HAZELWOOD COMMUNITY GREENSPACE PLAN

PREPARED FOR: **Hazelwood Initiative Inc.**

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grounded

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Introduction

Hazelwood Community Greenspace Plan Purpose Statement:

To develop a collaborative, unified, and sustainable plan to guide and support the community green spaces of Hazelwood.

GROUNDED STRATEGIES RESILIENCE GENERATION PROGRAM

Resilient communities are comprised of both strong social networks and accessible resources enabling residents to address both chronic and acute shocks that may affect their health and well-being. For this reason, Grounded continues to build resources to aid communities in improving community health. Our entry point into vulnerable communities remains primarily vacant land but includes other land use issues and capacity building with partners.

Beginning in the Fall of 2016, Grounded launched the Resilience Generation Program (ReGen). This program offers a range of custom interventions in partnership with individual communities working to improve community health through a people and places approach. Grounded provides technical assistance and direct financial support through targeted land use interventions, strategic data collection, community capacity building and ongoing partner collaboration in the effort to increase resilience of vulnerable communities.

THE HAZELWOOD GREENSPACE PLAN PROJECT OVERVIEW

The Hazelwood Initiative applied to Grounded's ReGen program in early 2018. The goal of their application was to develop a collaborative, unified, and sustainable plan to guide and support the community gardens of Hazelwood. The plan for Hazelwood's community gardens is designed to complement broader planning efforts represented in the Greater Hazelwood Neighborhood Plan.

Hazelwood Garden Plan Project Goals

- Building a network of gardens and stakeholders
- Pursuing a unified maintenance strategy
- Identifying sustainable funding streams
- Creating and sustaining a Garden Stewardship Program
- Elevating garden awareness and engagement

Project Process

Stakeholder Network Review & Activation

Site Visits & Evaluation

Stakeholder Interviews

Pop-Up Outreach & Interactive Garden Activities

Findings Review & Goal Setting

Stakeholder Comment & Editing

Final Hazelwood Community Greenspace Plan Completion & Celebration

Hazelwood Community Profile

Beginning the Community Greenspace Plan with a snapshot of the community will provide context and help to better understand the needs of Hazelwood's gardens.

4,329 Hazelwood Residents

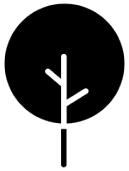
Hazelwood residents make up 1.4% of the entire population of Pittsburgh.

1 in 4 Hazelwood Residents Are Under 18

24% of Hazelwood residents are children. Youth are a key stakeholder group to consider when promoting community gardening in the neighborhood.

85% Increase in Average Residential Home Sales Price ('12 - '15)

Between 2012 and 2015, average residential home sale prices rose by $37,717. This suggests considerable development pressure in Hazelwood.

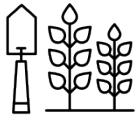


387 Acres of Tree Cover

38% of the land in Hazelwood is tree canopy. Mature trees enhance the quality of streetscapes and local environmental health.

215 Acres of Open Green Space

21% of the land in Hazelwood is open green space. This is equal to a green space the size of 11 parking spaces for every resident.



3 Community Gardens

Hazelwood is home to three community gardens. The Hazelwood Garden, Everybody's Garden, and Glen Hazel Garden.

Data source: https://statisticalatlas.com/neighborhood/Pennsylvania/Pittsburgh/Hazelwood/Overview
Accessed: January 2019

Hazelwood Community Gardens in Context

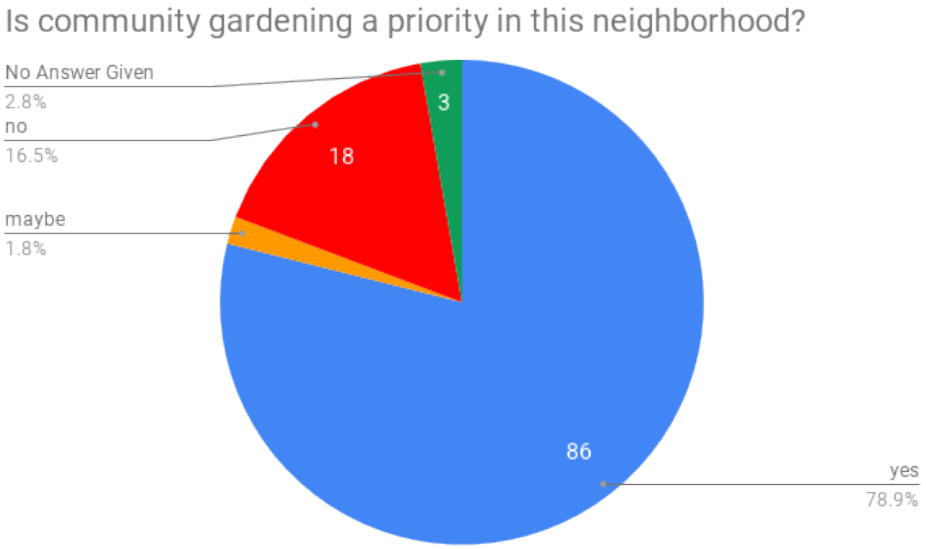
Map Credit: Grounded Strategies 2018
Resident supplied data

