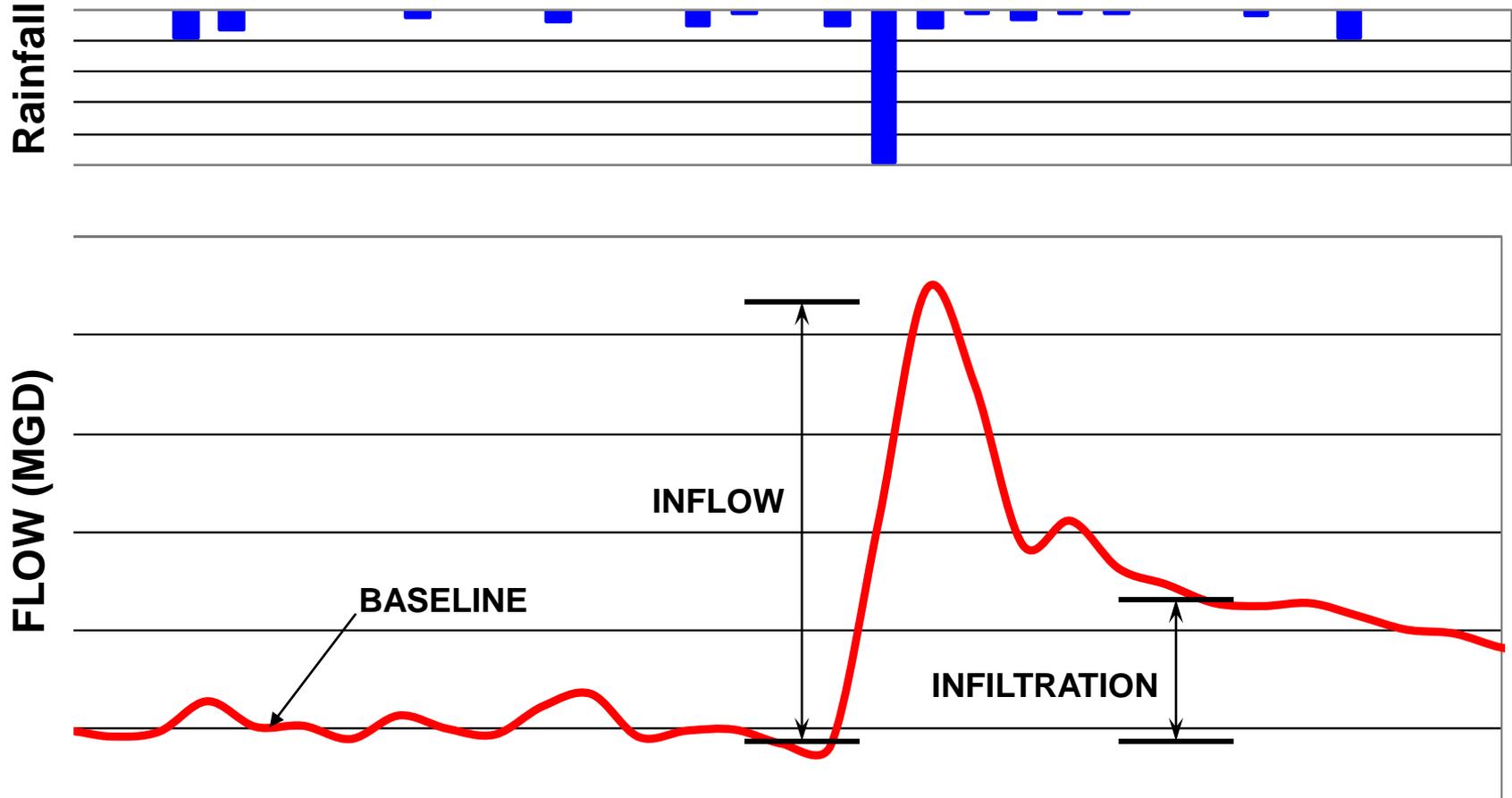
# I/I in Cedar Falls

## Cedar Falls System Description:

Average Dry Weather (ADW) flow (MGD): 4.5

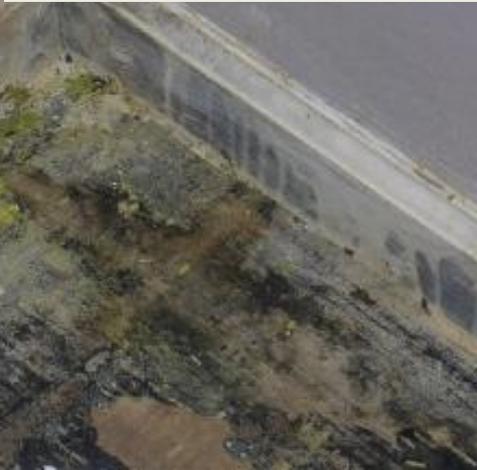
Average Wet Weather (AWW) flow (MGD): 8.8

Maximum Wet Weather (MWW) flow (MGD): 21.6 **480% average**



# Consequences of Excessive I/I

Low customer satisfaction  
Costs greater than needed  
Potential health risks  
Property damage  
Regulatory actions





