



grounded strategies

Grounded in Green Stormwater Infrastructure (GSI)

APA PA Conference - October 19, 2021

A new understanding and appreciation for “vacant” land,
one that is not synonymous with emptiness but rather
filled with community history, intention, and investment.



Session Overview

- Introductions
- Introduction
- Who is Grounded?
- What Vacant Land Justice Looks Like
- Case Study: Grounded GSI



MISSION

Grounded works to improve the social, economic, and environmental health of distressed and transitional communities by building capacity to reclaim vacant and underutilized land .



60,000+

Vacant lots exist in Allegheny County.

Nearly a quarter of Pittsburgh's land is vacant

Much of it is concentrated in communities that have experienced decades of disinvestment and racist land-use policies.







Research shows that vacancy affects...

Health Outcomes



Increased heart rate near blighted, vacant land

Feelings of hopelessness, depression and lack of community cohesion

Greening vacant land has been shown to...

Promote Physical and Mental Health



Reduce heart rate between 5 and 15 bpm while encouraging walkability

Decrease feelings of depression by approximately 40% on average and 68% in low-income communities

Research shows that vacancy affects...

Economic Outcomes



Decrease surrounding property values by 6% on average across all submarkets

In Pittsburgh this results in more than \$2M per year on code enforcement, fire, and police services at vacant properties

Greening vacant land has been shown to...

Generate Community Wealth



Increase surrounding property values by up to 5.9% per greened lot within a ¼ mile

Increased household wealth by up to 23.6%

Prevent needless spending of scarce public and emergency response resources

Research shows that vacancy affects...

Public Safety



Increased incidence of violent and petty crime, gun violence, and environmental pollutants

Greening vacant land has been shown to...

Activate Positive Community Externalities



Reduce area incidences of gun violence by 5% and promote community feelings of safety

Curb the occurrence of storm and wastewater overflows when green infrastructure solutions like rain gardens are deployed



BEFORE AND AFTER





BEFORE

AFTER





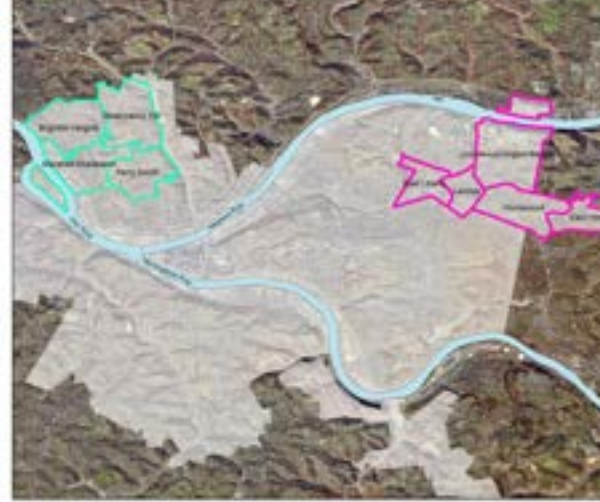




Grounded GSI

Green Stormwater Infrastructure

1



Legend

-  AAC Neighborhoods
-  COT Neighborhoods
-  River

1 inch = 0.500 feet
1 inch = 1.62 miles

The Project

Grounded GSI Explained





GTECH **GSI**

Green Stormwater Infrastructure



What

Using **green solutions** to address pressing stormwater issues and community needs.

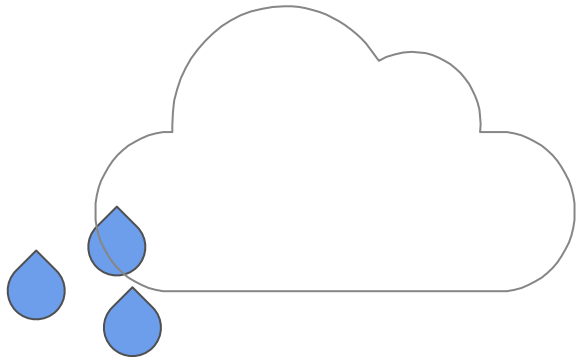
Preparing residents to participate in the regional stormwater conversation with education, outreach, and engagement.

Why

GSI contributes to **reductions in combined sewer overflows (cso) and flooding**, while improving **environmental, economic, and community health**.

Where

9 communities throughout the O-27 (**Northside**) and A-42 (**East End**) Sewersheds.



THE GOAL

To show how green stormwater features can be used to create creative and vibrant community spaces.