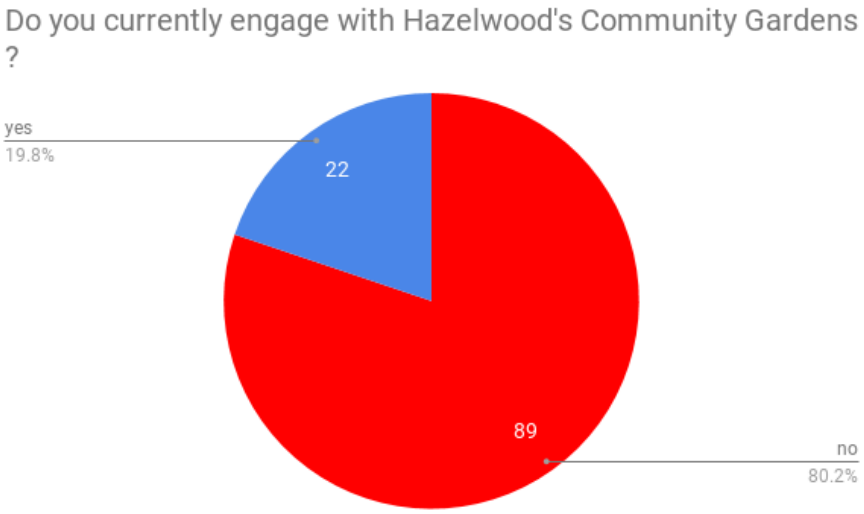
Hazelwood Community Garden Survey

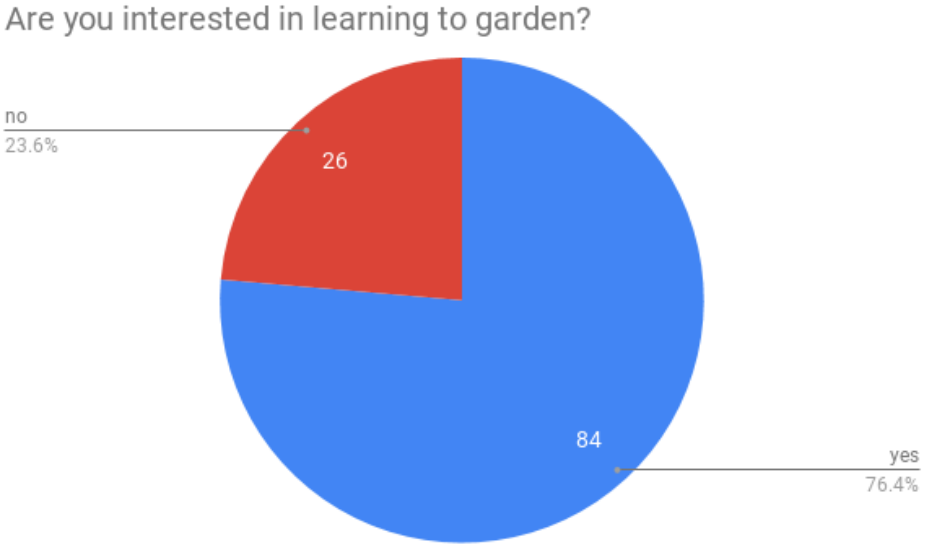
110

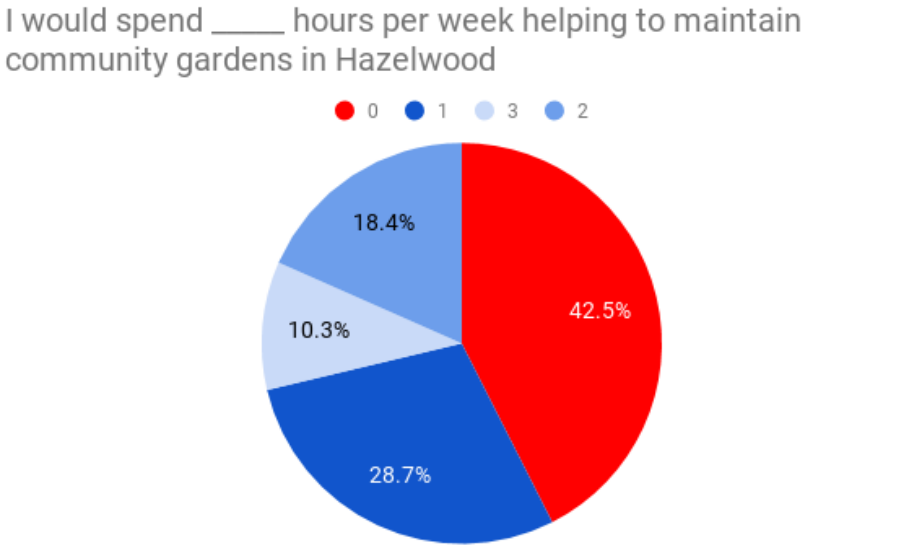
Total Survey Respondents

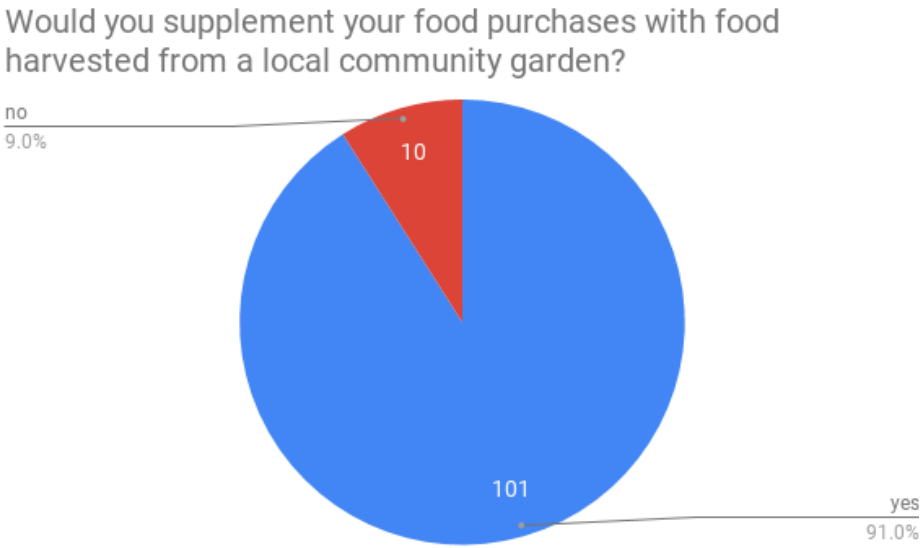
Grounded Strategies worked with Hazelwood Initiative to create and execute a community survey about Hazelwood's gardens. The goal of the survey was to understand how residents currently interact with gardens and how they prioritize greenspace in their community. Grounded executed the survey via a postcard mailer and door-to-door canvassing.











Key Takeaways

- 76% of respondents were interested in learning to garden.
- 80% of respondents said that gardening is a priority for the Hazelwood community.
- 42% of respondents said that they would not spend any time helping to maintain community gardens.
- 29% of respondents said they would spend 1 hour per week helping to maintain Hazelwood's community gardens. That is equal to 100 hours of volunteer potential a month.
- 19% of respondents said they would spend 2 hours per week helping to maintain Hazelwood's community gardens. That is equal to 128 hours of volunteer potential a month.
- 11% of respondents said they would spend at least 3 hours per week helping to maintain Hazelwood's community gardens. That is equal to 108 hours of volunteer potential a month.

Overview: Grounded's Methodology

Site Profiles
A brief profile of each site has been compiled in the next section. Each profile contains details about the garden including its name and location, as well as a short interview conducted with the current garden steward (or a site review completed by a Grounded staff member in the absence of a garden steward).

Steward Profiles
A garden is just an empty lot without a gardener to tend it. In recognition of their efforts, we've included a brief biography of the current garden stewards in order to inform the succession process when each of them steps down.

Technical Analysis
Before generating any recommendations, Grounded performed an analysis of the physical parameters of the site (including extant valuable species, weed and pest pressure, slope, aspect, and a field soil assessment). The results of these analyses are included in the following section, including recommendations about suitable vegetation.

Recommendation & Action Steps
Based on what we learned during our technical assessment and stakeholder interviews, we composed a series of recommendations and action steps unique to each garden, as well as over-arching goals shared between them.

5-Year Action Timeline
After making recommendations about improving the sustainability of each site, we include a quarterly calendar with target dates for accomplishing each goal. This way, we encourage users of this plan to be realistic in terms of their expectations. Remember, this plan is about sustaining greenspaces throughout the Greater Hazelwood area. In order to sustain a site in this use, it is important to set sensible goals that are within reach, and that align with an overriding strategy of community engagement, environmental stewardship, and economic empowerment.

Maintenance Timeline
Following the 5-year action timeline for each site, we include a calendar of site-specific maintenance interventions. These calendars include only a few items that stood out to Grounded as important to address for the site's sustainability. Users of this plan should view these sections as more of a living document: a worksheet that garden stewards can use to catalogue their maintenance needs and coordinate efforts so as not to squander volunteer labor.
Furthermore, we've included a 'perennial calendar' which contains annually recurring events and garden needs.

Hazelwood Community Greenspace Goals

These are archetypal strategies that can be employed to better sustain greenspaces within your neighborhood. Think of each goal as a distillation of a particular set of objectives meant to improve a site's sustainability in some way.

For instance: incorporating water harvesting on site may be as simple as deploying a rain barrel to capture the runoff from an existing roof, or as complex as planning and excavating a series of swales and capture ponds to meet a site's water needs.

Site specific strategies are included in each garden's section.

A Glossary of Greenspace Terms

In this section we review several site parameters which may not necessarily be familiar to all audiences. They are defined here:

Aspect - The compass direction that a slope faces. In this report, we represent this as degrees (clockwise) from North [i.e. North = 0°, East = 90°, South = 180°, West = 270°]. This parameter strongly controls the vegetation types that are suitable for a given site by indicating the amount of sunlight the site is likely to receive.

Canopy Closure - The amount of ground surface that is shaded by the aerial portions of woody vegetation as seen from above. This parameter strongly controls vegetation types that are feasible for introduction on a site by indicating the amount of sunlight that can reach the ground in a given area.

Slope - The amount of change in elevation per unit traveled horizontally. Expressed as a percentage where a 100% slope corresponds to a change in elevation of 1 unit for every 1 unit of horizontal distance traveled. The average slope of a site controls the types of design elements that are feasible to deploy on a site, as well as the activities that are possible on site (for instance, it would not be advisable to attempt row cropping on a 25% slope).

Soil Drainage - An estimation of the rate at which water will infiltrate into soil. In this report, it is represented as a simple 1 to 10 rating, with 1 representing a free draining medium (uncompacted coarse sand) and 10 representing an impervious surface (asphalt). This parameter controls the design elements suitable for a site, as well as the types of vegetation that it might support.

Soil pH - A measure of the relative abundance of Hydrogen ions in a given solution. Another way of thinking of pH is how acidic (low pH) or alkaline/basic (high pH) a solution is. The scale ranges from 0 (extremely acidic) to 14 (extremely alkaline). This parameter strongly controls nutrient availability in soils, and thus the types of vegetation that are possible to plant on a site.

Soil Salinity - Displayed in this report as ppm NaCl, this value represents the average amount of salt in a soil. As there were no areas of obvious salt-induced damage on any of the sites, this value was estimated based on site conditions (proximity of exposed pavement up-gradient from the site [a source of de-icing salts during winter]). Soils that are high in salinity can support only select species and varieties of vegetation, if they can support life at all.

Soil Texture - A measure of the relative abundance of sand, silt, and clay within a given soil body. These components control the mechanical and chemical properties of a soil, and thus the type and amount of vegetation that a site can support.