# I/I's Effects on Cedar Falls

Lift Station Upgrades

Sewer Rate Increases

Sanitary Sewer Overflows

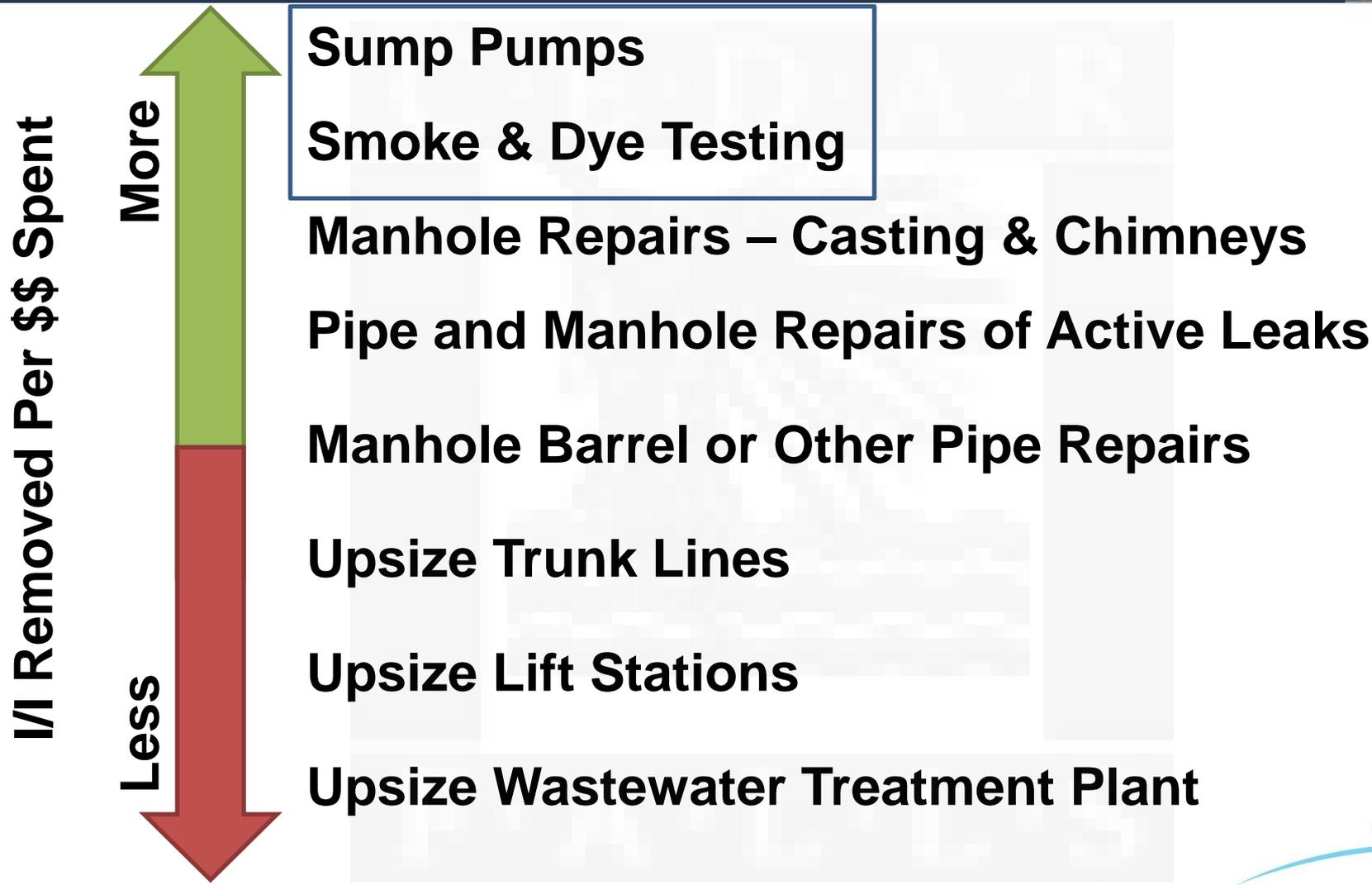
EPA Enforcement Order

F·A·L·L·S

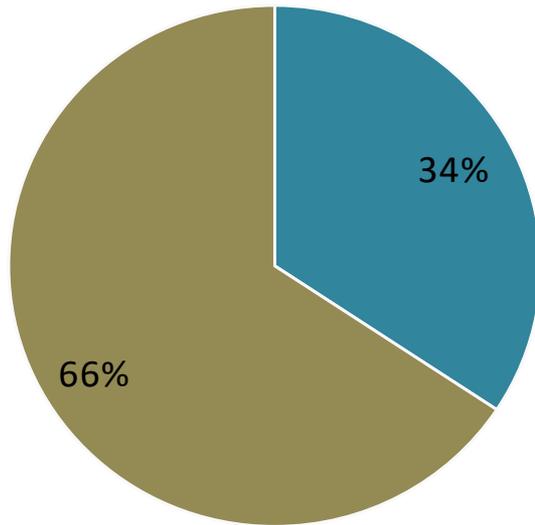
# Why are we doing this program?

- **Removing I/I will be required by EPA**
- **Sump pump programs are typically the MOST cost effective method to reduce I/I in the system.**
- **Removing I/I from the sanitary sewer:**
  - **Saves Money: Reduces future rate increases**
  - **It's the Neighborly thing to do: Reduces potential for backups & property damage**

# Bang for your Buck



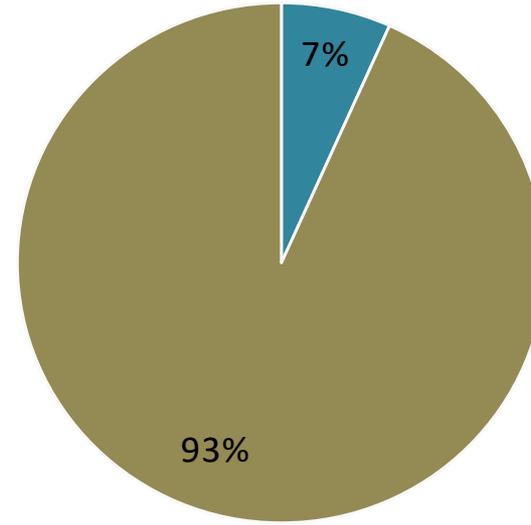
# Example Flow Removal & Cost Public Sector vs. Private Sector



■ Private ■ Public

**Sources of I/I**

vs.



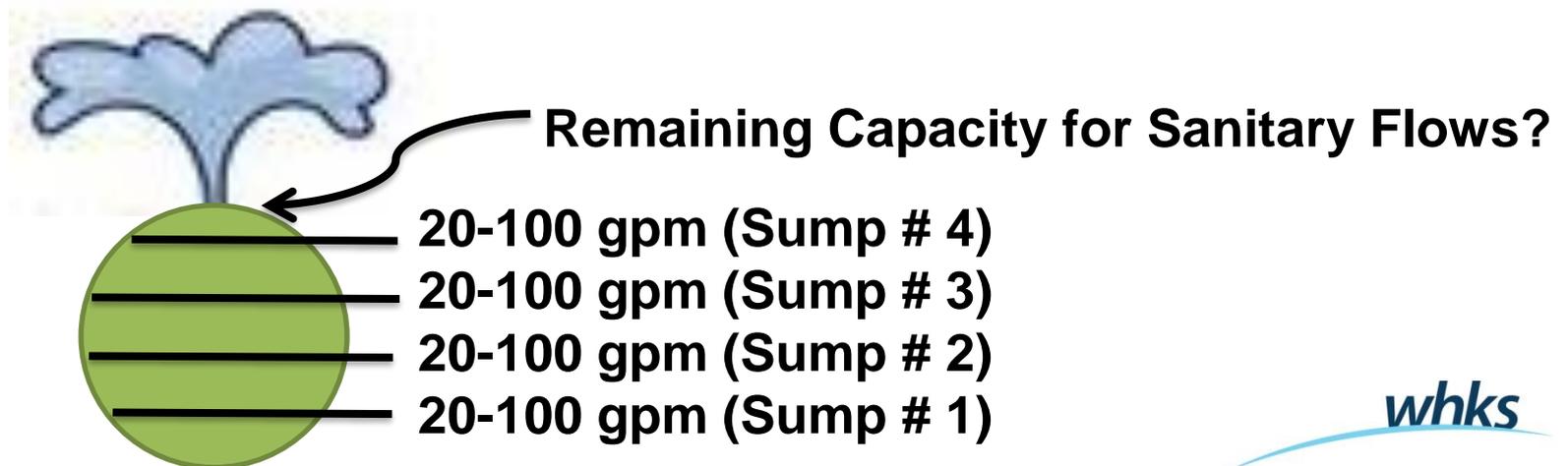
■ Private ■ Public

**Cost to Remove I/I**

Example from Kutzky/Slatterly Pilot I/I Study, Rochester MN 2008  
National averages range from 50/50 - 75/25

# Why a Sump & Lateral Program?

- **A few sump pumps can make a big difference**
  - **Typical sump pump 20-100 gpm apiece**
  - **Typical 8" sewer capacity 350 gpm.**
  - **As few as FOUR pumps can take up the pipe capacity and cause a backup in the neighborhood.**



# Why a Sump & Lateral Program?

## Perspective:

- 7% violation rate out of 3,500 sump inspections completed in Cedar Falls citywide program
- Hypothetically, if 7% rate applied to the Park Drive program area:
  - Approx. 180 homes x 7% = 13 violations
  - If each pump contributed 50 gpm, 8 hours/day = 300,000 gpd I/I from Park Drive area