Community
Identified Needs &
Community
Design Process

Stormwater
Management
Priority Areas

Analysis of
Property/Project
Feasibility

Projects which meet
community needs, capture
relatively high amounts of
stormwater, and are
financially feasible.

FRAMEWORK

2

The Process



A Breakdown of Project Activities

A



Investigate

B



Connect

C



Gather Input

D



**Share
Knowledge**

E



Demonstrate



Grounded GSI - Process

Investigate



- Connect with community organizations
- Gather and review stormwater data
- Summarize existing related planning efforts

Connect



- Hire one neighborhood ambassadors
- Train ambassadors on GSI and effective stormwater advocacy
- Ambassador outreach to ensure maximum connection to community networks



GTECH GSI - Process

Gather Input



- Use surveys to identify where and what types of GSI are preferred
- Identify what community needs can be coupled with GSI features

Share Knowledge



- Outreach and education to equip residents for participation in regional stormwater discussion
- Share survey findings with residents, community partners, policy makers, and public authorities



GTECH GSI - Process

Demonstrate



- Implement demonstration projects in each neighborhood that manage stormwater and meet additional community-identified greenspace needs

3

Grounded GSI In Action





A-42 Neighborhood Liaisons

East Hills

East Liberty

Larimer

Lincoln-Lemington Belmar

Homewood



August '17 – May '18

\$225/month

15 hrs/month

Surveying & Outreach
Volunteer Recruitment
Demo. Implementation



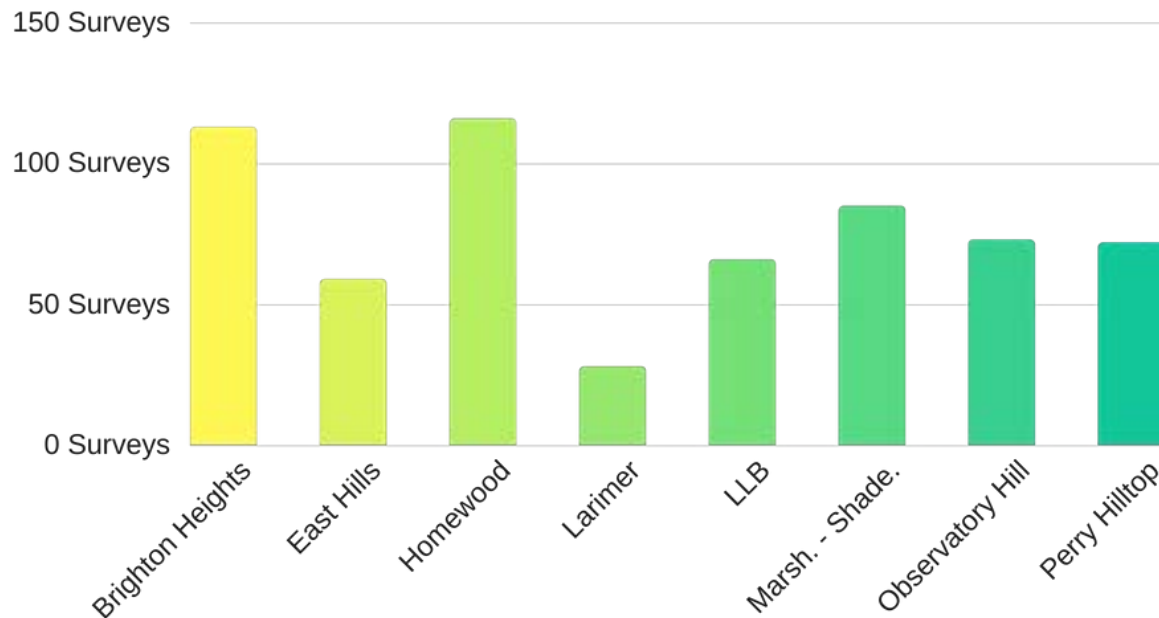
Grounded GSI Survey



- Where in your neighborhood have you noticed stormwater issues?
- Choose images to show what kinds of GSI you'd most like to see in your neighborhood.
- Where would you like to see these types of GSI in your neighborhood?
- What other kinds of outdoor spaces could your neighborhood benefit from?

Grounded GSI Community Survey

705 Surveys Total



O27 Sewershed Community Survey

STORMWATER SURVEY: MARSHALL-SHADELAND

GTECH

Street stormwater infrastructure can capture and filter stormwater before it becomes a problem. Below are some photos of examples. Circle no more than two images below to show what kinds of green stormwater infrastructure you'd most like to see in your neighborhood.



