Building the Ark: Neighborhood Stormwater Strategies for Grasslyn Manor

Webinar —July 22, 2025 12p-1p ET

GREENPRINT PARTNERS

Meet the Speakers

Steve O’Connell

Resident Leader | Grasslyn Manor

Resident of Sherman Park/Grasslyn Manor for 39 years; neighborhood champion for long-term, sustainable solutions to stormwater

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Sydney VanKuren

Director of Planning | Greenprint Partners

Passionate environmental and urban planner who looks to local communities (both ecological and social) for solutions to help communities realize their goals.

svankuren@greenprintpartners.com

Agenda

- Grasslyn Manor’s Stormwater Strategy
- Key Success Factors
- Outcomes and Early Wins
- How to “try this at home”

Video: The Story of Flooding in Grasslyn Manor

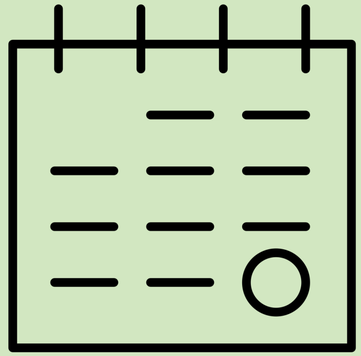
Source: Dale Dopp, Milwaukee Journal Sentinel. 2018.

Building the Ark!

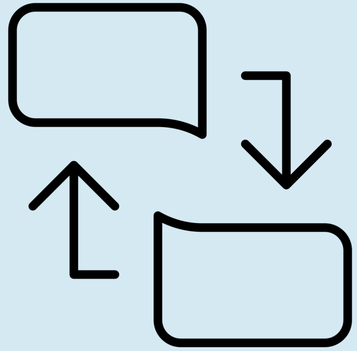
Community members participating at a community meeting in 2024.

Photo: Michael Trimm

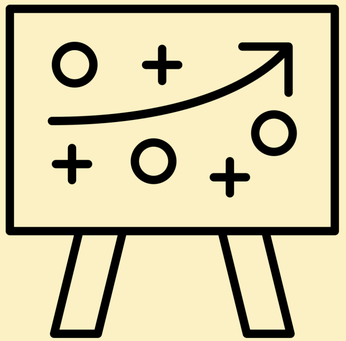
Key Success Factors



A Long-Term Process at the Community's Pace



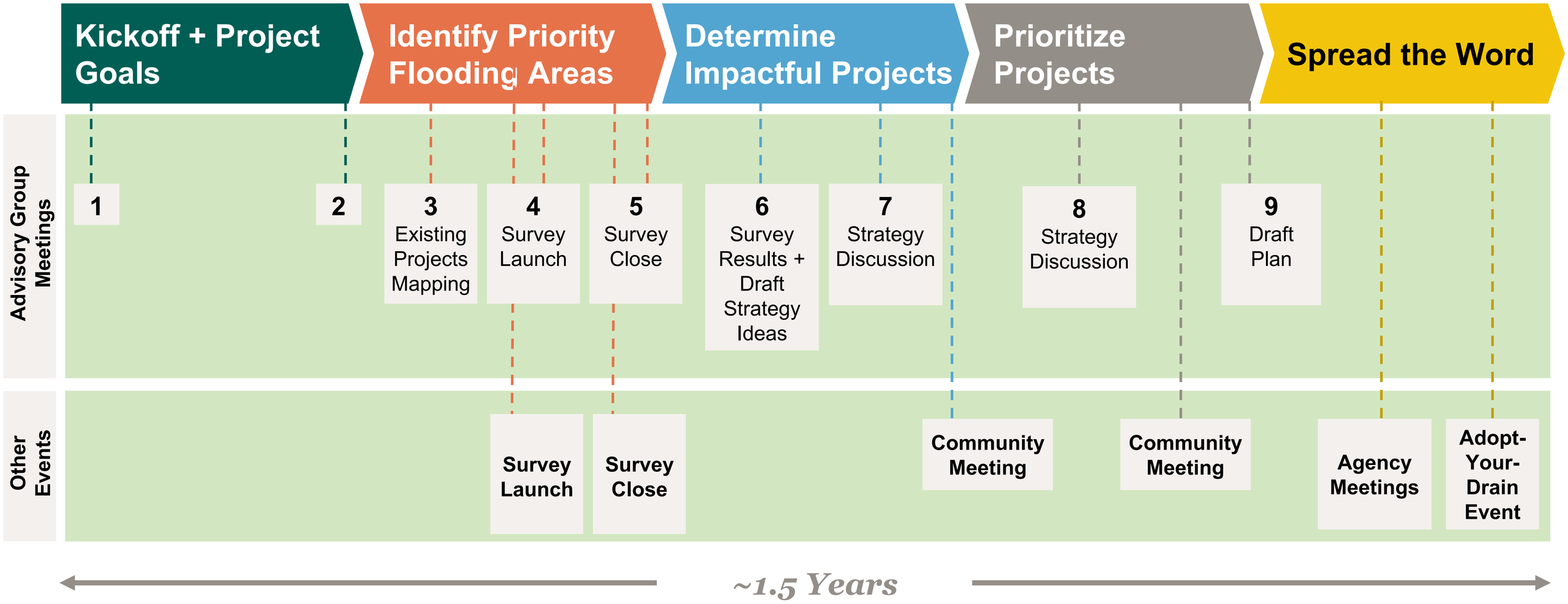
Respectful of People's Time and Sharing of Information