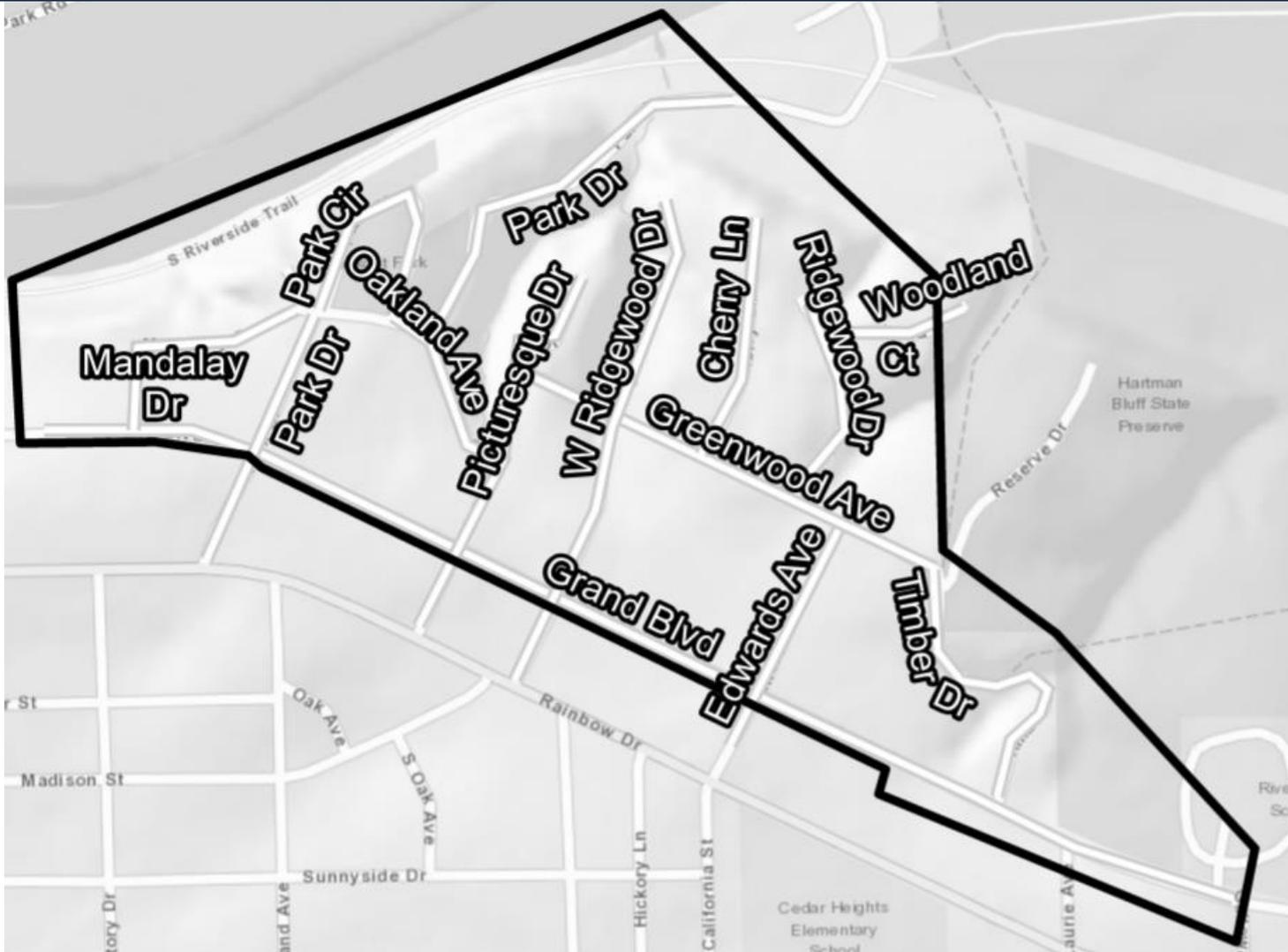
# Why a Sump & Lateral Program?

- The jump in flows during wet weather is evidence that clear water is entering the system.
- I/I sources are typically 50/50 Public vs Private, recent studies as high as 25/75 Public vs Private
- Removing Inflow/Infiltration (I/I):
  - Reduces Backups
  - Protects Health
  - Controls Costs

# Program Approach

- **Public Information**
- **Public Meeting**
- **Scheduling**
- **Inspection**
- **Correction**

# 2022 Area



*whks*

# Public Information



**Information available on the web at  
[www.ParkDrill.com](http://www.ParkDrill.com)**



Park Drive I & I Reduction Program

News and Updates - updated 3/25/2022

A public information meeting is scheduled for Tuesday, April 5th, 2022 at 6:00 PM in the Community Center located at 528 Main Street. The meeting will provide information on the I & I Reduction Program in the North Cedar Heights / Park Drive area and provide information on the upcoming clear water inspections. Notes from the meeting will be posted on the Notices section of this web site following the meeting.

About the Program

**A successful program benefits the City by**

- reducing backups,
- protecting health, and
- Controlling costs

*whks*

# Public Meeting Letter



## DEPARTMENT OF PUBLIC WORKS

ENGINEERING DIVISION  
220 CLAY STREET  
319-268-5161  
FAX 319-268-5197

OPERATIONS & MAINTENANCE DIVISION  
2200 TECHNOLOGY PKWY  
319-273-8629  
FAX 319-273-8632

WATER RECLAMATION DIVISION  
501 E. 4TH STREET  
319-273-8633  
FAX 319-268-5566



March 25, 2022

Dear Current Resident:

As part of the City of Cedar Falls I&I Reduction Program, the City will be conducting sump and lateral inspections in the North Cedar Heights / Park Drive area this spring. The purpose of this letter is to invite you to a public information meeting to learn more and ask questions about the program.

### The Program

Like many cities in Iowa, Cedar Falls faces a challenge. During very wet weather the sanitary sewer system is overloaded by excess ground water and rain water (clear water). Overloaded sewers lead to basement backups and overflows of untreated sewage into the river. This is a health concern and environmental issue.

In December of 2021, the City conducted smoke testing of the sanitary sewer system in this neighborhood to detect sources of clear water into the system. The testing was successful, and the defects found will be repaired in an upcoming street improvements project.

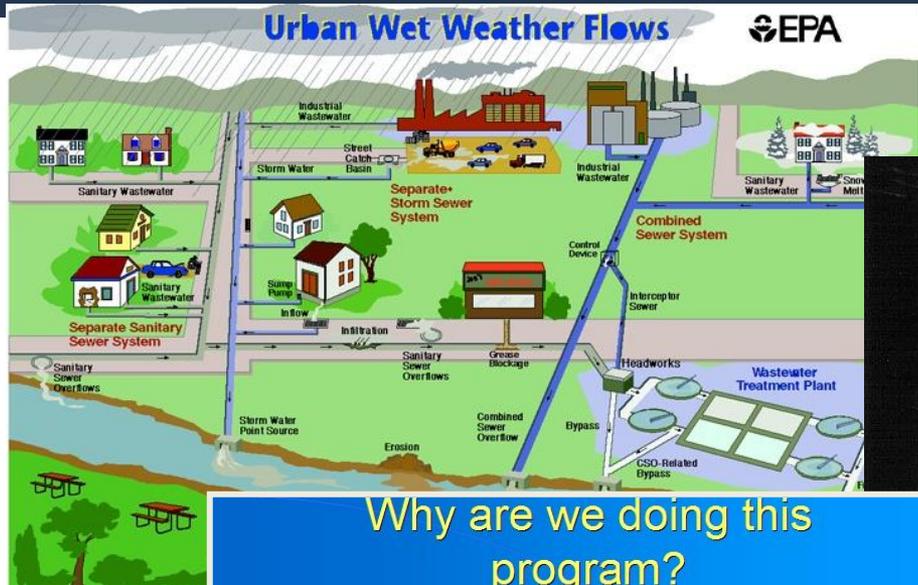
The next step in the Program is to check for and remove clear water cross connections from private sources such as sump pumps, seepage collection drains, area drains, and footing drains. The public meeting is intended to provide more information on this phase of the Program.