Hazelwood Community Greenspace Goals

	Goals	Overview

	Active Network of Hazelwood Gardens and Gardeners	• Perform targeted outreach to activate gardeners proximal to greenspaces in need.
		• Expand interest in gardens by biodiversifying planting strategies into themed areas
		  • Medicinal plantings
		  • Fiber/dye arts
		  • Pollinator friendly/apiculture areas
		• Cultivate and help to train a network of local landscape professionals for maintenance needs.

	Unified Maintenance Strategy	• Create and utilize a shared maintenance calendar for all sites. • Start plants for garden spaces at a centralized location and distribute to gardens on an 'as-needed' basis. • Keep a running 'to-do' list of tasks across gardens in order to effectively mobilize volunteers during twice-annual cleanups of each greenspace in concert with the PGH Mobile Toolbox.

	Dependable Funding Streams	• Identify funding sources based on specific site needs such as:
		  • Integrated Pest Management (IPM)
		  • Site Upgrades
		  • ADA accessibility upgrades.
		  • Water harvesting
		  • Rain Barrels
		  • Earthworks

	Elevate Garden Awareness	• Create signage or art pieces to draw attention to garden sites. • Create 'special interest' (dye, hops+beer, salsa) gardens, and committees to oversee them. • Host weekly garden events (mulching moshes, pickling parties, "salsa & salsa" night, etc.).

	Sustainable Garden Practices	• Perform sustainable management practices and upgrades such as:
		  • Maintaining a commitment to organic practices
		  • Crop rotations to maximize fertility and soil building
		  • On-site water harvesting
		  • Expansive perennial plantings
		  • Development of a distribution network for excess production

Garden Snapshots

Hazelwood Garden

Name: Hazelwood Garden

Location: 4713 Chatsworth Avenue, Pittsburgh, PA 15207

Parcel No. 0056-B-00222-00

Area 0.3 acres

Ownership: Hazelwood Initiative

Description The YMCA closed their operations in our neighborhood in 2016. HI bought the building and the garden site in early 2018, and, that spring, hired Matt Peters to serve as Garden Manager to administer a bed-allotment program.

Garden Steward Interview

What sorts of refuse (if any) tend to accumulate near your site?
Roadside litter is a minor/moderate level of nuisance.

What kinds of noxious weeds have you noticed on your site?
Canadian thistle. This year we are controlling it via removal with a broadfork, then smother-cropping with a mix of Oat and Sunn Hemp.

Do you notice any negative effects on your site that correlate with weather related events?
No

What kinds of nuisance animals are most prevalent in the neighborhood of your site?
Groundhogs!!!

Are there any edible annuals that naturally occur or are cultivated on your site?
Pigweed/Amaranth, Purslane, Lambs' Quarters, Cherry Tomato

Are there any edible perennials that occur naturally or are cultivated on your site?
Cultivated - orchard trees (peach, apple, pluot), hops, blueberry, thornless blackberry, mint, sage, asparagus. Wild/Volunteer - yellow dock, dandelion

Does your site have adequate composting facilities to accommodate additional neighborhood wastes?
Yes

Does your site have sufficient seating for people to rest out of the sun/rain?
Out of the sun, yes. Rain, not yet (shed under construction)

Is your site ADA accessible?
Not sure, probably easily modified.

Of your engaged community members, how many routinely attend cooperative garden events?
Hard to say, this is our first season of having engaged community members, this being our first year able to offer bed allotments. So far I'm pleased with participation, with more than 50% of the beds alloted during the 2018 season.

Does your site have trees that require pruning/removal?
Pruning yes, removal no

How robust is your communication network?
I am pleased with our communication network, we have a FB page, Email list, Web page, and onsite signage!

Does your site currently have areas that are challenging to utilize due to site conditions?
No (well, sloped areas could be utilized as pollinator/perennials)

Are there any plants that seem to consistently fail when grown on site (if so, what is the suspected cause)?
No

What is the chain of command/order of succession for the site, in the event that the current steward becomes unable to serve in that role?
In the event I am "hit by a bus" or eaten by groundhogs, command would revert to HI staff (Alf DiRosa).

Does your site produce/accumulate any resources/wastes in excess ?
No

What are the 5 most desirable elements/resources that would help your site flourish?

- New site layout allowing for more bed space per grower and more growers;
- Rain barrel collection system;
- Woodchuck traps;
- Improved pollinator garden (old one was mowed/died out).
- We also have an underutilized Greenhouse/Hoop House that needs some sort of plan to achieve its potential.

MATT PETERS, GARDEN STEWARD

Matt Peters moved to Hazelwood in 2011, when he bought house with a big yard in the forests of the Hazelwood Greenway. He was contacted by the precursor to the current Urban Ag Team and was asked to serve as Garden Manager for the 2012 growing season. He worked with youths, teaching gardening and basic carpentry skills.

The current Urban Ag Team, which is supported by Hazelwood Initiative, elected Matt as their chair and he has served in this capacity since January 2014.

In the spring of 2018, HI hired Matt to serve as Garden Manager for the former YMCA site, an opportunity which allowed the Urban Ag Team to offer bed-allotments to residents for the first time.
Prior to moving to Hazelwood, Matt lived in rural Athens County, Ohio on an off-grid community farm growing much of his own food, and working with a wholesale daffodil producer. He also worked on a 2-acre organic CSA farm that provided vegetables to some 75 families in Columbus. He has raised earthworms for compost since 2001, offering the rich Worm Castings for sale, and he brought this cottage-industry with him to Hazelwood. Matt also provides garlic for Dylamato's Market. Additionally, he teaches an annual workshop for Phipps on culturing Mushrooms.

His ability to place a small empty-lot garden in a cultural and ecological context brings with it a vision that combines local food sovereignty with ecological sustainability.

Hazelwood Garden

Technical Analysis

SITE SUITABILITY ANALYSIS

Criteria	Suitable For Trees	Suitable For Shrubs	Suitable For Annual Gardening
Physical Characteristics			
Soil Quality			
Assets			
Liabilities			
Aspect			

PHYSICAL CHARACTERISTICS

% Canopy Closure	5%
Slope (average)	4%
Proximity to Occupied Housing	0 Miles
Aspect	210

SOIL QUALITY

Soil Texture	Loam
Soil Drainage	4
Soil pH	6.5
Soil Salinity	210

ASSETS

Edible Annuals		Horseradish Mulberry Peppers Hops Blackberry Blueberry Osage Orange Pluot Tomatoes Peaches Apples Asparagus Mint Rose of Sharon Squash Strawberries Apricot Burdock Yarrow Sage Oregano
Edible Perennials		
Ornamental Plants		
Piped Water		
Access Trails		
Fencing / Hedge		
Access Road		
Composting Facilities		
Storage Facilities		
Seating		
Signage		
ADA Accessible		
# Of Engaged Residents	11	

LIABILITIES

Noxious Weeds	
Garbage	
Hazardous Materials	
Stagnant Water	
Erosion Gouges	
Nuisance Animals	

Hazelwood Garden

Recommendations & Action Steps

	Goals	Recommendations & Action Steps
	Active Network of Hazelwood Gardens and Gardeners	• Plan for ADA Accessible Upgrades • Organize and execute seed saving workshop • Recruit new gardeners within 5 block radius to maximize attendance and utility • Involve returning gardeners in site design planning
	Unified Maintenance Strategy	• Design new garden layout • Install additional garden beds • Develop plan to utilize the on-site greenhouse more fully

	Dependable Funding Streams	• Identify funding for:
		  • Additional garden beds
		  • HI Garden Manager to run and expand garden bed program
		  • Pest traps

	Elevate Garden Awareness	• Target survey respondents living around the garden to participate in the garden bed program and/or garden cleanups • Include signage at the front of the adjacent building and along Minden Street to increase visibility of the garden space.
	Sustainable Garden Practices	• Purchase and install pest traps • Install rain water harvesting system attached to shed/greenhouse • Plant more area to pollinator-friendly species • Include more fruit/nut bearing trees on sloped areas.