Grouping Community-Driven Solutions

Key Partners Ready to Build Momentum

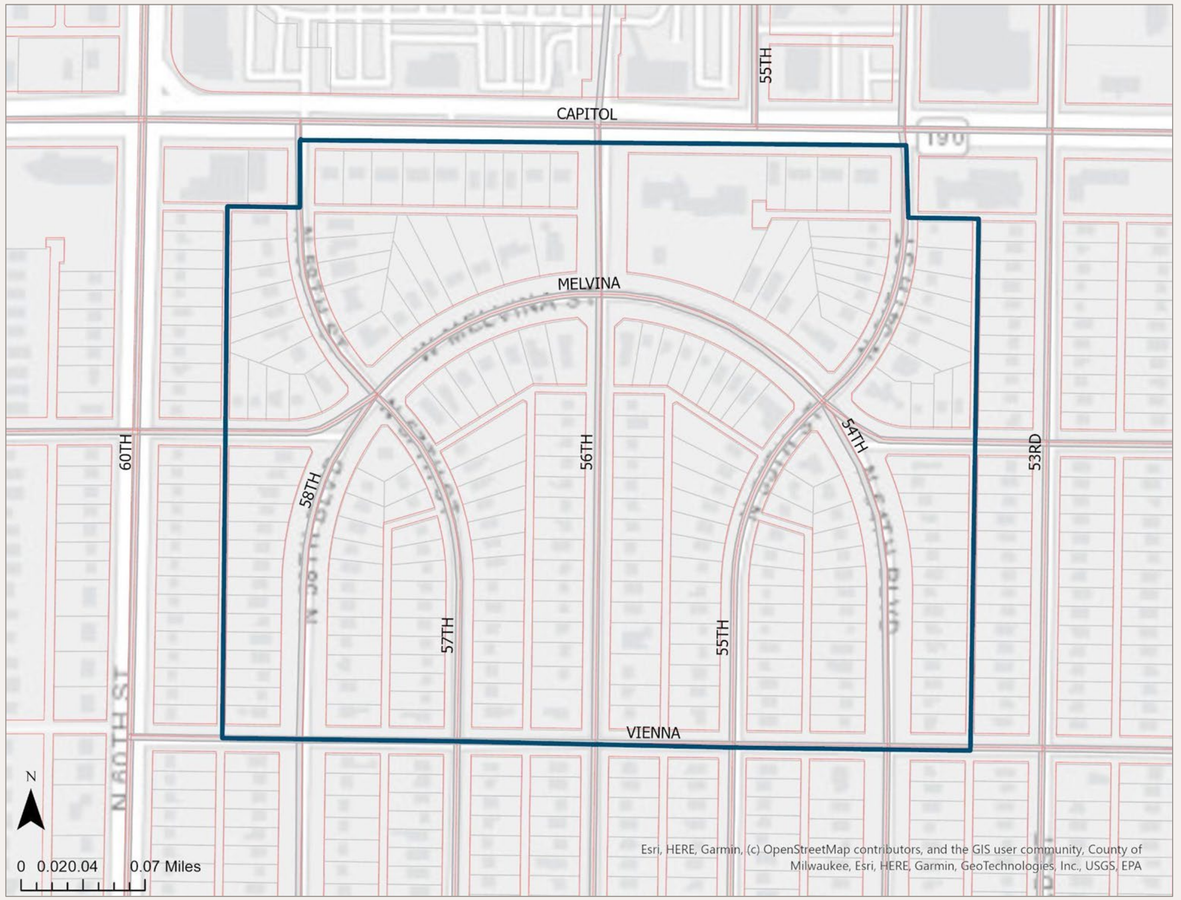
A Long-Term, Community-Led Process



Door-to-Door Survey Knocking

Grasslyn Manor Survey Boundary

- 53 survey responses received.
- ~20% of property owners in this survey area responded (45 responses out of ~217 properties).



Community-Based Questions

WBE | WOSB | B-Corporation

Help Build the Ark Flood Resident Survey

Thank you for participating!
This survey is being administered by the Grasslyn Manor Advisory Group as part of a neighborhood effort to understand the areas experiencing flooding and support the addition of green stormwater infrastructure on public and private properties in your area.

Please Note
Individual responses to this survey will NOT be made publicly available unless you give permission.

Scan to fill out the survey online!
Or find it at:
http://bit.ly/SP_ResidentSurvey

Name: _____ Email or Phone: _____

Would you like to receive project-related updates and information about ways to stay involved?
Yes ___
No ___

*Your name and contact information is **optional** and will only be used to: (1) follow up with you in case there are questions about your responses; and (2) share project-related updates and ways to stay involved.*

Please initial the box below if you are OK with your information and quotes being used in reports.

☐ Yes, I grant permission for the release of my quotes and information provided below to be used in reports

Home Address: _____
How long have you lived in your home? _____
Do you rent or own your home? _____

1 of 1

Does your home experience flooding?
Yes, often (everytime it rains) ____
Yes, sometimes (only during large storms) ____
No, never ____

If yes, where do you experience flooding? Check all that apply.
Basement ____
Yard ____
Street/Alley ____
Other ____

If you experience basement flooding, how does the water enter your home? Check all that apply.
Backs up through the basement drain ____
Seeps in through the walls ____
Comes in through the basement windows ____
Other (explain): _____

What actions have you taken to reduce flooding? Have they been successful? About how much did they cost?

t other important information would you like to share about your water story?

dministering the survey: _____

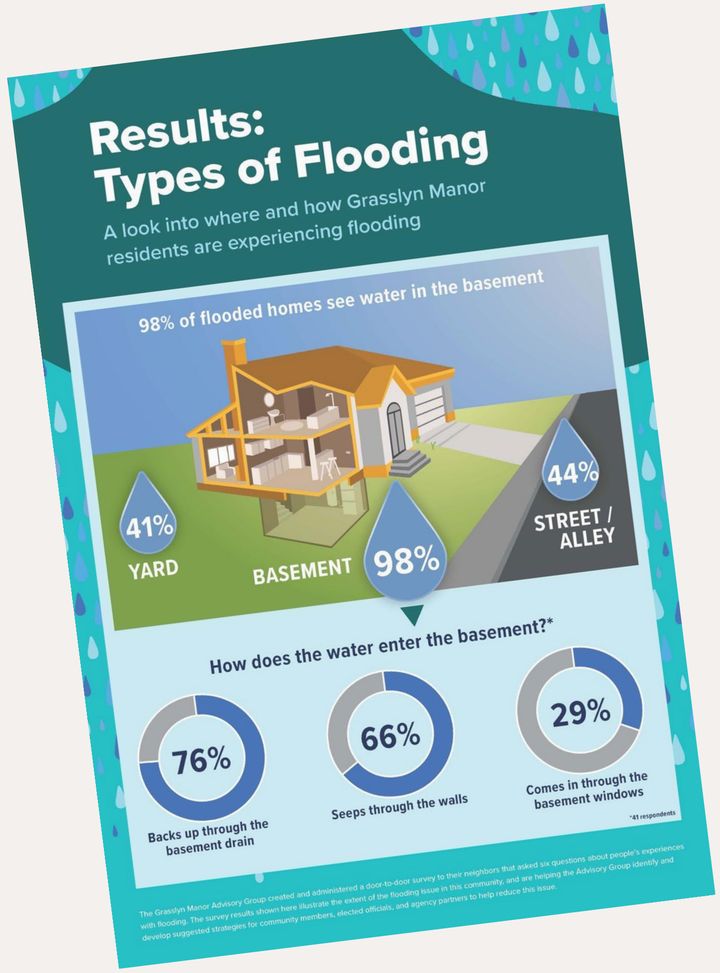
is vital to the success of our project. Please fill out and return this survey to:
Steve O'Connell
3810 N. 56th Street
Milwaukee, WI 53216

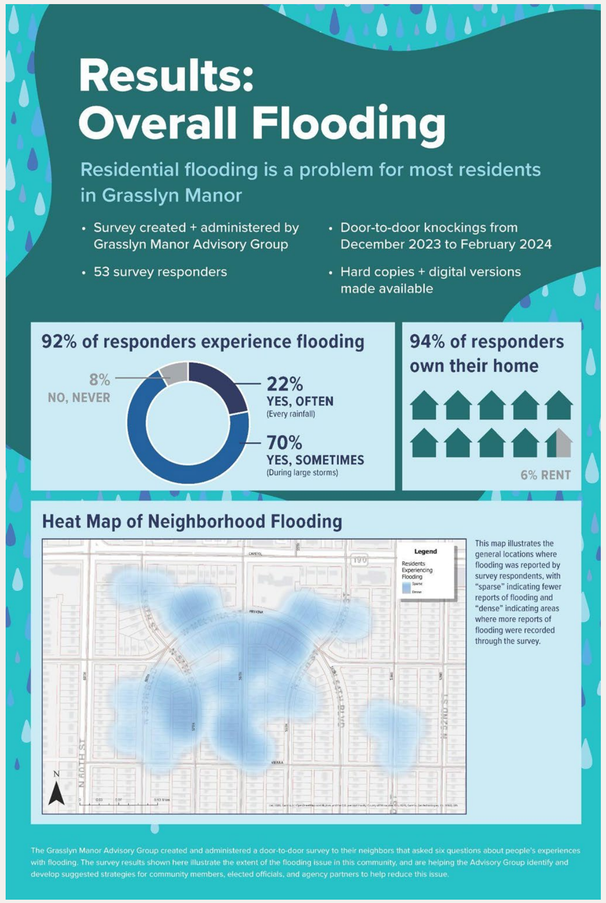
ntact Steve O'Connell at 414-445-7472, or aconsase@gmail.com.