### Public Information Meeting

A public information meeting is scheduled for Tuesday April 5, 2022 at 6:00 PM in the

*whks*

# Informational Meeting



**Why are we doing this program?**

- ❖ Cheaper to reduce wastewater than to transport and treat
- ❖ Sewer replacement to upsize pipe, ~ \$40,000 per block – (2.5 blocks for cost of this program)
- ❖ Duluth, MN Study - \$4/gal to treat, \$1/gal to remove

WHKS & CO.

# Scheduling



- **All inspections are scheduled, no door-to-door inspections.**
- **Scheduling is fast and easy**
- **Schedule through website or telephone**
  - ParkDrill.com or toll free 1-833-509-0270
- **Residents will receive a letter when it is time for their sector to schedule inspections.**

# Scheduling Website



ParkDrill.com

Park Drive I & I

HOME CONTACT PROGRAM INFORMATION FAQs NOTICES **SCHEDULE INSPECTION**



## Park Drive I & I Reduction Program

### News and Updates - updated 3/25/2022

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### About the Program

Like many cities in Iowa, Cedar Falls faces a challenge with its sanitary sewer system. During significant rainfall events the system is overloaded by excess ground water and rain water (clear water), known as inflow & infiltration (I&I). Overloaded sewers lead to basement backups and overflows of untreated sewage into the Cedar River. This is a health concern and environmental issue.

The City is being pressured by the U.S. Environmental Protection Agency (EPA) to reduce the volume of clear water that enters the sanitary sewer system.

The City has already invested millions of dollars in improving the public sewer mains and lift stations. However, it isn't enough to solve the problem.

The Park Drive I&I Reduction Program seeks to reduce I&I from public and private pieces of the sanitary sewer infrastructure, to reduce overloaded sewers, enhance public and water quality safety, and increase longevity of the investments made by sewer rate payers into the system.

In December of 2021, the City conducted smoke testing of the sanitary sewer system in in this neighborhood to detect sources of clear water into the system. The testing was successful, and the defects found will be repaired in an upcoming street improvements project.

The next step in the Program is to check for and remove clear water cross connections from private sources such as sump pumps, seepage collection drains, area drains, and

whks

# Scheduling and Info Website

## ParkDrill.com

### Schedule Inspection

This building does not have an inspection scheduled.



#### [Schedule Inspection](#)

Select a time for an inspection of 1335456 test.



#### [Edit Notes](#)

Provide special instructions for inspectors or other information about your property.

When inspection is complete, comeback here for report and lateral inspection video (if applicable).

Note - Report and lateral inspection video may take up to one (1) week after inspection is completed to be uploaded.



#### [Lateral Inspection Video](#)



#### [Inspection Report \(PDF\)](#)



# Scheduling and Info Website

## ParkDrill.com

### Scheduling Calendar

			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25

**April 22**

Click the time below to schedule.

- 7:15am - 7:30am
- 7:30am - 7:45am
- 9:15am - 9:30am
- 9:45am - 10:00am
- 10:30am - 10:45am
- 11:00am - 11:15am
- 11:15am - 11:30am
- 11:30am - 11:45am
- 11:45am - 12:00pm
- 12:00pm - 12:15pm
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- 3:30pm - 3:45pm
- 3:45pm - 4:00pm
- 5:00pm - 5:15pm
- 5:15pm - 5:30pm
- 5:45pm - 6:00pm
- 6:00pm - 6:15pm



# Scheduling and Info Website

## ParkDrill.com

### Resident Log Out & Appointment Confirmation

## You are Logged Out

Yay!

You have logged out. You have an inspection appointment scheduled for 04/21/2015 8:00 AM Thank you for participating in this program.



# The Inspection

- **Completed in under 30 minutes**
- **Adult must be present**
- **Inspector looks at:**
  - **Sump pumps**
  - **Beaver drains**
  - **Roof drains**
  - **Footing drain connection to sanitary lateral**
  - **Site grading**
- **Informational diagrams are distributed if needed**
- **Report and notices will be mailed for your records *whks***

# Inspection Form



Inspector \_\_\_\_\_  
 Plumbing License Number \_\_\_\_\_

**City of Cedar Falls  
 Sump Pump and Lateral Inspection Report**

**A. Initial Inspection**

1. Owner and Address:
  - a. Owner Name(s): \_\_\_\_\_
  - b. Address: \_\_\_\_\_
  - c. Occupants Name (If different): \_\_\_\_\_
  - d. Owner Address (s): (If different) \_\_\_\_\_
2. Date of Initial Inspection: \_\_\_\_\_
3. Date of construction and Building Type? Building built in year \_\_\_\_\_ (ex. 1959)  
 Note residential, apt., commercial, industrial: \_\_\_\_\_
4. History of backups or flooding? Note date, source, and actions taken: \_\_\_\_\_
5. Does building have:
  - a.  Yes  No Exterior grading sloping towards the building?
  - b.  Yes  No Roof drains that go into the ground?
  - c.  Yes  No Basement?
  - d.  Yes  No Seepage collection (beaver) system?
  - e.  Yes  No Sump pit?
  - f.  Yes  No Lateral Inspection Conducted?
6. If building has a **roof drain** that goes into the ground, which of the following apply?
  - a.  It is properly constructed to discharge to open air or storm system.
  - b.  It is improperly constructed to discharge into the sanitary sewer system.
  - c.  Discharge location not determined.
7. If there is a **seepage collection (beaver) system**, which of the following apply?
  - a.  It is properly constructed to discharge into a sump pit
  - b.  It is improperly constructed to discharge into the sanitary sewer system.
  - c.  Discharge location not determined.
8. If there is a **sump pit**, which of the following apply?
  - a.  Pump is properly plumbed to discharge outside the basement through rigid piping.
  - b.  Pump is improperly plumbed to discharge into the sanitary sewer system.
  - c.  Pump has the capability of discharging into the sanitary sewer system (ex. flex hose).
  - d.  There is a pit with no pump. Plumbing is checked as (a) (b) or (c) if present.
  - e.  Discharge location not determined.
9. If **lateral inspection** is conducted, which of the following apply?
  - a.  No Suspect Foundation Drain Found
  - b.  Suspect Foundation Drain Found
  - c.  Suspect Foundation Drain not determined. (Note Why in Comments)
10. If lateral inspection is conducted, fill in information below.
  - a. General Information
    - i. Pipe Diameter (inches) \_\_\_\_\_
    - ii. Pipe Material (VCP, PVC, DIP, RCP, CMP, CIP, Obj, other) \_\_\_\_\_
    - iii. CCTV Start Location (i.e. Sewer main, Toilet, Sewer stack, etc) \_\_\_\_\_
    - iv. CCTV Start Distance from Foundation Wall \_\_\_\_\_  
 (i.e. Along the alignment of the pipe, how far is the foundation from point of insertion? ft)
  - b. Observations (Note footage (ft) of each instance)
    - i. Roots \_\_\_\_\_
    - ii. Mineral/Unknown Deposits \_\_\_\_\_
    - iii. Chipped/Cracked Pipes \_\_\_\_\_
    - iv. Offset Joints \_\_\_\_\_
    - v. Sags/Deflections \_\_\_\_\_
    - vi. **Suspect Foundation Drains** \_\_\_\_\_

Property Address \_\_\_\_\_

11. Other comments (exterior drains, uncapped cleanouts, inactive sump pit, suspect foundation drain etc):  
 \_\_\_\_\_  
 \_\_\_\_\_

12. Photos taken of Interior Sumps and Collection System, and Building Exterior?  Yes  No

13. Lateral Inspection Video Submitted on USB-drive (required for lateral inspection)?  Yes  No

Video is required to show the point of insertion into the sanitary sewer to 20-feet past the repair (if reinspection) or foundation (initial inspection). Address only needs to be displayed at the beginning of the video. Footage needs to be displayed on the screen at all times. Failure to comply with these requirements or provide a clear video for City review will void the inspection. File name \_\_\_\_\_