Where would you like to see green infrastructure in your neighborhood? Please write the place name, street address, or intersection.

What other kinds of outdoor spaces could your neighborhood benefit from? Check your top two choices.

- ☐ Open space for kids to play
- ☐ Open gardens
- ☐ Open parks
- ☐ Open area to display art
- ☐ Open neighborhood gateway or welcome sign
- ☐ Open area to be cleaned up
- ☐ Other _____

Optional: If you are interested in staying informed about this project, please leave your contact info here.

Name _____

Email _____

Phone _____

Comments or questions?

STORMWATER SURVEY: MARSHALL-SHADELAND

GTECH

Which neighborhood do you live in?

☐ Glen Heights ☐ Marshall-Shadeland ☐ Observatory Hill ☐ Perry Village Other _____

Where in your neighborhood have you noticed stormwater issues like flooding, flooding in basements, and erosion? Circle or star the areas on the map where there are stormwater issues and write a brief explanation in the notes written below.



Notes:

A42 Sewershed Community Survey

GTECH Green Stormwater Infrastructure Community Survey - East Hills



Name:

Please Number:

Street:

Interested in volunteering? ☐ Y ☐ N

1) Where is your favorite outdoor space in your neighborhood? Why?

2) What type of outdoor spaces and amenities are needed in your neighborhood?

(Check all that apply)

- | | |
|--|---|
| ☐ Playspaces for Children | ☐ Storage |
| ☐ Flower gardens | ☐ Public Places/Performance Spaces |
| ☐ Small Parks | ☐ Exercise/Recreational Activities |
| ☐ Public Art | ☐ Other _____ |

3) When it rains, do you experience any problems on your property or street?

(Check all that apply)

- | | |
|---|--|
| ☐ Wet basement | ☐ Springs/streams |
| ☐ Sewer/basement backups | ☐ Flooding |
| ☐ Ponding/pooling water | ☐ Other _____ |

4) Have a great idea or specific issue? Tell us!



East Hills

Legend

- Priority Areas
- Targets for Expansion
- Low Priority
- 1. Current Green Stormwater Infrastructure
- 2. Current Green Stormwater Infrastructure
- 3. Current Green Stormwater Infrastructure
- 4. Current Green Stormwater Infrastructure



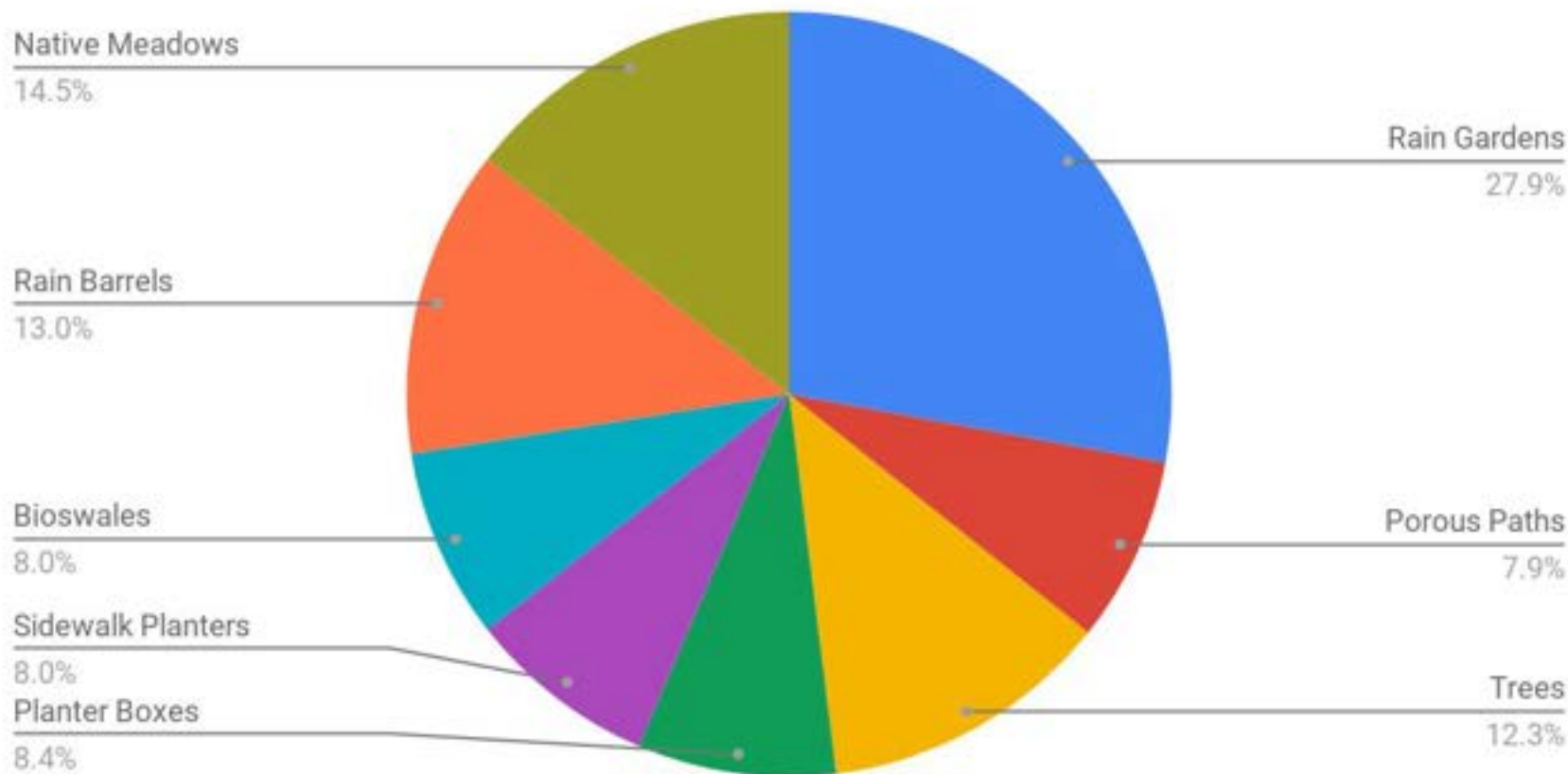
See More Maps
Click the map icon
Add to Community Map
Add to Community Map