Hazelwood Garden

5 Year Action Timeline

	Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
	Plan for ADA Accessible Upgrades	●	●									
	Organize and execute seed saving workshop			●	●			●	●	●	●	●
	Recruit new gardeners	●	●	●	●	●	●	●	●	●	●	●
	Design new garden layout	●	●									
	Execute New Layout & Install additional garden beds			●	●	●	●					
	Schedule and execute 2 annual garden cleanups with the PGH Mobile toolbox and community volunteers		●		●		●		●	●	●	●
	Develop plan to utilize the greenhouse	●	●	●	●							
	Seek funding for Additional garden beds				●				●	●	●	●
	Seek funding for HI Garden Manager to run and expand garden bed program	●				●				●	●	●
	Seek funding for ADA upgrades		●	●								
	Seek funding for 2 Annual clean ups	●		●		●		●		●	●	●
	Seek funding for Garden party event	●	●			●	●			●	●	●
	Seek funding for Pest traps	●	●									
	Seek funding for Rain barrel	●	●									

Hazelwood Garden

5 Year Action Timeline

Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
Target survey respondents living around Hazelwood Garden to participate in garden bed program and/or garden cleanups	●	●	●	●	●	●	●	●	●	●	●
Host an annual garden party event in Everybody's Garden			●				●		●	●	●
Purchase and install pest traps			●	●							
Install rain barrel collection system			●	●							
Plant new pollinator garden		●		●		●		●	●	●	●

Utilize this section to record your site-specific maintenance goals as they arise.

Hazelwood Garden

Site-Specific Maintenance Timeline

Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
Host a mulching mosh in order to draw attention to the garden				●				●	●	●	●
Train Local Landscapers in Proper Plant Care	●	●	●	●	●	●	●	●	●	●	●
Pruning Workshop	●			●	●			●	●	●	●

Hazelwood Garden

Site-Specific Maintenance Timeline

	Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
	Form a relationship with a new local arborist in order to secure ample mulch.	●	●	●	●			●		●	●	●
	Canning Workshop				●				●	●	●	●
	Seed Saving Workshop			●	●			●	●	●	●	●

Everybody's Garden

Name:	Everybody's Garden
Location:	301 W. Elizabeth St.
Parcel No.	0056-N-00005-0000-00 0056-N-00006-0000-00
Area	5,500 Square Feet
Ownership:	City of Pittsburgh: Adopt-A-Lot
Description	Since 2008 this lot has been tended by Saint Jim the Composter. He has transformed this site into a beautiful and productive garden, with nine raised beds, flowers around the border, all centered around a beautiful peach orchard.

Garden Steward Interview

What sorts of refuse (if any) tend to accumulate near your site?
Food containers, small amounts of medical waste, discarded toys/ furniture

What kinds of noxious weeds have you noticed on your site?
Canadian thistle, bindweed

Do you notice any negative effects on your site that correlate with weather related events?
N/A

What kinds of nuisance animals are most prevalent in the neighborhood of your site?
Groundhogs, skunks, rats

Are there any edible annuals that naturally occur or are cultivated on your site?
(See Technical Assessment)

Are there any edible perennials that occur naturally or are cultivated on your site?
(See Technical Assessment)

Does your site have adequate composting facilities to accommodate additional neighborhood wastes?
It does not currently have such facilities, but has space within which to place them.

Does your site have sufficient seating for people to rest out of the sun/rain?
Shelter in the form of established trees, very little seating to speak of

Is your site ADA accessible?
It is not, but could be modified to be so

Of your engaged community members, how many routinely attend cooperative garden events?
5%

Does your site have trees that require pruning/removal?
Yes

How robust is your communication network?
Recently linked in with HI's network for messaging

Does your site currently have areas that are challenging to utilize due to site conditions?
Yes, some areas of the site are overgrown and need a back-to-baseline maintenance session. Additionally, some areas of the site need to be leveled/filled.

Are there any plants that seem to consistently fail when grown on site (if so, what is the suspected cause)?
No

What is the chain of command/order of succession for the site, in the event that the current steward becomes unable to serve in that role?
Hazelwood Initiative Staff

Does your site produce/accumulate any resources/wastes in excess ?
This site produces a large amount of food that goes unharvested. Additionally, because the site is so well established, it generates seedlings/propagules in abundance each year.

What are the 5 most desirable elements/resources that would help your site flourish?
- Mowing
- Site leveling
- Shed repair and rainwater harvesting
- Signage
- Permanent, permeable surface for paths

Everybody's Garden

Garden Steward Profile

Founder Jim McCue is a whimsical fellow with a storied past. Having worked in farms and gardens from Brant Lake, New York to Miami, Florida, Jim has gained a wealth of ecological knowledge that he has carefully applied to his work at Everybody's Garden. Jim has contributed to the fabric of Hazelwood in myriad ways, including contributions to The Homepage (a community newspaper), Hazelwood Initiative, and the urban agriculture team.
In Jim's words, "an ideal garden steward and green ambassador would:

- Have a desire to feed people;
- Have good health and strength;
- Have expertise in soils, [and] ecological principles such as encouraging quantity and diversity of life in a garden or region;
- Have recognition of the fact that a damaged piece of land CAN be healed;
- Have cooperation and organizing skill;
- Enjoy labor and teaching;
- Have a friendship rather than an 'enemy-ship' attitude toward fellow life forms;
- Know how to use all types of manure, including humanure, safely as a composting operator."

Never failing to consider even the most mundane of realities, Jim succinctly strikes at the heart of what it means to think sustainably in day-to-day life.

Everybody's Garden

Technical Assessment

PLANT SUITABILITY ANALYSIS

Criteria	Suitable For Trees	Suitable For Shrubs	Suitable For Annual Gardening
Physical Characteristics	■	■	■
Soil Quality	■	■	■
Assets	■	■	■
Liabilities	■	■	■
Aspect			■

PHYSICAL CHARACTERISTICS

% Canopy Closure	25%
Slope	1%
Proximity to Occupied Housing	0 Miles
Aspect	270

SOIL QUALITY

Soil Texture	Loam
Soil Drainage	4
Soil pH	6
Soil Salinity	750

ASSETS

Edible Annuals	■	Comfrey Mulberry Thyme Milkweed Daylilies Iris Sunchokes Sunflowers Potatoes Tomatoes Peaches Apples Asparagus Figs Rose of Sharon Squash Fennel Strawberries Leeks Chives Garlic Apricot Nettle Burdock Yarrow Sage Cucumber Oregano
Edible Perennials	■	
Ornamental Plants	■	
Piped Water		
Access Trails	■	
Fencing / Hedge	■	
Access Road	■	
Composting Facilities		
Storage Facilities	■	
Seating	■	
Signage		
ADA Accessible		
# Of Engaged Residents	6	

LIABILITIES

Noxious Weeds	■
Garbage	
Hazardous Materials	
Stagnant Water	
Erosion Gouges	
Nuisance Animals	■

Goals	Recommendations & Action Steps
Active Network of Hazelwood Gardens and Gardeners	• Launch community garden bed program • Install additional seating on site • Plan for ADA Accessible Upgrades
Unified Maintenance Strategy	• Install a rain barrel on site • Upgrade and add garden beds • Contact PWSA regarding on-site water tap

Dependable Funding Streams	• Identify funding for:
	  • Garden bed repair
	  • Leveling and revamping the section of the parcel between Lytle Street and Chaplain way to improve site access

Elevate Garden Awareness	• Take advantage of the open-access model this site has adopted
	  • Program this site with plenty of learning opportunities
	  • Composting
	  • Apiculture
	  • Canning Workshops
	• Since this site is very family friendly (with convenient playground access) consider programming this site with that in mind
	  • Block parties
	  • After-school learn-to-garden programs

Sustainable Garden Practices	• Expand on-site composting facilities
	• Plan for long-term ownership through lot purchase
	• Expand on existing food forestry practices
	  • Expand orchard section
	  • Plant edible shrubs such as hazelnuts or serviceberries
	  • Create a mushroom fruiting area where logs can be processed

Everybody's Garden

5 Year Action Timeline

Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
Launch community garden bed program	●	●	●	●	●	●	●	●			
Install additional seating on site	●				●						
Plan for ADA Accessible Upgrades	●	●	●								
Contact PWSA concerning a water hookup on site		●									
Upgrade and add garden beds	●				●						
Schedule and execute 2 annual garden cleanups with the PGH Mobile toolbox and community volunteers		●		●		●		●	●	●	●
Seek funding for site purchase through Adopt-A-Lot Program	●	●									
Seek funding for Garden bed repair	●				●						
Seek funding for Additional garden paths and beds		●	●								
Seek funding for Public Art and signage	●	●			●						
Seek funding for additional perennial plantings			●	●			●	●			
Seek funding for ADA upgrades			●				●				
Seek funding for 2 Annual clean ups	●		●		●		●		●	●	●
Seek funding for Garden party event		●				●			●	●	●

Everybody's Garden

5 Year Action Timeline

Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
Install garden art and/or impermanent signage in line with adopt-a-lot regulations	●	●	●	●	●	●	●	●	●	●	●
Target survey respondents living around Everybody's garden to participate in garden bed program and/or garden cleanups	●	●	●	●							
Host an annual peach preservation event in Everybody's Garden			●				●		●	●	●
Install additional composting facilities on site				●				●	●		
Plant additional edible perennials		●				●			●	●	●
Plan to harvest and distribute garden bounty surplus			●	●			●	●			

Utilize this section to record your site-specific maintenance goals as they arise.