14. If 6b, 7b, 8b, 8c, 8d or 9b was checked, a Violation Notice was given to the Occupant or Owner directing them to correct the violation by (date): \_\_\_\_\_

PASS \_\_\_\_\_ FAIL \_\_\_\_\_ City Follow-Up \_\_\_\_\_

*DIAGRAM: roof drains into ground, exterior drains, improper grading, sump pits and pumps, sump pump discharges, beaver systems, sanitary grinder pumps, footing drain connections, etc....*

- B. Subsequent Inspection - Date \_\_\_\_\_**
1. Inspection conducted by \_\_\_\_\_
  2. Does the building now comply with the applicable Ordinance for the City of Cedar Falls?  
 Yes  No

**The inspection is not considered completed until reviewed by the City of Cedar Falls. The City will review submitted documentation to verify requirements are met. Results provided by the contractor/plumber may differ from the City review.**

I hereby verify that the building stated above has been inspected for the above-described sump pump, lateral (if applicable) and the information set forth above is true and correct to the best of my knowledge.

Occupant/Owner \_\_\_\_\_

Date \_\_\_\_\_

I hereby verify that the building stated above has been inspected for the above-described sump pump, lateral (if applicable) and the information set forth above is true and correct to the best of my knowledge.

Inspector \_\_\_\_\_

Licensed Plumbers: sign with license #.

Date \_\_\_\_\_



# Inspector Identification



- All inspections are scheduled
- No door-to-door
- WHKS logos on
  - Badges
  - Clothing
  - Vehicles



# COVID-19 Safety

- 1. Our staff will wear masks into all homes for inspection**
- 2. We will take temperatures of our inspectors each day**
- 3. We will eliminate the signature at the end of the inspection to make it contactless.**



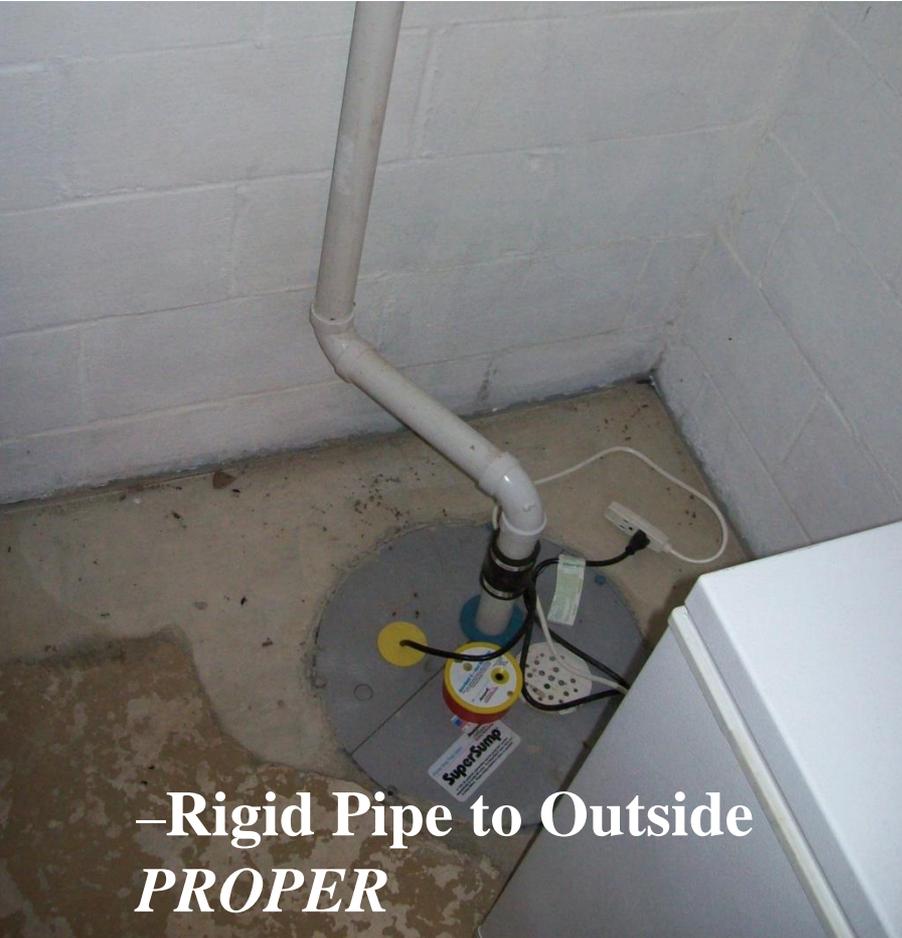
# COVID-19 Safety (Cont.)

**We have the following requests during the inspection:**

- 1. Request no more than 1 person accompany us**
- 2. Request maintaining a distance of 6' from inspector**
- 3. Request the resident also wear a mask**

**Resident scheduling an inspection are indicating that no one in the household has had symptoms or a positive COVID test, and will cancel the inspection if this changes**

# Installation Examples: Sump Pumps

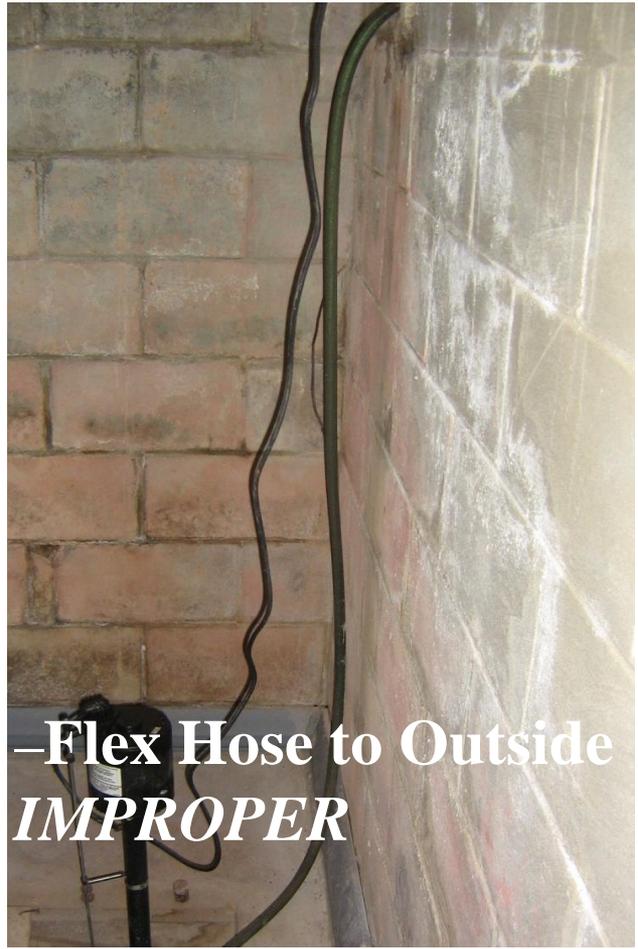
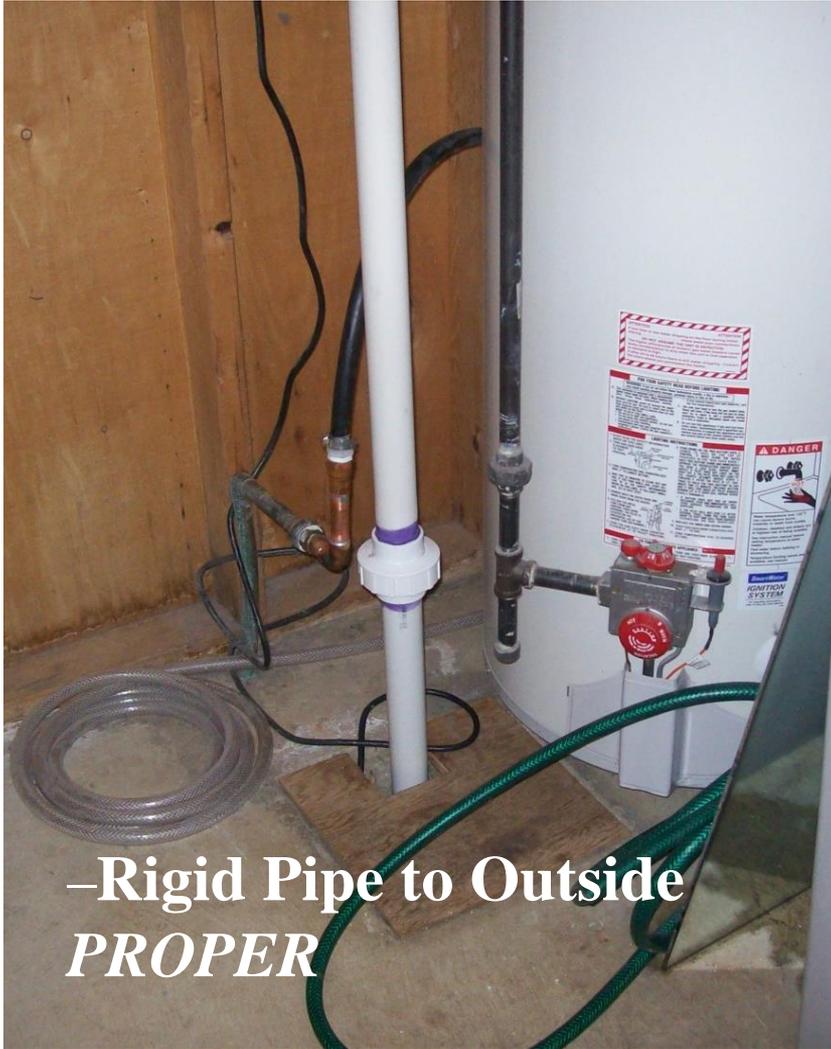