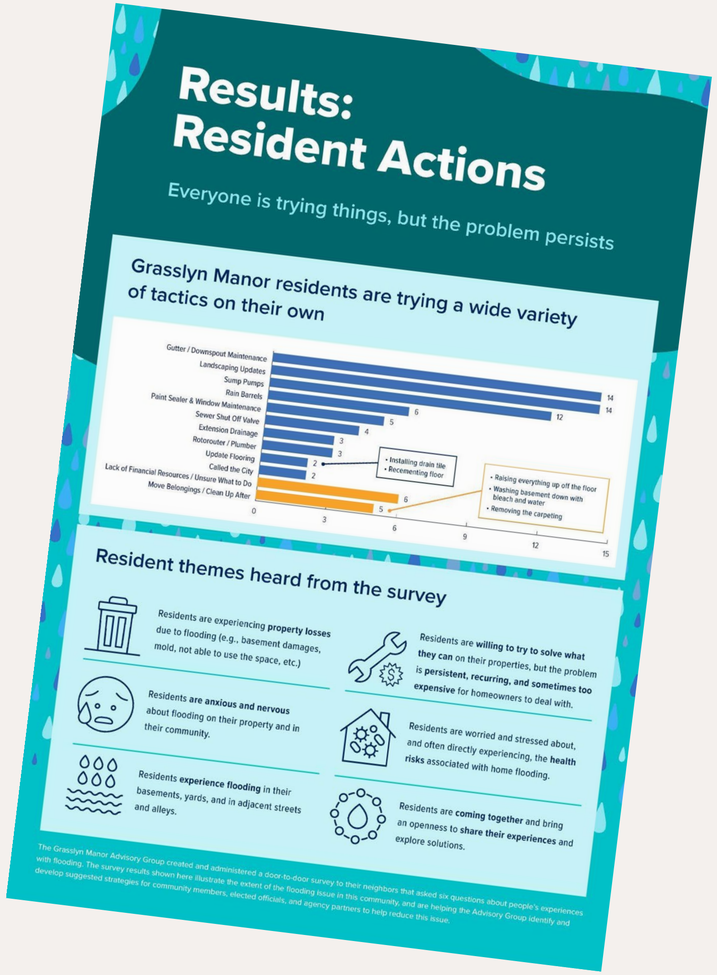
ners is a stormwater planning and civil engineering firm providing our group with t over the course of 6 community meetings.

2 of 2

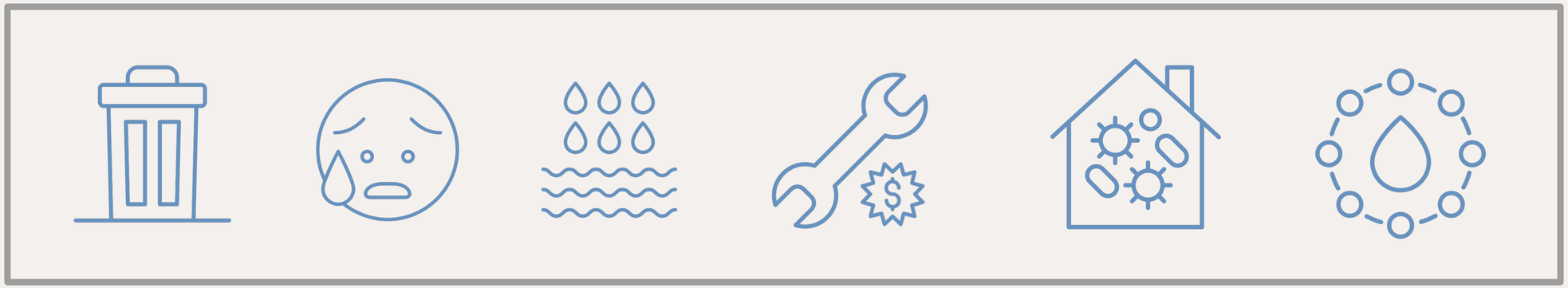
Survey Results: A Shared Story







Developing the Strategy: From Themes to Action



Community-Driven Solutions to Consider

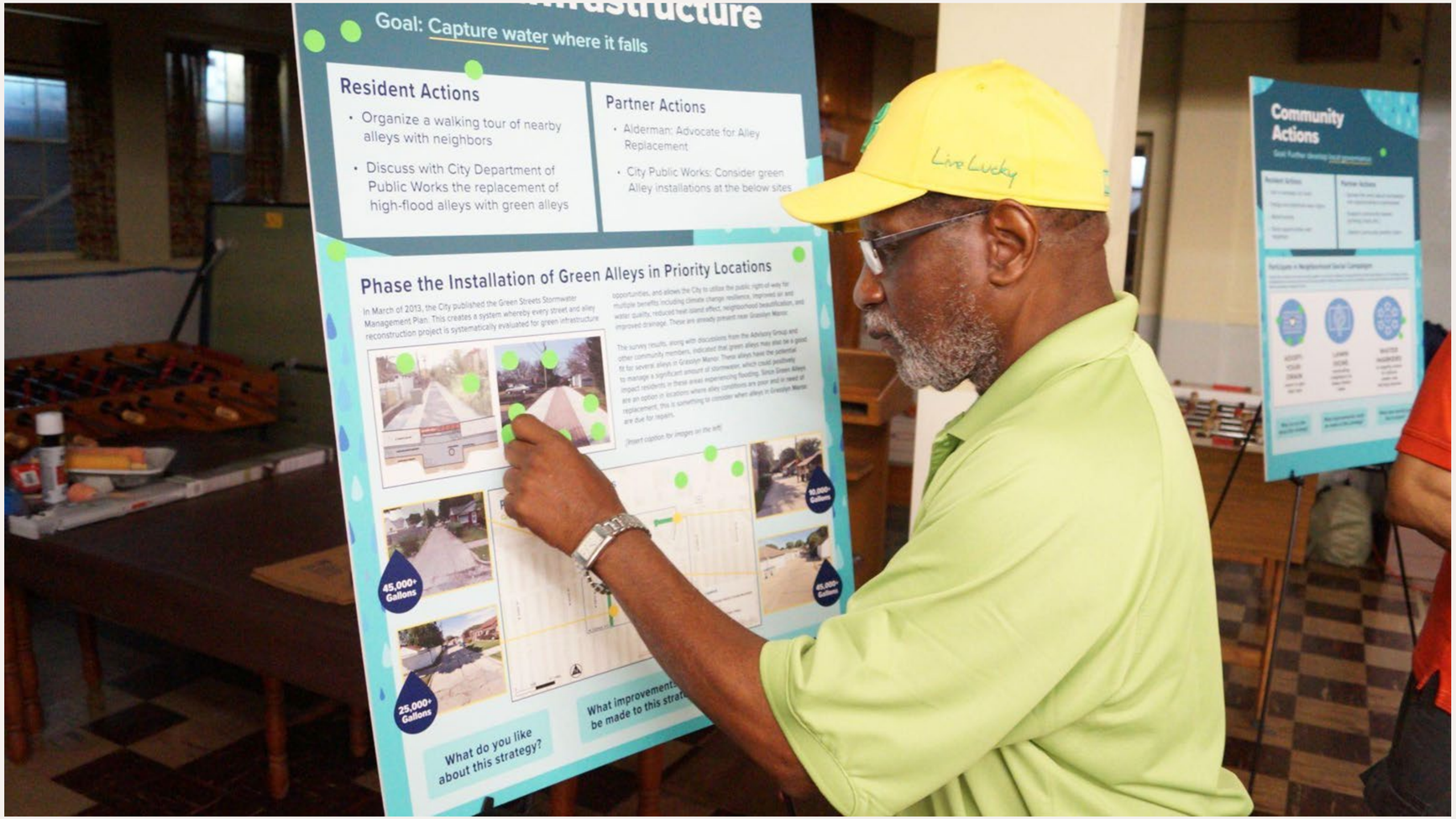
Community-Driven Solutions to Consider

- Increase homeowner information and awareness
- Further develop local governance in the community
- Identify key locations for Green Infrastructure
- Partner with the City and MMSD

Local Resident Actions

Neighborhood Actions

Co-Developed with and Prioritized by Residents



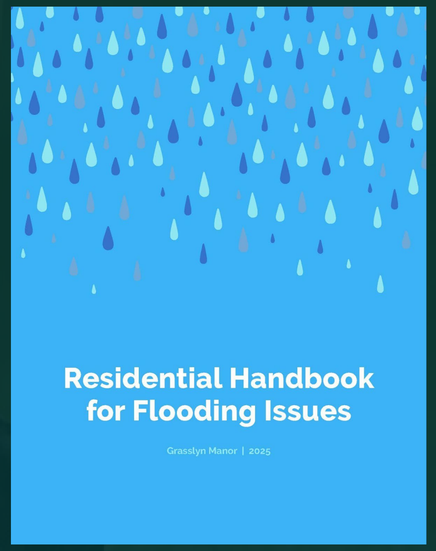
Community member voting on neighborhood actions at a community meeting in 2024.