Everybody's Garden

Site-Specific Maintenance Timeline

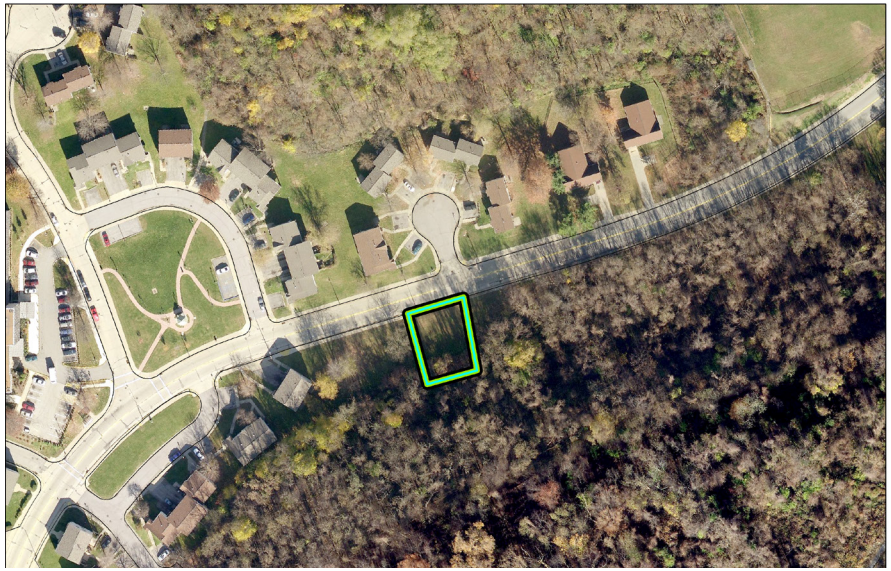
	Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
	Utilize bricks and other construction debris on site	●	●	●	●							
	Prune and process excess vegetation		●		●		●		●	●	●	●

Everybody's Garden

Site-Specific Maintenance Timeline

	Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
	Create a mushroom fruiting area for woody biomass volume reduction			●	●							

Glen Hazel Garden



Name: Glen Hazel Garden

Location: Coordinates 40.406047, -79.931279

Parcel No.: 0089-N-00026-0000-00

Area: 2,500 Square Feet

Ownership: City of Pittsburgh

Description: groundbreaking took place in the summer of 2012. Mike Wilson secured funding for the deer-fence surrounding the site.

In 2018 a concerted outreach effort by Mike, HI and the Urban Ag Team to find new participants has generated new interest in the site.

Garden Site Review

What sorts of refuse (if any) tend to accumulate near your site?
Cigarette butts, discarded toys/furniture, broken tools.

What kinds of noxious weeds have you noticed on your site?
Japanese Stiltgrass, Canadian Thistle, Tree of Heaven

Do you notice any negative effects on your site that correlate with weather related events?
N/A

What kinds of nuisance animals are most prevalent in the neighborhood of your site?
Groundhogs, raccoons, rats

Are there any edible annuals that naturally occur or are cultivated on your site?
No, the site was recently grubbed down to soil in preparation for next season.

Are there any edible perennials that occur naturally or are cultivated on your site?
See above.

Does your site have adequate composting facilities to accommodate additional neighborhood wastes?
It does not currently have such facilities, but it has space within which to place them.

Does your site have sufficient seating for people to rest out of the sun/rain?
Shelter in the form of established trees. No seating.

Is your site ADA accessible?
It is not, but it could be modified to be so.

Of your engaged community members, how many routinely attend cooperative garden events?
1%

Does your site have trees that require pruning/removal?
Yes

How robust is your communication network?
Grounded has recently linked this garden with Hazelwood Initiative to improve its messaging capability.

Does your site currently have areas that are challenging to utilize due to site conditions?
The site is in prime condition. It only requires gardeners to run it.

Are there any plants that seem to consistently fail when grown on site (if so, what is the suspected cause)?
No

What is the chain of command/order of succession for the site, in the event that the current steward becomes unable to serve in that role?
Michael Wilson → Hazelwood Initiative

Does your site produce/accumulate any resources/wastes in excess ?
The site has lain fallow for some years. As such it produces miscellaneous biomass in abundance.

What are the 5 most desirable elements/resources that would help your site flourish?
- **Regular site programming to draw attention**
- **Shed installation and tools**
- **Signage**
- **Wood-chips (or gravel) for paths**
- **A pavilion/gazebo on the garden side of the street for gardeners to rest.**

Glen Hazel Garden

Garden Preparation List

Items required for 2019 Season Start:
- Shed (1)
- Tuber forks (2)
- Hoes (4)
- Rakes (4)
- Garden Forks (2)
- Wheelbarrow (1)
- Garden Steward (1)
- Pest exclusion skirt for fence (1)

This site offers a very significant opportunity to create a link with the local ecosystem in order to promote food forestry practices.

The forest which surrounds the Glen Hazel Garden can be purposefully managed in order to allow for communal access to tree crops such as persimmon, walnut, hickory, pawpaw, jujube, and many others.

Additionally, as woody debris accumulate from revisions to the ecology of the forested area, any cut logs or chips can be innoculated with edible or medicinal mushrooms, such as Oyster (Pleurotus ostreatus), Elm Oyster (Hypsizygus ulmarius), Winecap (Stropharia rugosoannulata), Shiitake (Lentinula edodes), or Enoki (Flammulina velutipes).

Ideally, this site will serve as the seed from which the Rivermont Drive food forest could eventually grow. By carefully managing the stewardship of these areas, eventually many of the needs of the Glen Hazel community could be met locally.

Glen Hazel Garden

Technical Assessment

PLANT SUITABILITY ANALYSIS

Criteria	Suitable For Trees	Suitable For Shrubs	Suitable For Annual Gardening
Physical Characteristics			
Soil Quality			
Assets			
Liabilities			
Aspect			

PHYSICAL CHARACTERISTICS

% Canopy Closure	5%
Slope	4%
Proximity to Occupied Housing	0 Miles
Aspect	280

SOIL QUALITY

Soil Texture	Loam
Soil Drainage	4
Soil pH	6
Soil Salinity	1000

ASSETS

Edible Annuals	
Edible Perennials	
Ornamental Plants	
Piped Water	
Access Trails	
Fencing / Hedge	
Access Road	
Composting Facilities	
Storage Facilities	
Seating	
Signage	
ADA Accessible	
# Of Engaged Residents	3

LIABILITIES

Noxious Weeds	
Garbage	
Hazardous Materials	
Stagnant Water	
Erosion Gouges	
Nuisance Animals	

Glen Hazel Garden

Recommendations & Action Steps

Goals	Recommendations & Action Steps
Active Network of Hazelwood Gardens and Gardeners	• Conduct site-specific outreach to recruit new garden members in the Glen Hazel community • Expand HI's communications umbrella to incorporate Glen Hazel's greenspace staffing needs
Unified Maintenance Strategy	• Invite interested parties [identified through GS survey work] to seed starting and saving workshops • Prioritize expanding this site's area dedicated to propagating perennials

Dependable Funding Streams	• Identify funding for:
	  • Shed construction and tool kit
	  • Water harvesting
	  • Perennial propagules

Elevate Garden Awareness	• Plant a flashy perennial border in order to draw attention to the site during important seasonal events • A living calendar utilizing ephemerals will passively raise garden awareness each year during the spring at very low cost.