-Rigid Pipe to Outside  
**PROPER**



-Flex Hose to Drain  
**IMPROPER**

# Installation Examples: Sump Pumps



# Installation Examples: Sump Pumps



**Flex Hose to  
Sanitary  
via stool**

***No.***

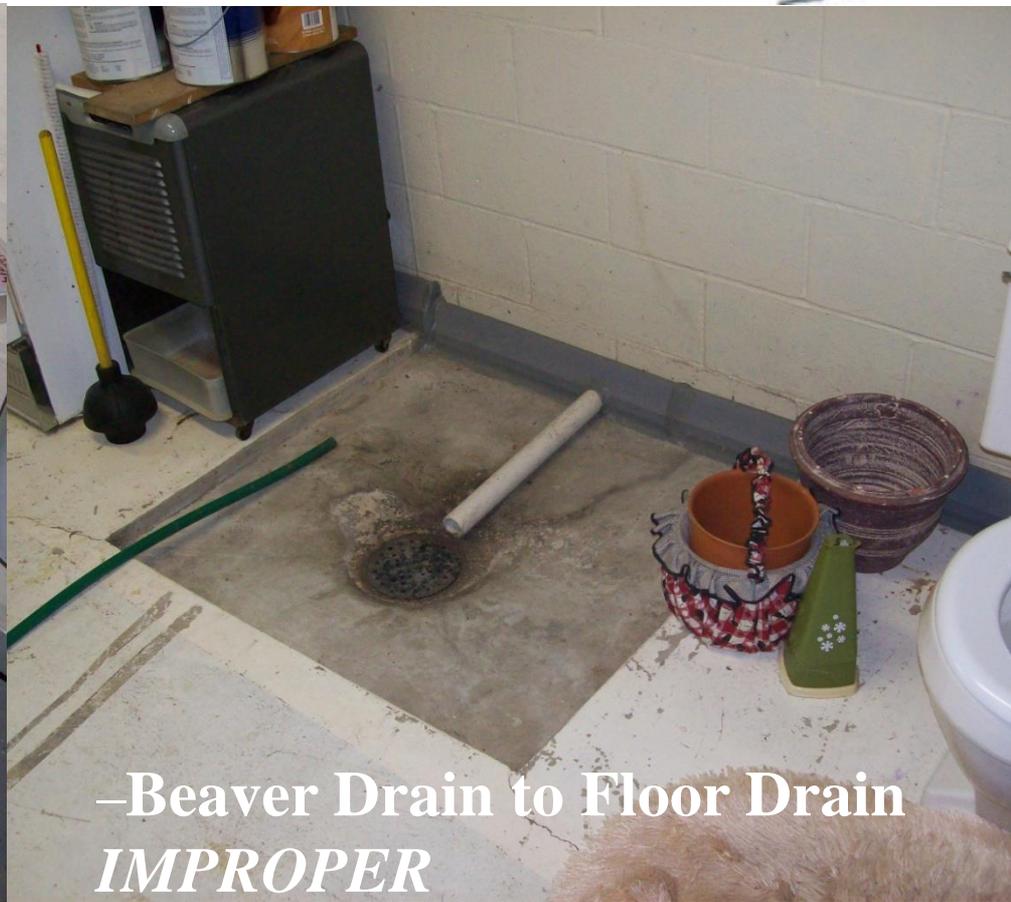
[Mipsbe.com/post](https://mipsbe.com/post)