Photo: Michael Trimm

Local Resident Actions: Outcomes

1

Residential Handbook



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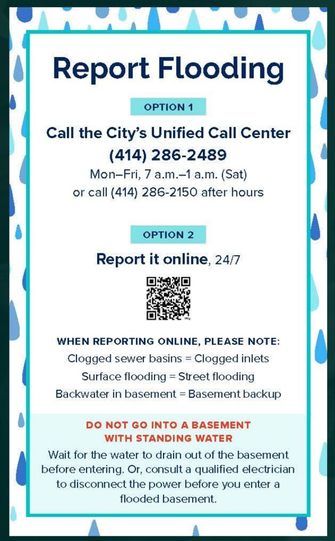
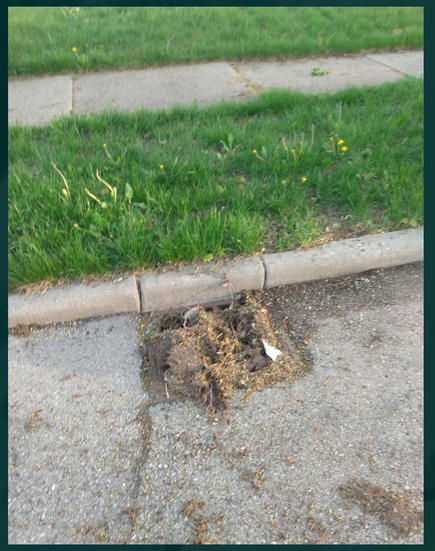
‘Who To Call’ Fridge Magnet



3

Adopt Your Drain Campaign



A Handbook for Homeowners

STRATEGY 1

Repair or replace lateral

A sanitary sewer lateral is a pipe that directs wastewater from your home (toilets, sinks, showers, laundry, floor drains, etc.) to the sanitary sewer under the street. A storm lateral is a pipe that directs rain water from your home (connected downspouts, sump pump) to the storm sewer under the street. The maintenance of laterals is a homeowner's responsibility.

The causes of lateral backups may include grease from cooking, paper products such as cloth diapers and feminine products, disposal wipes, etc. **There also could be cracks in the pipe caused from old age or tree roots (see diagram below).**

HOW

- Step 1: Hire a contractor to come out and run a camera through your lateral to check for blockages, leaks, and cracks.
- Step 2: Hire a contractor to fix the blockage/leak/crack.
- Step 3: Ask the Department of Public Works to check for problems with the public sewer: (414) 286-2489

MONITORING + MAINTENANCE

- None

Local Funding Support:

- Private Property Inflow & Infiltration Program
- Pipe Check
- STRONG Homes Loan

The lateral pipe directs wastewater to the sanitary sewer under the street. *Source:* MMSD

STRATEGY 2

Install backflow valve

A backflow valve temporarily blocks drain pipes and prevents return flow from re-entering through drains. There are different types of valves to consider. For example, gate valves have a strong seal, but must be operated by hand. This requires the homeowner to have adequate warning of an upcoming rain event in order to close the valve before the storm. Automatic valves such as flap or check do not require hand operation, but do not provide as strong of a seal.

HOW

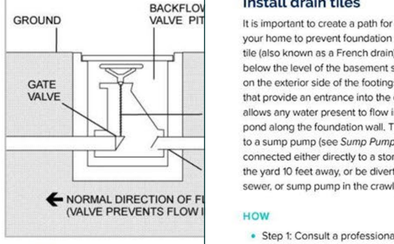
- Step 1: Determine the type of backflow valve you want: gate or automatic.
- Step 2: Hire a licensed plumber or contractor for installation.

MONITORING + MAINTENANCE

- As-Needed. Monitor after installation to ensure proper performance.

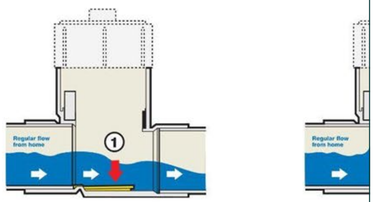
Local Funding Support: None

TYPICAL INSTALLATION OF AN EXTEROIR BACKFLOW VALVE



Source: FEMA

HOW A GATE BACKFLOW VALVE WORKS



1. Normal water flow from home to the sewer system.

2. Gate shuts to block

STRATEGY 3

Install drain tiles

It is important to create a path for water to flow away from your home to prevent foundation issues. To do this, a drain tile (also known as a French drain) should be installed below the level of the basement slab or crawlspace floor, on the exterior side of the footings. Drain tiles have inlets that provide an entrance into the drainage system, which allows any water present to flow into the drain tile rather than pond along the foundation wall. The drain tile will discharge to a sump pump (see *Sump Pump* section) which will be connected either directly to a storm lateral or discharge into the yard 10 feet away, or be diverted to a dry well, storm sewer, or sump pump in the crawlspace or basement floor.

HOW

- Step 1: Consult a professional to determine where the drain tile should be installed for optimal drainage.
- Step 2: Hire a licensed contractor for consultation and installation.

MONITORING + MAINTENANCE

- As-Needed. After installation, monitor to make sure any water present is draining through the drain tile. If you are still experiencing water ponding issues, you may wish to consult a professional to assess if the install was performed properly.

Local Funding Support:

- STRONG Homes Loan

Drain tile installation on the exterior of home footings. Read more: Office of Energy Efficiency & Renewable Energy: Footing Drain Pipe

Yard Flooding

Yard flooding can occur when:

- Water tables are high (as may be the case for Grassiyn Manor);
- There are issues with soil moisture and sloping; or
- Overwhelmed infrastructure is present (i.e., when street flooding overtops the curb).

Not all water in yards is a bad thing if the yard is properly graded away from the home. This section aims to help with unwanted yard flooding.

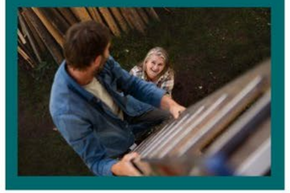
STRATEGIES IN THIS SECTION INCLUDE:

1. Clean gutters
2. Repair gutters + downspouts
3. Disconnect downspout to a rain garden or rain barrel
4. Berm around home and regrade yard
5. Plant a stormwater tree
6. Monitor your nearest street drain

Start an Equipment Library

Some of the strategies in this section can be accomplished with common household tools and equipment.

If you have ladders or other useful equipment that you would like to share or borrow from your neighbors, consider starting an "Equipment Library" where you can donate, borrow or share tools within your community. This is a great way to share the cost of equipment, as well as share amongst your neighbors the tips, tricks and even labor needed to achieve some of the homeowner actions in this guide.