Sustainable Garden Practices	• The fencing around this site offers many opportunities for climbing/vining plants including:
	  • Grape
	  • Hops
	  • Potato Bean
	• Incorporation of water-harvesting earthworks around the fenced area would not only increase productivity within the fence but offer the opportunity to culture perennial seedlings around the garden like:
	  • Apples
	  • Plums
	  • Hickory
	  • Walnut

Glen Hazel Garden

5 Year Action Timeline

Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
Expand HI's communication's umbrella to serve Glen Hazel	●	●			●	●					
Conduct outreach within Glen Hazel community to boost support for greenspace		●	●			●	●		●	●	●
Seed starting workshops	●	●			●	●			●	●	●
Seed saving workshops			●	●			●	●	●	●	●
Shed construction and outfitting		●									
Fundraise for shed construction	●	●									
Fundraise for perennial propagules			●	●	●						
Fundraise for water harvesting earthworks	●	●	●	●	●						
Fundraise for ADA accessibility upgrades	●	●	●	●	●						
Fundraise for additional seating	●	●	●								
Fundraise for a Food Forest expansion into the surrounding forests									●	●	●

Glen Hazel Garden

5 Year Action Timeline

	Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
	Plant living calendar in order to boost awareness in subsequent years			●	●							
	Develop and implement youth oriented gardening workshops to ensure a pipline of activated community members	●	●	●	●							
	(S)elect a garden 'mayor' to organize the site	●										
	Plant climbing perennials around the fence to maximize productivity	●	●			●	●			●	●	●
	Earthworks construction				●	●			●			
	Create a mushroom fruiting area to process woody biomass					●	●			●		

Utilize this section to record your site-specific maintenance goals as they arise.

Glen Hazel Garden

Site-Specific Maintenance Timeline

	Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
	Populate garden with interested parties identified through GS survey	●	●	●	●							

Glen Hazel Garden

Site-Specific Maintenance Timeline

	Action	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021	2022	2023
	Host a “salsa & salsa” night to share out excess produce within the community			●				●		●	●	●

Potential On-Site Revenue Sources

A critical element of any sustainable plan is its resource base. With this in mind, Grounded proposes the following strategies to drive each greenspace toward resource self-sufficiency.

Hazelwood Garden

- Produce and sell propagules of the following vigorous species:
  - Horseradish
  - Blackberry
  - Mint
  - Sage
- Process the following into value-added products:
  - Cane fruits (Jams/Jellies)
  - Stone Fruits (Conserves/Compotes)
  - Pome Fruits (Dried Fruit/Fruit Sauce)
  - Herbs (Dried)

Everybody's Garden

- Consider altering the land-use agreement from the current Adopt-A-Lot structure to the Urban Redevelopment Authority's Farm-A-Lot program for more freedom in distributing goods produced on-site.
- Raise the following species on-site for transfer to other greenspace sites:
  - Peach
  - Comfrey
  - Daylilies
  - Irises
  - Sunchokes
  - Garlic

Glen Hazel Garden

- Since this site has recently been grubbed down to bare earth, it is suitable for producing any of the crops displayed in the following section.

Throughout Hazelwood

- Many crops are suitable for production and processing within Hazelwood (especially given the convenient siting of a Community Kitchen location on Flowers Avenue). Here is a short list of desirable species to consider for production and monetization:
  - Willow
  - Day Lily
  - Dogwood
  - Elderberry
  - Amelanchier (Serviceberry)
  - Persimmon
  - Hackberry
  - Honeybees
    - Honey
    - Beeswax
  - Hops
  - Composting Worms
    - Worm castings
  - Mushrooms
    - Oyster
    - Winecap
    - Shiitake
    - Blewit
    - Reishi
  - Woodchips/Mulch
  - Goats
    - Meat
    - Milk
  - Walnut
  - Pecan
  - Hickory
  - Honey Locust
  - Cherry

All of these crops and livestock could be valuable additions to the greenspace portfolio in Hazelwood. Given enough neighborhood buy-in it may even be sensible to develop "Hazelwood-brand" foods (**hazelnuts** would be an obvious choice for a pilot product).

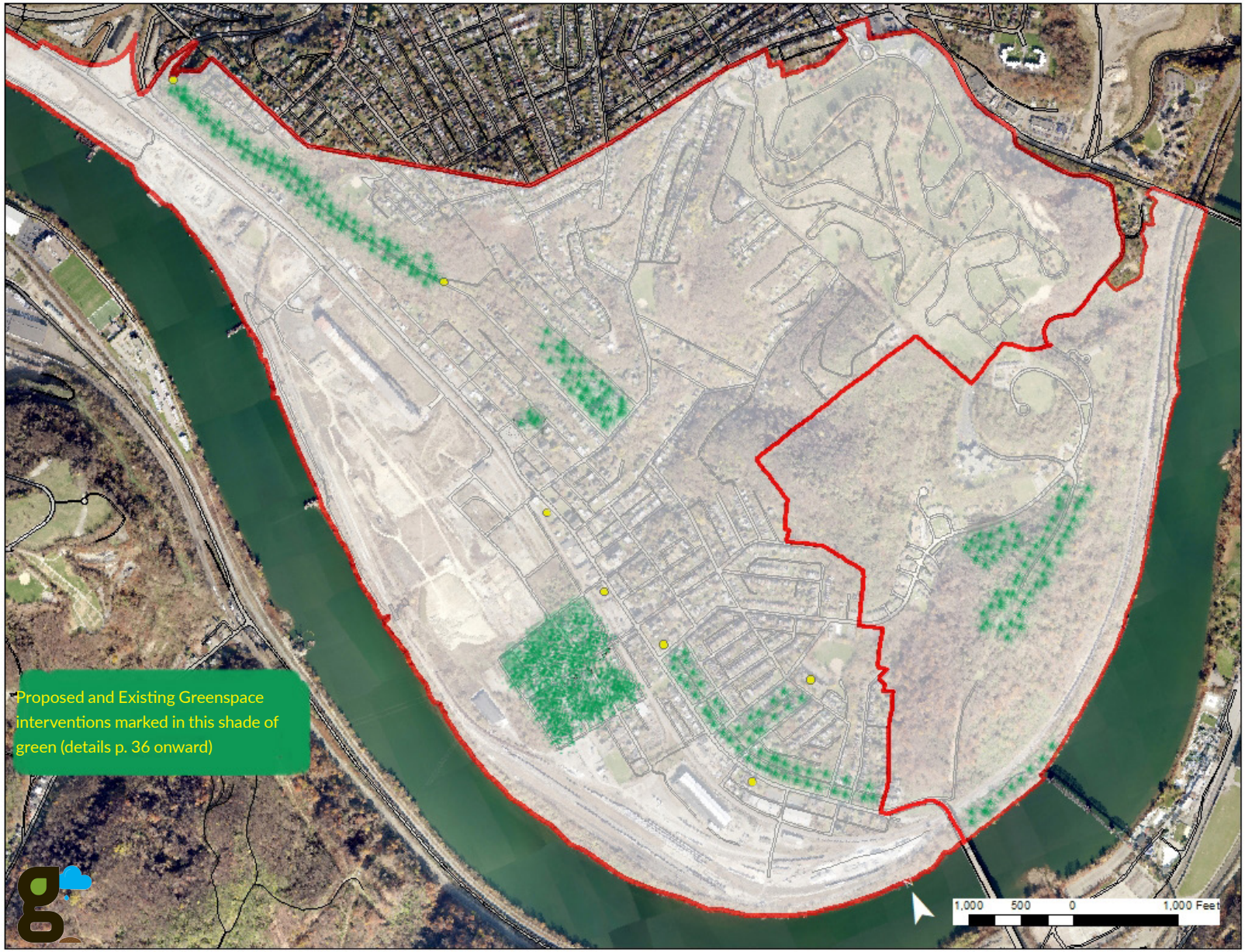
Neighborhood Scale Vision

The following section describes a long-term vision for improving the connectivity of and resident engagement with greenspace within the Greater Hazelwood area. These neighborhood snapshots describe several spaces that stood out during Grounded Strategies' 2018 field research as low-risk, high-reward intervention points in sustaining greenspace in this region. Each intervention serves a particular district or subunit of the neighborhood.

Furthermore, most of these possible interventions fall along a transect of the neighborhood between Greenfield in the North and the Glenwood Bridge in the South. This particular section was chosen due to resident concerns about improving non-motorized access to the neighborhood: a goal that aligns well with improving or sustaining green spaces.

On page 37's Map of Hazelwood Community Greenspaces, proposed greenspace interventions are displayed in the context of the neighborhood's current amenities.