**whks**

# Installation Examples: Beaver Drains



-Beaver Drain to Sump Pit  
*PROPER*



-Beaver Drain to Floor Drain  
*IMPROPER*

# Installation Examples: Beaver Drain / Tile



-Tile into Floor Drain under Cover  
*IMPROPER*

# Installation Examples: Tile Pit



Photo courtesy of WCF Courier

**Tile Pit into Floor Drain**

**“Running Trap”**

***IMPROPER***

**Plugged + Pump Installed**

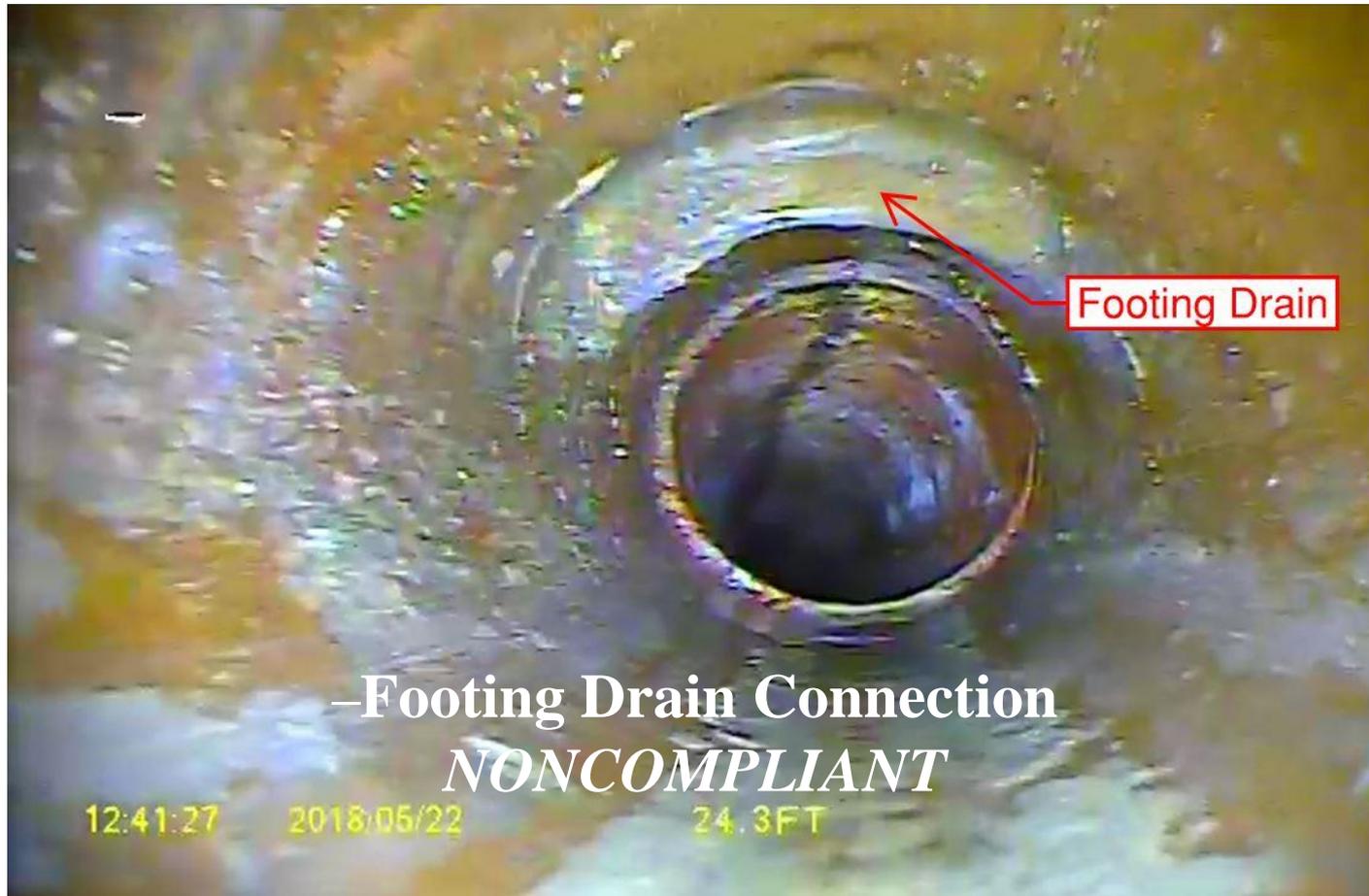
***PROPER***



# CCTV Example: Open Cleanout and Televis



# Installation Examples: Footing Drain Connection



# Discharge Options



**Flexible Pipe**



# Discharge Options

- **Air Gap & underground pipe**



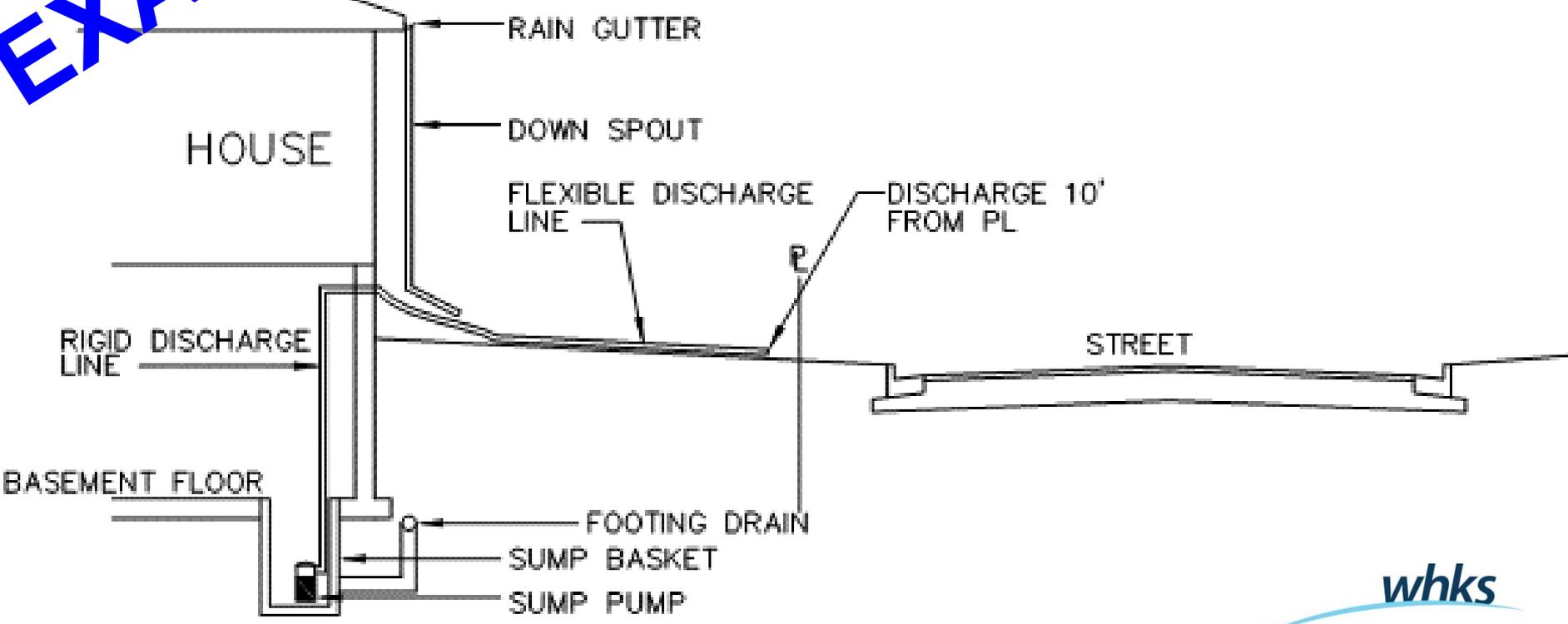
# Discharge Options



**Legal, but not a good idea**

# Sump Pump Diagrams

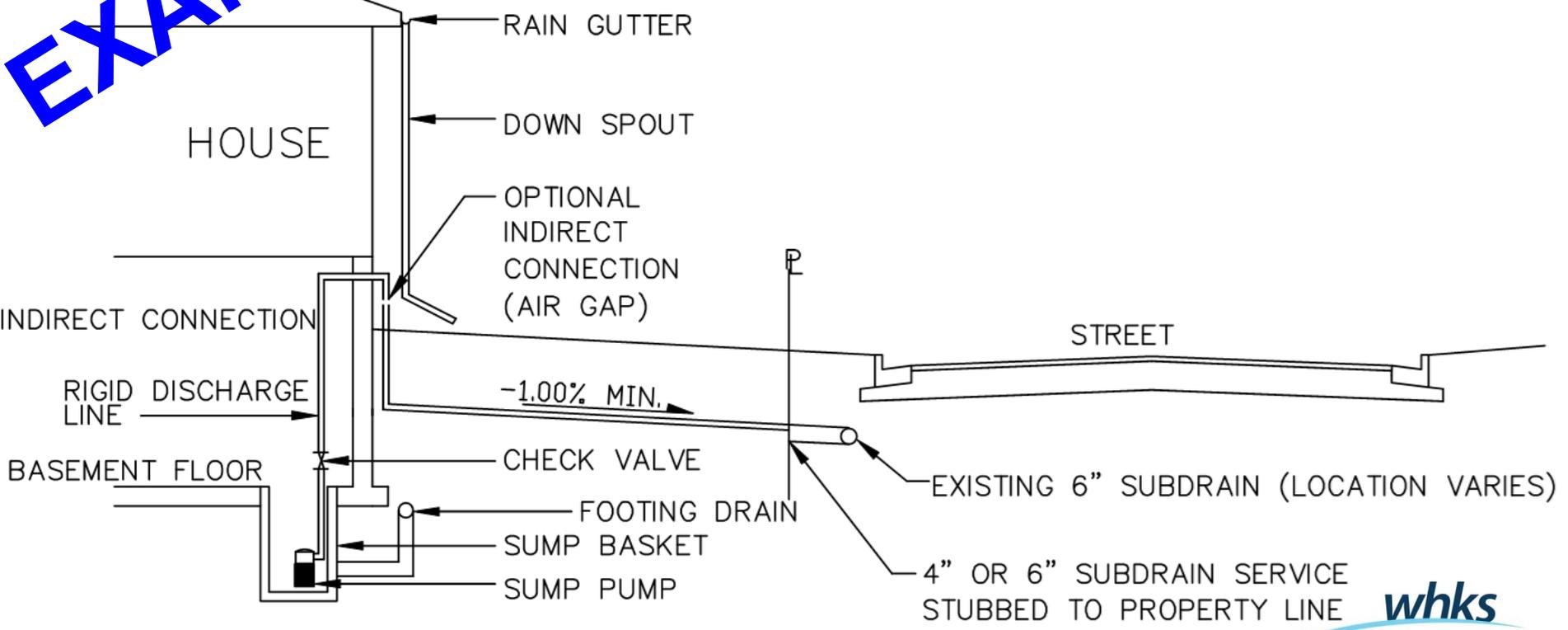
## EXAMPLE Proper Connection



# Sump Pump Diagrams

**EXAMPLE**

## Proper Connection (with subdrain)



# Street Reconstruction

## Cedar Heights Drive Reconstruction

Cedar Heights Drive Reconstruction project is underway with crews working to finalize the new roundabout at the Cedar Heights and Greenhill Road intersection. As part of construction, a secondary access road extending from Chadwick Road to Chadwick Drive was constructed to provide access to residents and businesses located in the Chadwick Road and Cedar Hill

of Cedar Heights Drive and Greenhill Road will be completed in early 2022 to finalize the last of the required paving. As crews work to finalize near Greenhill Road, work on the existing Viking Road Roundabout where a new truck lane paving will be added. From there, crews will work east from the Viking Road Roundabout through the Cedar Heights Drive to Prairie Street and up to Huntington Road. The roundabout on Road will feature a single lane roundabout with a sanitary sewer and storm sewer network throughout. Crews will continue north and complete the final paving between Phase I and Phase II work.

Chadwick Road Intersection to Cedar Hill Road: May 2022  
Cedar Hill Road to Viking Road: May 2022–November 2022



Highways affected by the project will be incorporated with alternative access points will be provided. Residential access will be maintained along with signed business accesses throughout the remainder of construction. Posted detour has been established for use of Viking Road, Prairie Parkway, and University Avenue.

For additional information and updates for the project, please visit the city's website. For ongoing active projects, please sign up for notifications at [www.cedarfalls.com/NotifyMe](http://www.cedarfalls.com/NotifyMe).

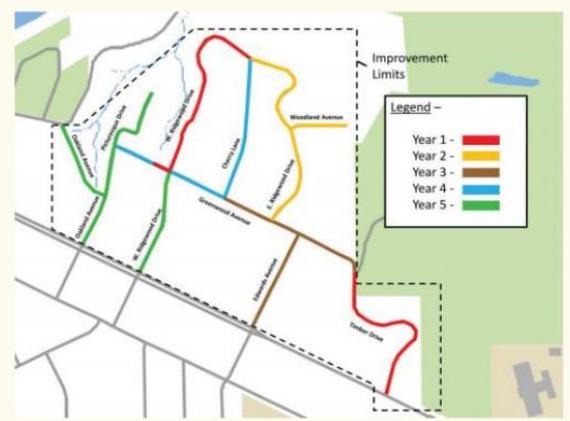
## Trail Project

## Cedar Heights Neighborhood Reconstruction

The North Cedar Heights subdivision is a small community of houses located atop the Cedar River's bluffs next to the Hartman Bluff State Preserve, north of Grand Boulevard. This community was annexed into the City after much of the infrastructure had been established and the incredibly narrow roadways that twist and turn throughout the area show it. While cozy in curb appeal, the ability for the roadway to serve this neighborhood is limited. With increased challenge of snow removal, trash pickup, sanitary sewer service, stormwater control, and even passing oncoming vehicles, the City has proposed a 5-year program to reconstruct these roadways.

Two streets are slated for 2022: West Ridgewood Drive (from Greenwood Avenue to Cherry Lane) and Timber Drive (from Grand Boulevard to Greenwood Avenue). The figure below shows the current 5-year program, planned for completion in the 2026 calendar year. Working from the lowest points at the stormwater culverts and from the back of the neighborhood to the front, this plan should limit construction activity on the newly constructed roadways.