Neighborhood Actions: Outcomes

4

Plan Document

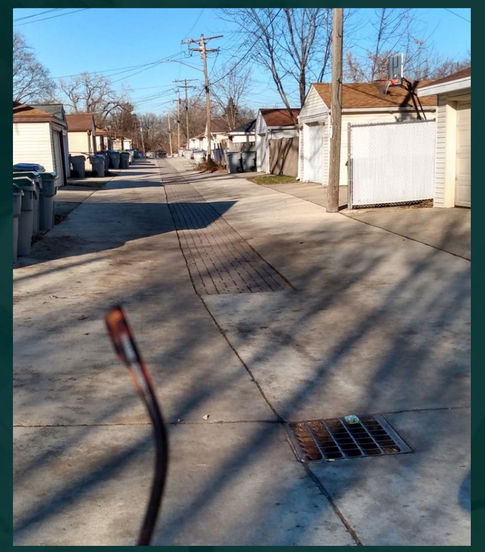
5

WaterMarks

watermarks

6

New Green Alleys



Strategies for Success

GOAL 3
Capture Water Where it Falls with Non-Residential Green Infrastructure

As noted above, while residents are willing to try to solve what they can on their properties, the problem is persistent, recurring and sometimes too expensive for homeowners to effectively manage. Therefore, residents would like to see larger-scale solutions that could better prevent flooding. One such type of solution is green infrastructure.

Green infrastructure is a cost-saving, attractive, eco-friendly landscaping solution that helps property owners manage water that falls on their buildings and grounds. This can often be done by replacing impermeable surfaces with natural plantings, or other permeable surfaces that allow water to enter the soil and be absorbed rather than flow into the storm sewers.

Top: Green alley with permeable pavers; Bottom: Cross-section of porous pavement under green alley. *Source: City of Milwaukee Green Streets Stormwater Management Plan*

STRATEGY

Phase the Installation of Green Alleys in Priority Locations

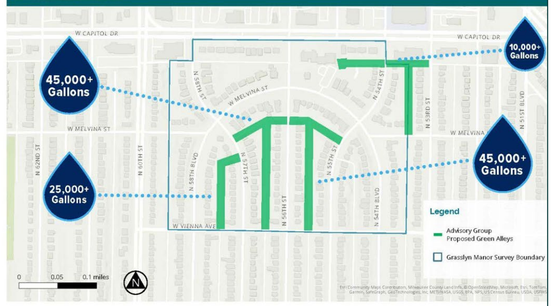
In March of 2013, the City published the Green Streets Stormwater Management Plan, which created a system where every street and alley reconstruction project is systematically evaluated for green infrastructure opportunities. This allows the City to utilize the public right-of-way for multiple benefits including climate resilience, improved air and water quality, reduced heat island effect, neighborhood beautification, and improved drainage.

One option is to replace alley pavement with green infrastructure features such as permeable pavers. These new features allow the alley to absorb water where it falls, preventing it from ponding on the surface and becoming runoff. According to the The Chicago Green Alley Handbook, in most cases there will be less ice in the alleys because "melting snow can permeate through the alley pavement."

There are already green alleys present near Grasslyn Manor. The survey results, along with discussions from the Advisory Group and other community members, indicated that green alleys may also be a good fit for several alleys in Grasslyn Manor. These alleys have the potential to manage a significant amount of stormwater, which could positively impact residents in these areas. Excess water ru to the nearest street drain. Green alleys could reduce the neighborhood flooding on downstream streets.

The team conducted a high-level feasibility analysis of the potential stormwater impact of converting that alley to a green alley in order to help prioritize the implementation o green alleys in Grasslyn Manor.

Locations of Existing and Proposed Green Alleys Near Grasslyn Manor
Data Source: Greenprint Partners



WHAT RESIDENTS CAN DO

- Organize a walking tour of the nearby alleys with DPW* staff, learn about how they are working, discuss what you like or don't like about them, go with a nearby resident who can talk about the impact it's having on nearby properties, etc.
- Discuss with DPW* the feasibility of reconstruction alleys with permeable pavement when programmed for repaving.

WHAT PARTNERS CAN DO AS LEAD IMPLEMENTERS

- **Alderperson:** Advocate for the replacement of the above alleys with green alleys
- **DPW*:** Help facilitate a green alleys tour with Grasslyn Manor community members to learn about nearby green alleys
- **DPW*:** Consider green alley installations for the above alleys once up for reconstruction

**Environmental Engineering Dept*

Quick Solution: Installing Downstream Drains in Alleys

Alleys have the opportunity to be converted to green alleys as their pavement ages to a state that it requires replacement. Many of Grasslyn Manor's alleys are still years out from requiring replacement.

Some alleys in the area do not have drains on their downstream end.

One near-term option is to install drains at the downstream end of each alley to reduce stormwater running through the neighborhood. This work would need to be designed, constructed, funded and maintained by DPW.

GOAL 3: Capture Water Where it Falls with Non-Residential Green Infrastructure

STRATEGY

Consider and Install Green Infrastructure on Non-Residential Properties

Non-residential properties can also be good spots to manage stormwater through green infrastructure projects. These types of projects may include:

- Rain Gardens
- Green Roofs
- Bioswales/Bioretention Basins
- Constructed Wetland*
- Stormwater Trees*
- Native Landscaping
- Porous Pavement
- Subsurface Storage
- Depaving

**The Reforestation and Wetland Restoration Program only supports wetlands and stormwater trees.*

WHAT RESIDENTS CAN DO AS LEAD IMPLEMENTERS

- Reach out to commercial and non-residential properties to gauge interest in green infrastructure
- Share information on ideas and opportunities for green infrastructure with the priority properties identified above
- Participate in funding programs for green infrastructure installations (see next strategy)

WHAT PARTNERS CAN DO AS LEAD IMPLEMENTERS

- **Alderperson, SPCA:** Support these programs and connect priority property owners with program information
- **Alderperson:** Support applications for funding submitte by residents of Grasslyn Manor

Green infrastructure is already in place in many places throughout Milwaukee. Clockwise from top left: Native landscaping; Bioswale with stormwater trees and native plants; Subsurface storage; Green roof; Permeable pavers used in the Milwaukee War Memorial parking lot. *Photos: MMSD*

Locations of Proposed Non-Residential Green Infrastructure Projects in Grasslyn Manor
Source Data: Greenprint Partners

STRATEGY

Access Programs to Fund Green Infrastructure Projects

There are a variety of existing programs that help install green infrastructure in green alleys, in the right-of-way and on non-residential properties. Below are some of the key programs that may help Grasslyn Manor property owners and partners fund these green infrastructure projects:

GREEN INFRASTRUCTURE PARTNERSHIP PROGRAM (GIPP)

This program offered by MMSD funds green infrastructure on a per-gallon-captured reimbursement basis. It is a competitive program that is available for applications on an annual basis.

- Funds $1.95/gallon up to 50% of gallons captured (Up to 75% for schools, churches and nonprofits)

GREEN SOLUTIONS PROGRAM

This project offered by MMSD incentivizes municipalities in Milwaukee County to achieve their Total Maximum Daily Load (TMDL) compliance by using green infrastructure to reduce runoff and provide water quality benefits.

- The amount of a project funded by this program is at the discretion of the municipality (in this case City of Milwaukee)

FRESH COAST GREEN COMMUNITIES (FCGC)

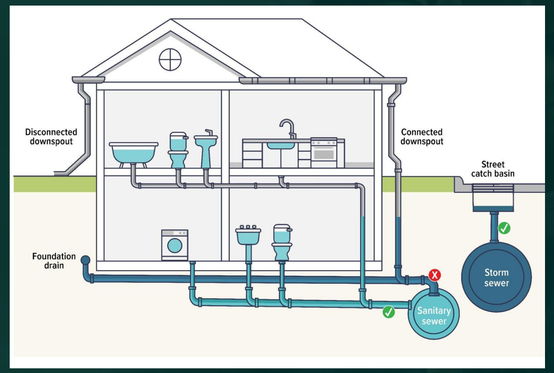
This program is a partnership offered through MMSD and Greenprint Partners. It funds the design, construction and first five years of vegetation establishment for green infrastructure projects in priority areas.