Hazelwood Community Greenspaces



Map Credit: Grounded Strategies 2018
Resident Supplied Data

Sylvan Avenue Greenway: Hazelwood-Greenfield Pedestrian Friendly Access

Sylvan Avenue is a valuable portion of the long-term greenspace vision for Hazelwood. This decommissioned road serves as a safe bicycle and pedestrian pathway between the neighborhoods of Hazelwood and Greenfield. Residents of each of these communities have repeatedly complained about the traffic patterns along Second Avenue (Irvine Street). This road is also known as PA-885, an important commuter conduit and access point to the commercial district of the neighborhood.

Resources are already being invested into shifting the neighborhood's focus toward walkability and resilience. Currently, a Mon-Oakland connector is being discussed to improve intra-city transportation between Greenfield/Oakland and Hazelwood.

One intended outcome of the proposed Mon-Oakland connector is to improve pedestrian access resulting in a possible decrease in vehicular traffic.

Manifold modifications could also be made to the greenspace that is Sylvan Avenue. A huge opportunity exists for food forestry along this corridor. Smartly planted, this narrow strip could go a long way toward locally meeting the fresh-fruit needs of the Greater Hazelwood community. Consider incorporating these amenities in any future Mon-Oakland connector discussions.

Gladstone Green District: Environmental Engagement for the North Neighborhood

The grounds of the former Gladstone School offer a significant platform upon which to build a sustainable greenspace vision into the northern portion of Hazelwood.

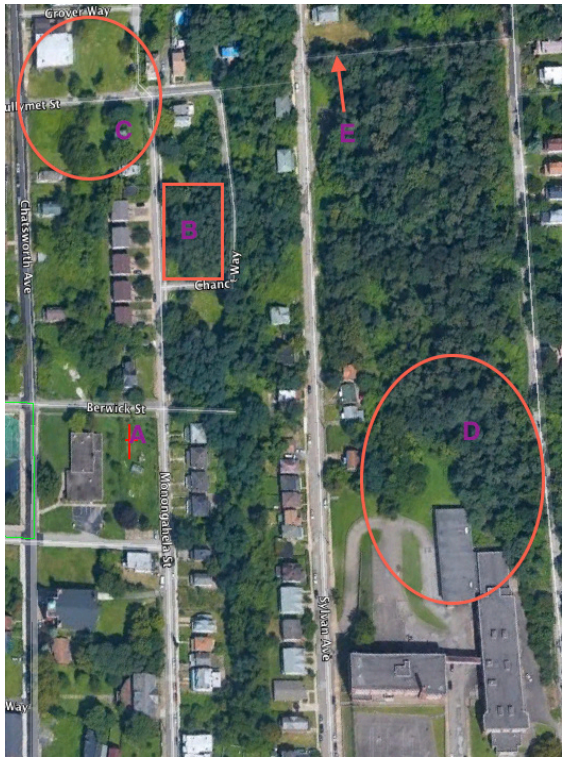
Aside from ample land area for utilization in agroforestry, the building itself is a strong foundation around which any number of ecologically friendly value-added production chains could be installed.

Currently, the swath of forest north of the Gladstone grounds represents an excellent opportunity to begin an agro-ecological shift. This patch of woods is rife with invasive understory vegetation: valuable browse that could be converted to cash via goat meat and milk production.

All of these suggestions are centered around Zone D on the map to the right. Zone A represents current work: the Hazelwood Garden. Zones B and C are past endeavors: one of the Project Picket Fence lots from one of the City's revitalization plans, and the aforementioned Sylvan Avenue. Zone C represents the John Woods house: a site deeply rooted in Hazelwood's history, and (hopefully) a significant site in the future.

The Woods house is currently being renovated into a restaurant and pub where residents will eventually be able to unwind after a day spent tending to a diverse array of crops produced just a stone's throw away on the Gladstone grounds.

This entire section of neighborhood could benefit significantly from joining the conversation around stormwater infrastructure changes occurring in the area. There is a strong case to be made for diverting and harvesting a large amount of the stormwater which currently plagues Hazelwood Avenue in order to grow crops, which could then be monetized as value added products such as jams, cheese, and roasted nuts.



Map Credit: https://maps.google.com
Accessed December, 2018

Above: The roof of the Gladstone building offers an opportunity for solar energy farming, rooftop cropping, and/or rainwater harvesting.

Above: Situated comfortably within a neighborhood, Gladstone could serve as a locus of training and employment for the environmental sector within walking distance of the community it serves.

Right: John Woods' House: previously the home of one of the first surveyors of Pittsburgh. Currently a historic landmark. Eventually, a bustling pub showcasing locally produced fare.

Gate Lodge-Pawpaw Greenway: A Safe Segue for Students

Map Credit: https://maps.google.com
Accessed: December, 2018

As part of a comprehensive neighborhood greenspace vision, pedestrian conveyance is paramount. Gate Lodge Way and Pawpaw way offer means to tie-in directly with Hazelwood's storied past, in a low-vehicular-traffic calm zone. These streets represent a marvelous opportunity to provide safe passage for neighborhood schoolchildren to make their way to and from the Propel School.

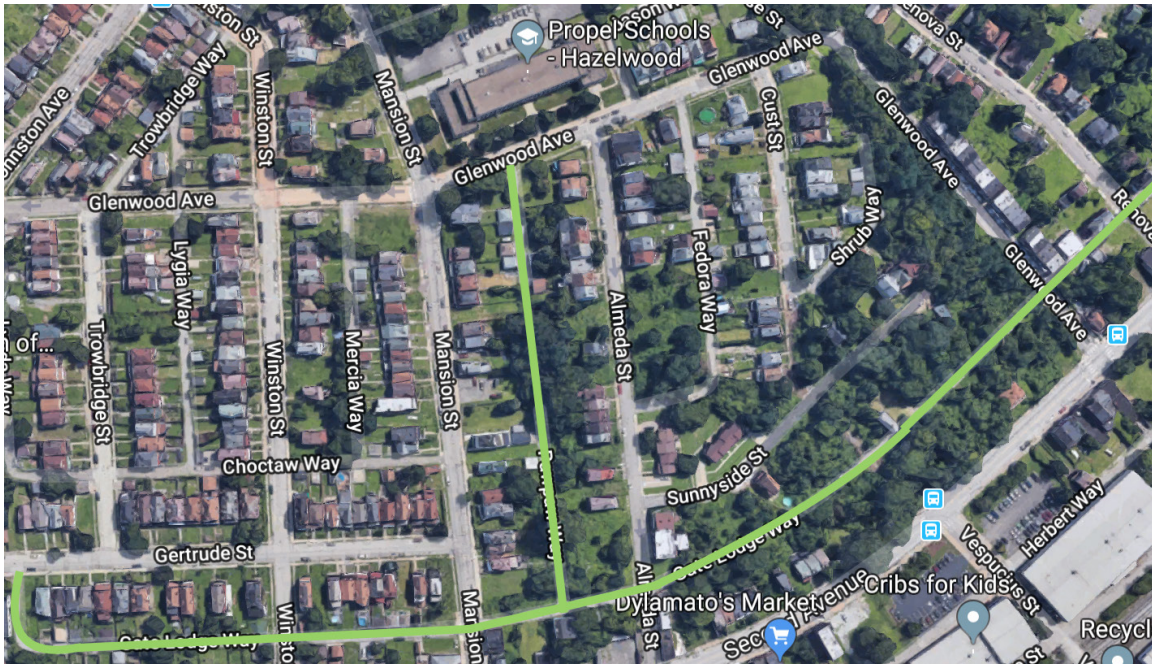
Aside from serving as a route between school and home, this segment of neighborhood greenspace can be purpose-planned to provide both historical and ecological lessons within walking distance of the school building.

Pawpaw Way could be reinvented using ethnobotanically appropriate species representative of the prior occupants of this river valley, the Monongahela people. The adjoining Gate Lodge Way could be landscaped in the manner that might have been employed by the Blair family gardener (for whose dwelling this thoroughfare was named).

By proffering history to students in this context, it leaps from the page to life. Instead of a dry, dusty text filled with events divorced from the experiences of pupils in both space **and** time, teachers would have an opportunity to more thoroughly root lessons in lived experience.

In addition to pages of reading, homework assignments might be supplemented with field investigations which could include ecological assessments and immersion in the natural world.

Aside from providing an outdoor classroom opportunity, bolstering the greenspace in this sector offers an added benefit of mollifying particulate pollution generated by the aforementioned PA-885 corridor. Thickening the vegetative barrier between Second Avenue and Gate Lodge Way would go a long way toward reducing the impacts of pollution on residents.