Working with the neighborhood's individual citizens, the City plans to reconstruct the existing roadways with a full depth asphalt mix, utilizing concrete curb and gutter wherever feasible. Once this program is completed, this neighborhood should not only maintain its current charm, but better serve its users long into the future.



## Greenhill Road and South Main Street Intersection Improvement Project

Beginning in the spring of 2022, the improvements at the intersection of South Main Street and Greenhill Road will begin. The entire project is slated to be completed from start-to-finish during the 2022 calendar year, with utility relocations already underway.

The planned work in this area consists of the removal of the existing traffic signal and pavement, followed by the placement of new watermain, storm sewer, and roundabout. Similar to the other roundabouts within the City, this roundabout will include matching stone street name signs, pedestal lighting, and landscaping. One key difference with this project is the combined sidewalk/retaining wall covered with a limestone face on the northeast corner. The existing wooden fencing along the northeast and southwest corners will be updated to a black and brown vinyl fence.

Throughout the construction season, the project will be completed in three primary stages. The first stage will focus on the northeast corner of the roundabout, the second stage will focus on the northwest corner, and the third stage will focus on the entire southern half of the roundabout, including the intersection at South Main Street and Balboa Avenue. During the first two stages, northbound traffic will be maintained on South Main Street with southbound traffic detouring on Highway 27/58. Greenhill Drive traffic will be maintained as through traffic reduced to single lanes in either direction. When the southern half starts, traffic will have to detour around to Coneflower Parkway just to the east.



## Olive Street Box Culvert

The City of Cedar Falls is planning to remove and replace the existing

The City of Cedar Falls will start construction this winter to start construction of the new Industrial Park in 2022. Construction is slated to begin during the first half of the year and will be completed in the summer south of Viking Road.

In the summer, crews will start to place the first phase of new underground utilities and pavement for the first extension of the industrial park.

In this first phase, construction will be focused around the extension of Venture Way, Technology Place, and a new north/south road called Innovation Drive. This will complete the first loop into the new industrial park providing new industrial building lots along Venture Way and Innovation Drive.

Work will include new stormwater detention ponds and underground utilities.

During construction, additional information will be provided on the city website and sign up for e-mail notification.

be working on extending the stormwater tie-ins and amenities for the

# Next Steps

1. Read Information on Website
2. Wait for scheduling letter to arrive.
3. Contact us by phone or login to website to schedule the appointment.
4. Please make your cleanout accessible.
5. Correct Noncompliant Connections (if applicable).
  - Wait for City Notification



# Contact and Project Information

City of Cedar Falls Dept of Public Works Engineering  
Luke.Andreasen@cedarfalls.com  
(319) 268-5165

City of Cedar Falls Water Reclamation Facility  
Mike.Nyman@cedarfalls.com  
(319) 268-5561

WHKS & Co.  
akolz@whks.com  
(515) 663-9997



# Questions?