- Fully funds projects

Upcoming Work

7

Private Property Inflow & Infiltration Program



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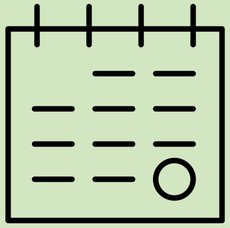
Green Schoolyard Grant Recipient

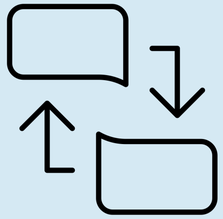
Private Property Inflow & Infiltration

Key Success Factors



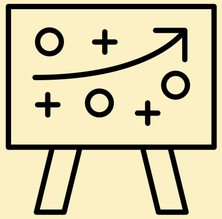
A Long-Term Process at the Community's Pace

- Greenprint Partners as the Consultant was philanthropically funded
- Residents set the scope and agenda for what we needed to achieve
- Able to **move at the speed of trust**



Respectful of People's Time and Sharing of Information

- Advisory Group members received **stipends** for their participation at meetings
- **Survey** respectfully shared neighbors' collective experiences with flooding



Grouping Community-Driven Solutions

- Clear documents that identify **a role for everyone** involved - local residents, neighborhood actions, and larger-scale solutions.
- **Dedicated residents** at meetings shared their ideas, hopes, and visions for solutions.

Key Partners Ready to Build Momentum

- **Neighbors ready to lead** their own efforts around neighborhood walks, berm parties, etc.!
- **Partners are listening** and eager to respond to community needs on the ground

THANK YOU!

Questions?

Please reach out to:

Steve O’Connell at oconsase@gmail.com

Sydney VanKuren at svankuren@greenprintpartners.com

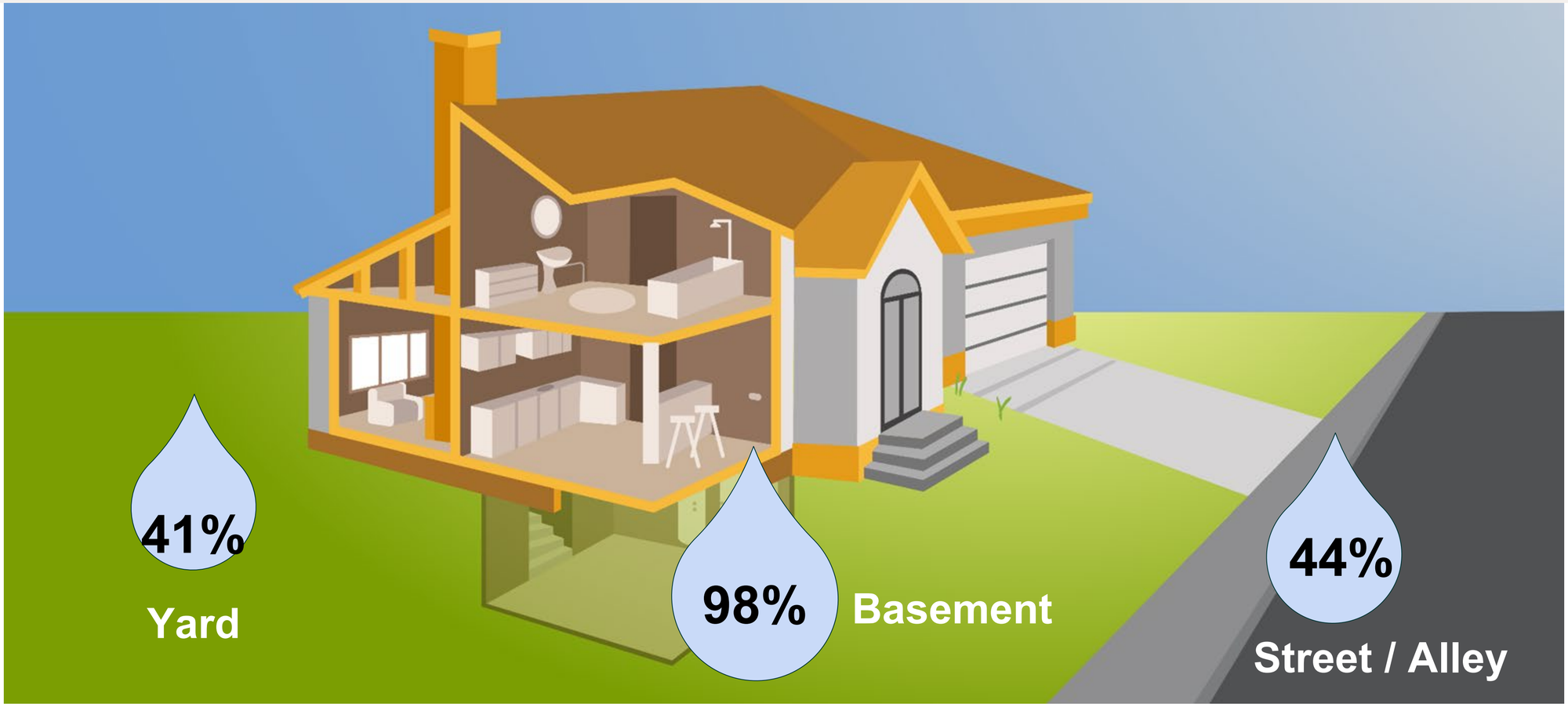
Supplemental Slides

Survey Responses

Source: Dale Dopp, Milwaukee Journal Sentinel. 2018.

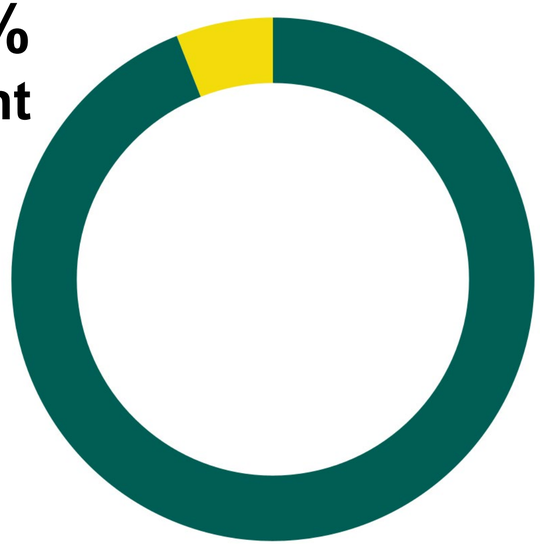
98% of flooded homes see water in the basement

Where does your home experience flooding?

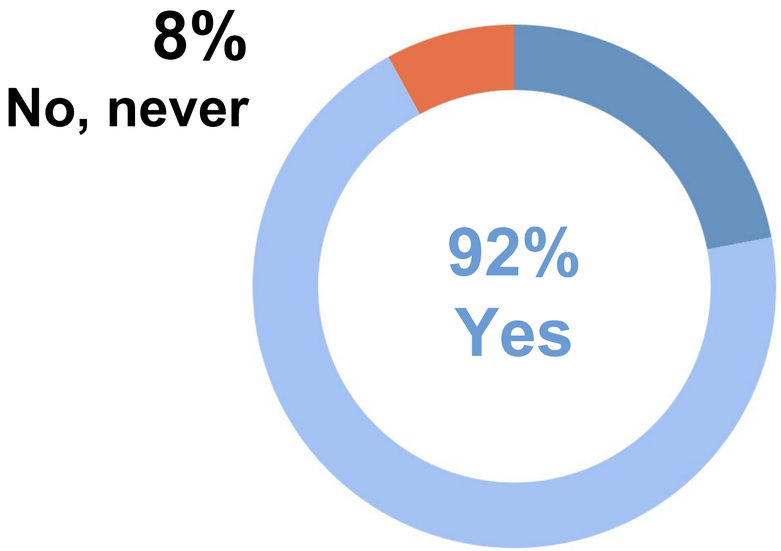


92% of responders experience flooding

Do you own or rent your home?