0-27

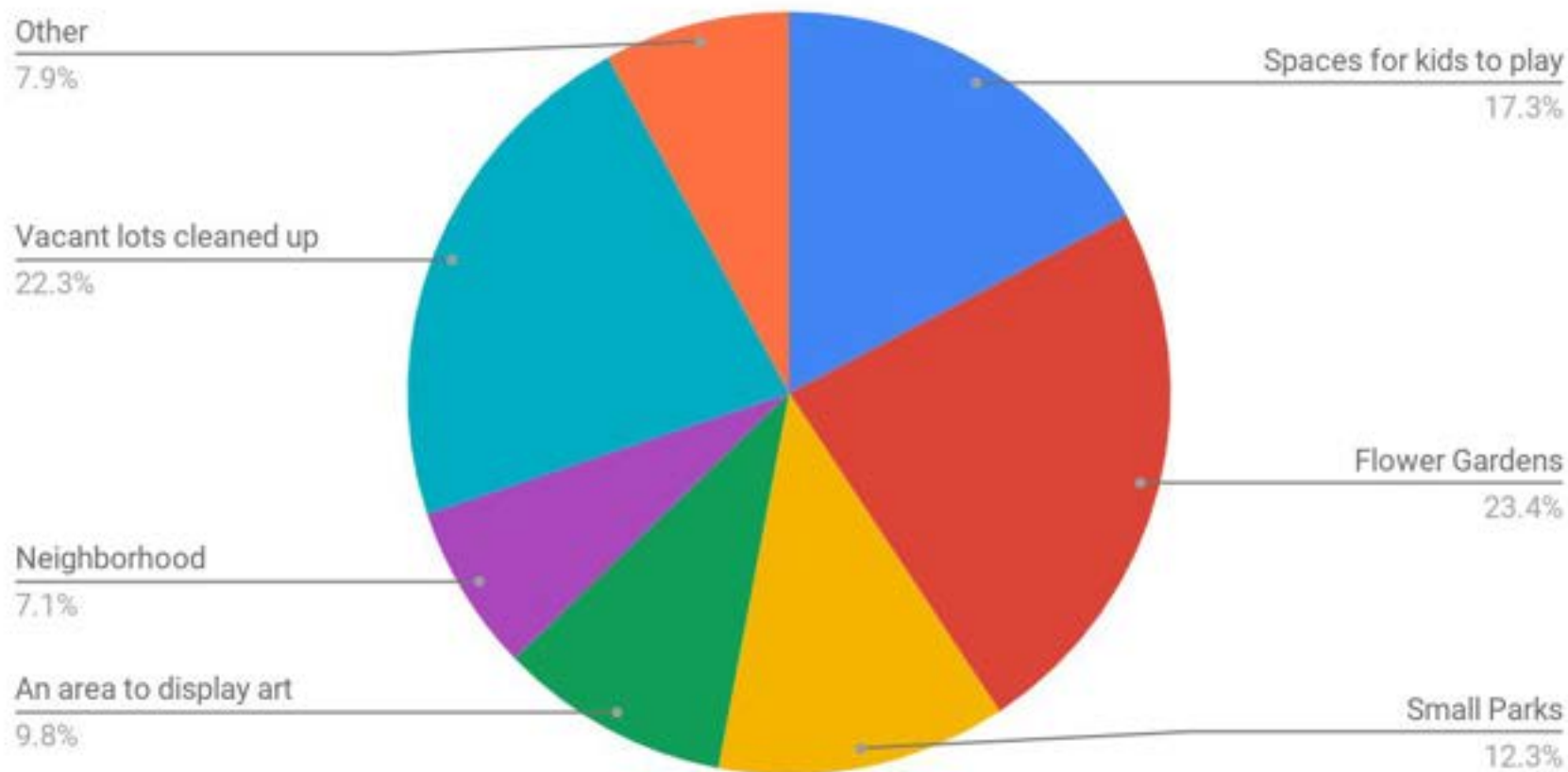
Sewershed Survey Results

Brighton Heights, Marshall Shadeland, Observatory Hill, Perry Hilltop

Choose no more than two images below to show what kinds of green stormwater infrastructure you'd most like to see in your



What other kinds of outdoor spaces could your neighborhood benefit from? Choose no more than 2.



Homewood Survey Results



Legend

- Resident Stormwater Issues (Homewood)
- Vacant Lots in PWSA Priority Area/Resident Stormwater Issue Area (Homewood)
- A42 Neighborhoods
- PWSA Priority Capture Area (A42)
- PGH Neighborhoods

1 inch = 1,250 feet