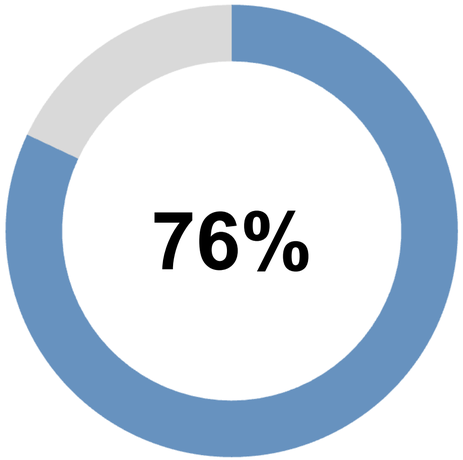
Does your home experience flooding?



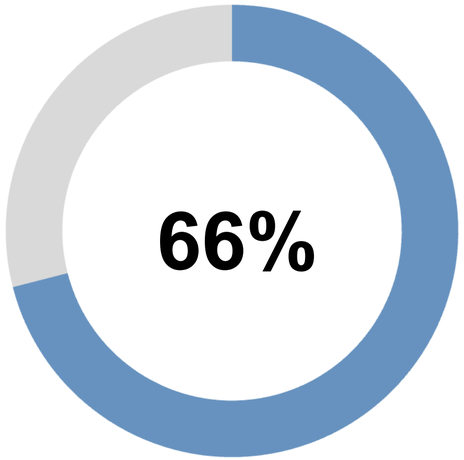
Backups are the most frequent basement entry point

If you experience basement flooding, how does the water enter your home?

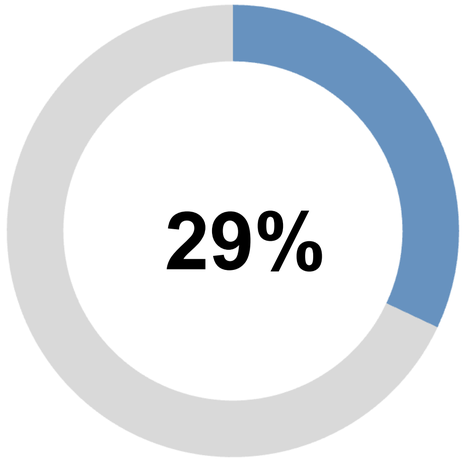
N= 41



Backs up through the **basement drain**



Seeps through the **walls**



Comes in through the basement **windows**

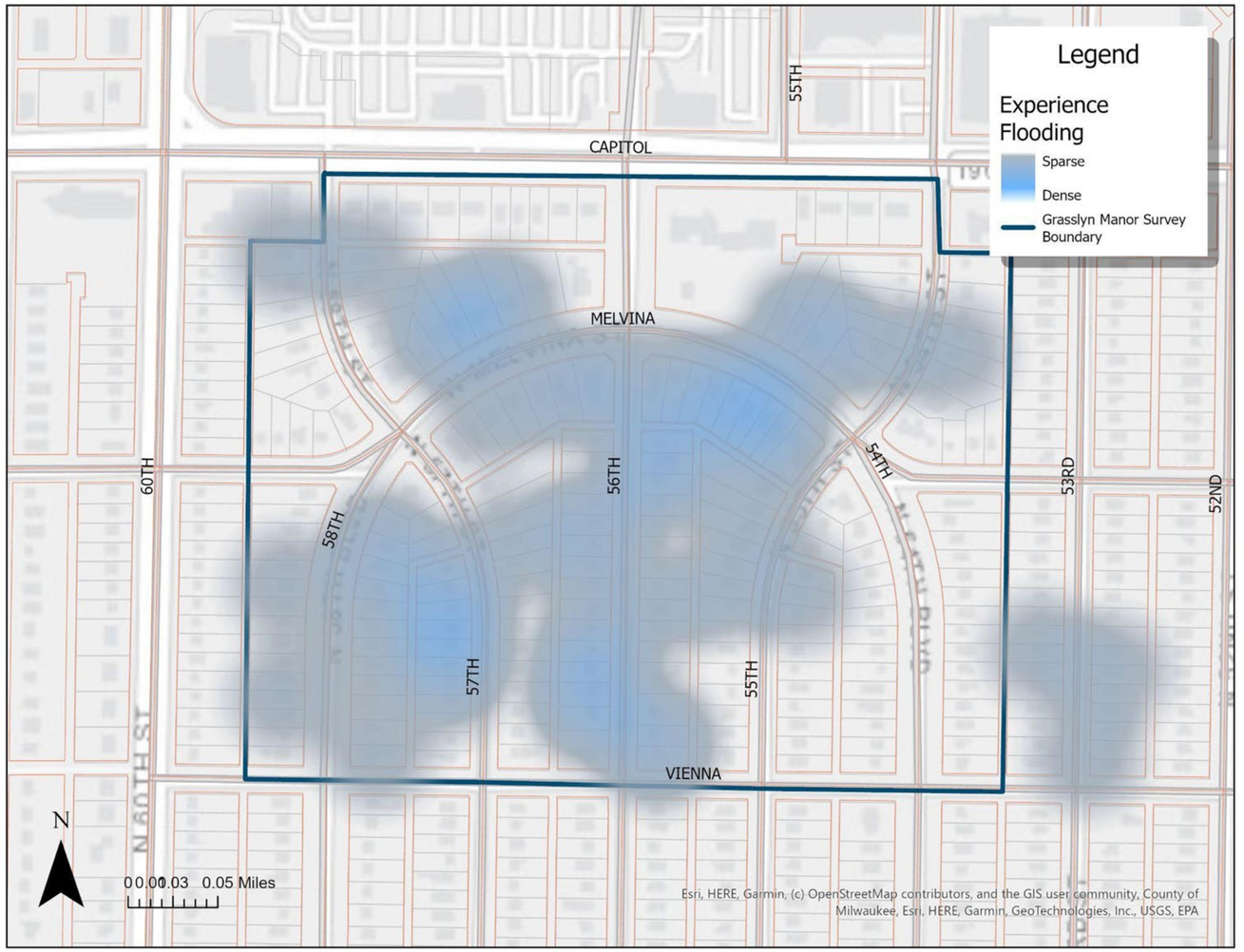
41 survey responses received.

Residential flooding is throughout

Does your home experience flooding?

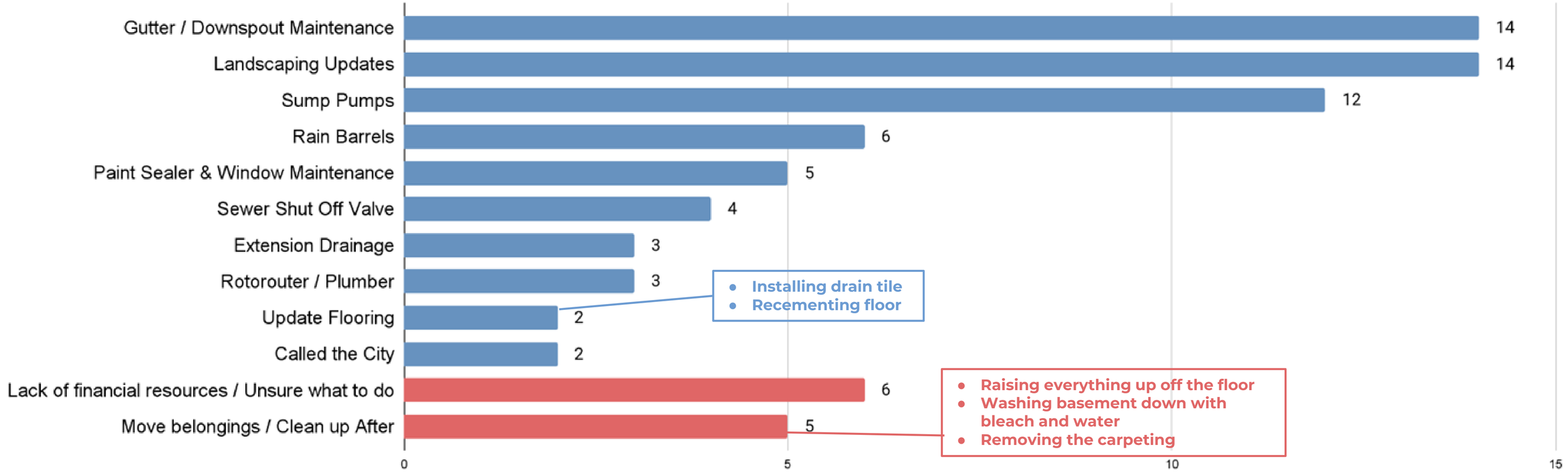
92%
Yes, **often** (every time it rains)
or Yes, sometimes (during large storms)

This heat map shows the general locations of the neighborhood flooding reported by survey responders.