1 inch = .24 miles





Grounded GSI

Demonstration Project Portfolio



Funders & Partners



Funders

- Richard King Mellon Foundation
- FedEx Ground
- Winchester Thurston

Partners

- Landforce
- Stormworks
- Pennsylvania Resources Council

Grounded GSI Demonstration Projects

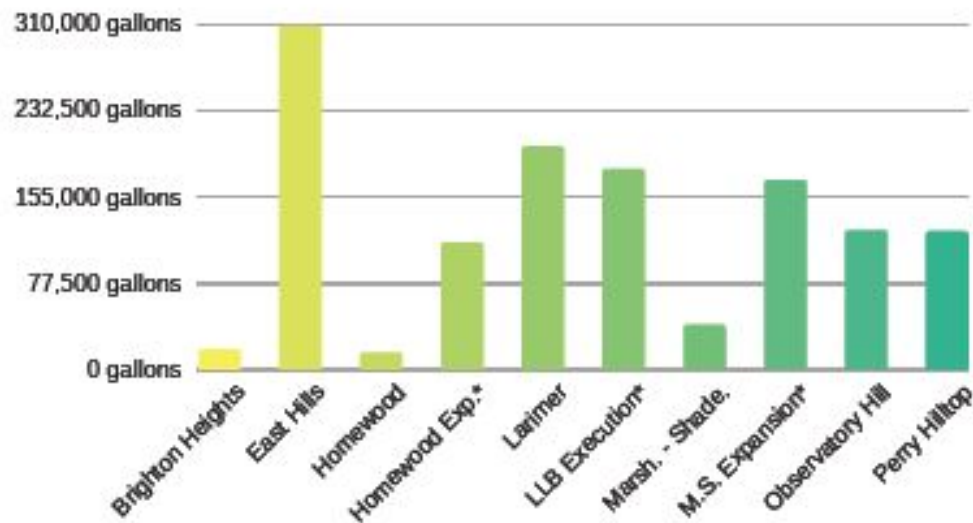
Gallons of Stormwater Captured Annually:

840,118 Gallons

Annual Design Capture*:

1,223,415 Gallons

Project Hard Costs
\$4k – \$25k



*Represents the total potential capture of GSI features if all sites are fully brought on-line. Additional funding and utility oversight from PWSA anticipated.