Residents are trying a wide variety of tactics on their own

What actions have you taken to reduce flooding?



Despite best efforts, the problem persists

Did it help?

Sewer shut-off valve was “Successful” or “Mostly Successful”

“A guy dug out the front walls; back-filled with rocks and dirt, but that did not stop the seeping.”

“Not enough.”

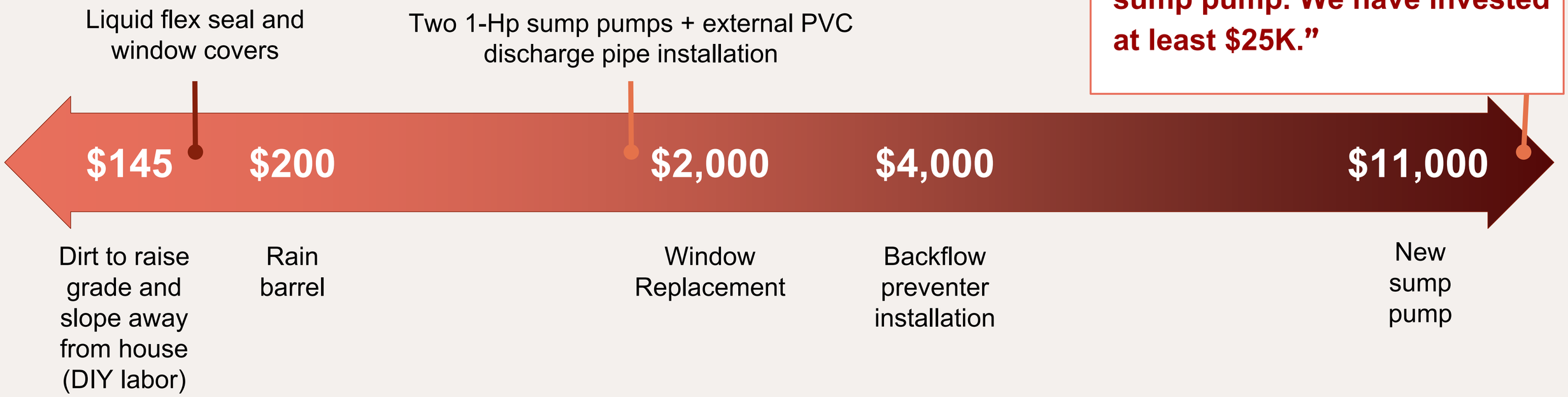
“Did not work.”

“After all we did, waterproofing, etc., the rain found another way to enter the basement. Must now remove all floor tiles.”

“Helped but not stopped.”

Residents are financially burdened

What were the costs associated?

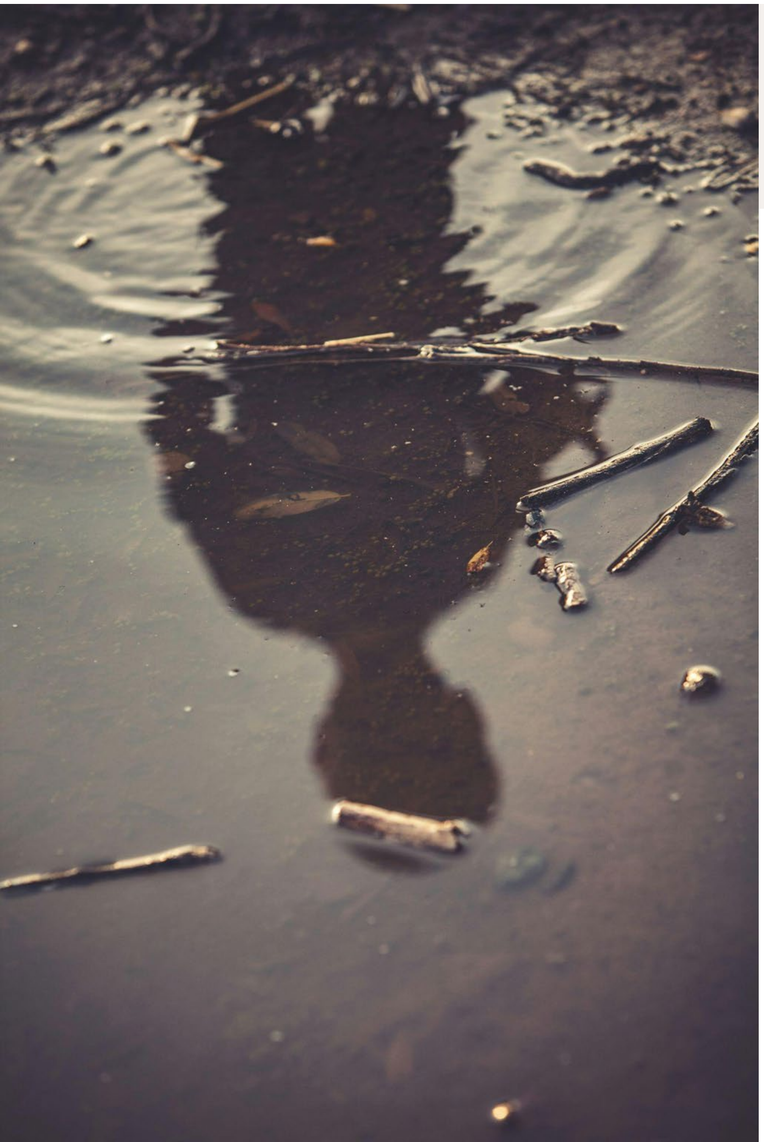


"Rain barrels, landscaping, leveling, installed drain tile and sump pump. We have invested at least $25K."

"No insurance — got dropped after a number of claims. Very stressful!"

"I received quotes for basement waterproofing ranging from $7K–10K+ which is unaffordable at this time."

Residents are emotionally burdened



What other important information would you like to share about your water story?

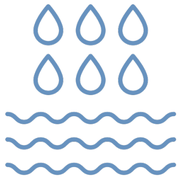
“I’m afraid to leave home in the summer months.”

“Health impacts of flooding [are] like a silent killer.”

Themes

Residents are experiencing **property losses** due to flooding (e.g., basement damages, mold, not able to use the space, etc.)

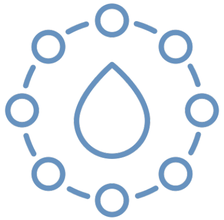
Residents are **anxious and nervous** about flooding on their property and in their community.



Residents **experience flooding** in their basements, yards, and in adjacent streets/alleys.

Residents are **willing to try to solve what they can** on their properties, but the **problem is persistent, recurring, and sometimes too expensive** for homeowners to deal with.

Residents are worried and stressed about, and often directly experiencing, the **health risks** associated with home flooding.



Residents are **coming together** and bring an openness to **share their experiences** and explore solutions.