Providence Connections

Marshall Shadeland





Riverview Manor

Brighton Heights





Riverview Manor

Brighton Heights





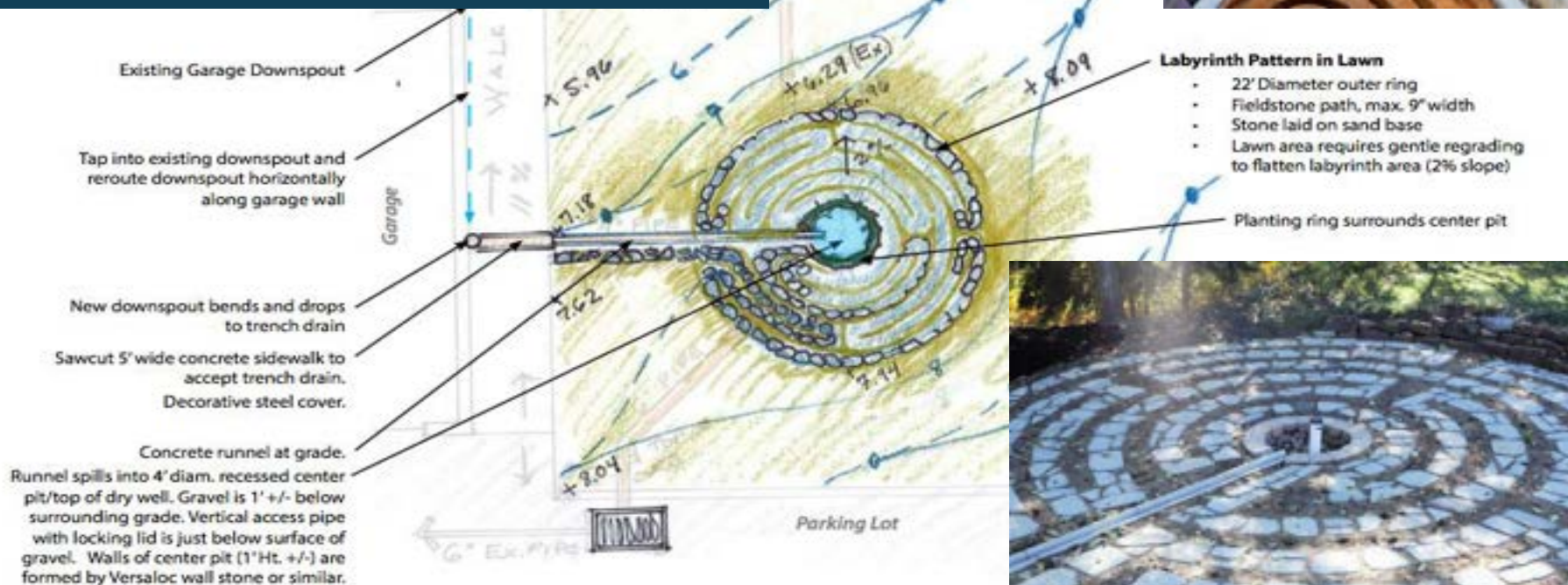
Rain Barrel Workshop

Perry Hilltop





Riverview United Presbyterian Observatory Hill



Labyrinth Surface Plan with Garage Drainage

1" = 10'







Downspout Disconnection

East Hills





Points to Remember - Ariam Ford

- Community GSI projects, timelines should allow a considerable amount of time plus a healthy contingency for final site selection, logistics planning, relationship building, and project completion.
- Limitations to community scale GSI include the absence of curb cuts, the difficulty of altering internal building systems, and coordinating with adjacent property owners on to fully build out GSI features.
- Sustainable, multi-year maintenance planning is the keystone to successfully executing community scale GSI projects

Points to Remember - Ariam Ford

- Powerful stories provide a conversation starter for deeper **knowledge sharing**, allow residents to find empathy with one another, and combined make up a **holistic and human-centric** understanding of regional stormwater issues.
- Must **balance data collection needs with** the challenge of assembling a resident cohort with **deep community roots**, and possibly without strong tech skills.
- Unified policy on GSI siting, installation, and maintenance enforcement is key

Grounded GSI Now

PWSA Stormwater Master Plan Ambassador
Project



groundedpgh.org/projects/pwsa-ambassador



Thank you!

Ariam Ford, Executive Director

she/her

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Socials – [@GroundedPGH](https://www.instagram.com/groundedPGH)

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