Far left: Gate Lodge Way at Mansion Street

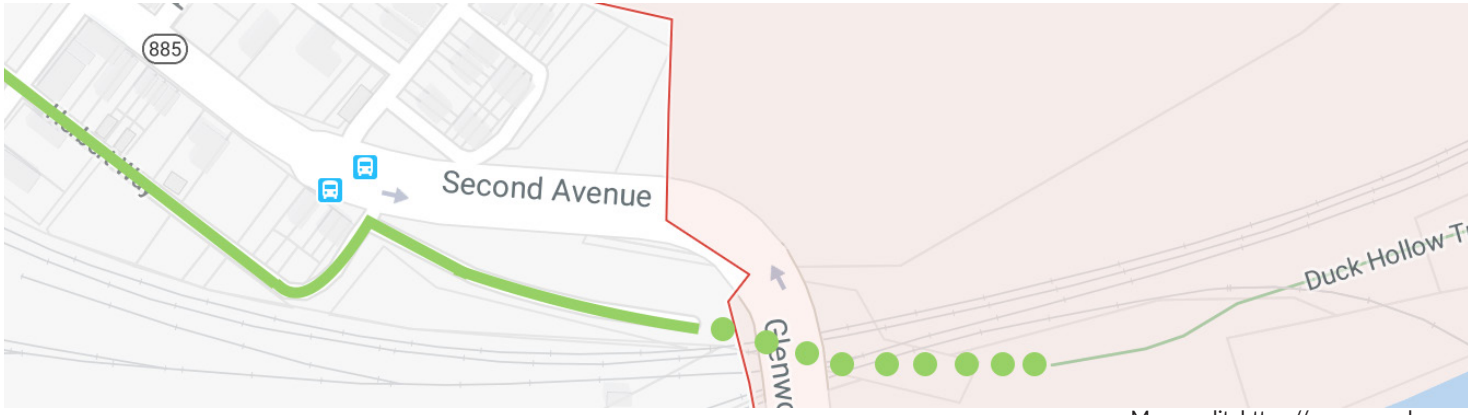
Left: Pawpaw Way leading to Propel School

Right and Above: Pawpaw Way at Gate Lodge Way. These sections of road could be designated "Local Traffic Only" in order to improve pedestrian safety within the neighborhood.

Duck Hollow Trail: Improved Cyclist Safety and Access for the Neighborhood's South Side

Many of the modifications suggested in this section are based on improving the connectivity of infrastructure investments that have already been made. Case in point: the Duck Hollow Trail. Formally stretching from Glen Hazel upriver to Duck Hollow (but realistically spanning all the way to Braddock), this path could conceivably convey cyclists more rapidly and safely between the Greater Hazelwood area and neighborhoods such as Rankin, Braddock, and Swissvale without forcing them to unnecessarily weave back and forth over the Monongahela River.

Many times, this cycling route could actually be faster than the more convoluted motorized vehicle pathing options, conveniently incentivizing physical activity and immersion in green space, both of which have demonstrable physical and mental health effects.



Map credit: https://maps.google.com
Accessed December 2018

Integrating this bike path into the larger neighborhood transportation scheme would allow for more exogenous traffic at local businesses, thereby encouraging opportunities for tourism related endeavors. Creating the space for slower forms of human conveyance (bikes, roller blades, skateboards, and pedestrians) generates additional opportunities for both messaging ("Come check out Historic Hazelwood!") as well as opening the door for the movement of monies and goods. After all, each of the aforementioned means of locomotion is relatively Calorie intensive: by allowing more people with healthy appetites to move through the neighborhood, it is possible to profitably showcase the bounty of goods grown and processed within the neighborhood. The act of bringing the customers to the goods can help to minimize distribution costs, allowing for greater reinvestment in resilience building endeavors.

Rivermont Drive: A Foundation for Food Forestry in the Neighborhood's Southern Section

Just as the area around Gladstone represents a possible production center for the northern section of the Greater Hazelwood area, so too does Rivermont Drive represent a past infrastructure investment that can be salvaged and repurposed to benefit the neighborhood in the future.

Utilizing the Glen Hazel Garden as an intensive propagation zone, this decommissioned street could be lined with productive tree species. Over time, Glen Hazel could incorporate sustainable forest goods production, including such commodities as fruits, nuts, timber, and mushrooms. Eventually, as the system matures, it could even produce some animal products such as meat, milk, or eggs.

By embracing a long term prioritization of greenspace and neighborhood resiliency over traditional development strategies, the valuable ecosystem services (stormwater management, air filtration, food production, etc.) provided by this large patch of forest could be augmented.

This neighborhood can certainly do better than damaging valuable habitat for the local bald eagle population: by boosting the degree of human interaction with this site in ecologically positive ways (tree planting, forest management, habitat generation/ preservation) it is possible to improve this region both for its human and non-human inhabitants.

Map credit: https://maps.google.com
Accessed December 2018

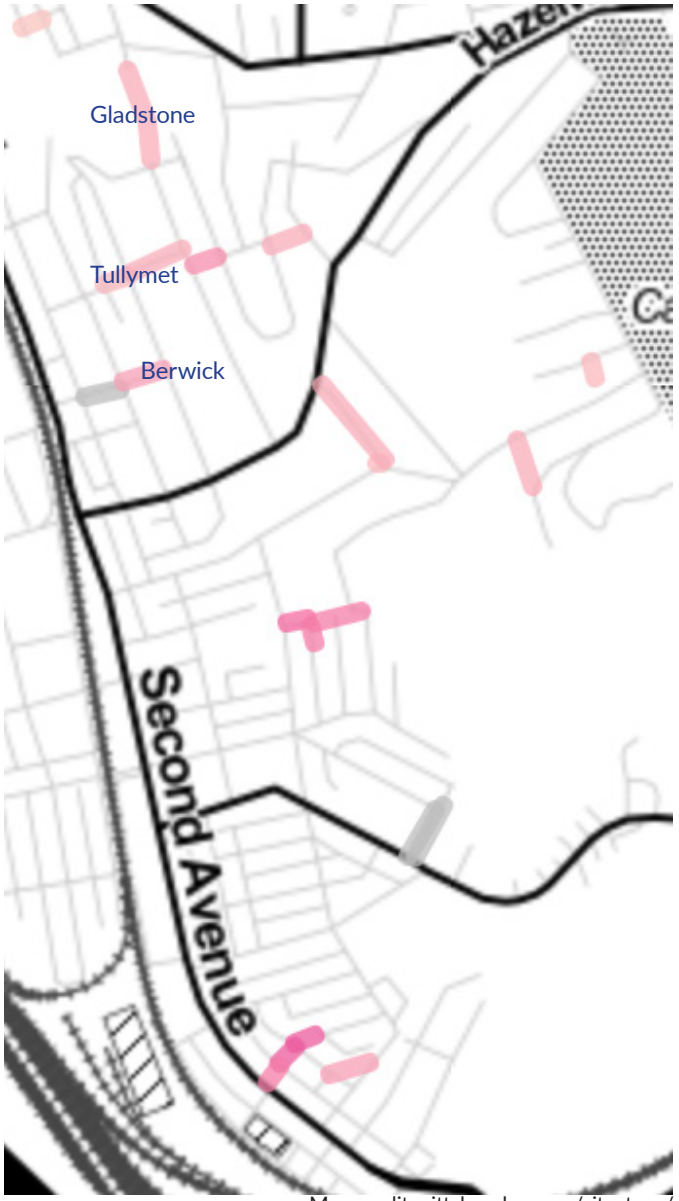
Pittsburgh City-Steps: An Inheritance of Interconnectivity

Pittsburgh's city steps represent a significant investment in pedestrian infrastructure that has, of late, been woefully underutilized. Rather than allowing this trend to continue, Grounded recommends timely interaction with the City of Pittsburgh in order to formulate a maintenance agreement. By taking advantage of the work that the city has already done to prioritize this large scale infrastructure project, it might be possible to encourage more thorough consideration of non-vehicular travelers within the Greater Hazelwood Neighborhood.

At right are three particularly salient sets of steps at Berwick Street [Top photo] (conveniently allowing access to the Hazelwood Garden from Sylvan Avenue), Tullymet Street [Center photo] (between Sylvan Avenue and Chance Way), and Gladstone Street [Bottom photo] (a convenient pedestrian shortcut to the Greenfield neighborhood).

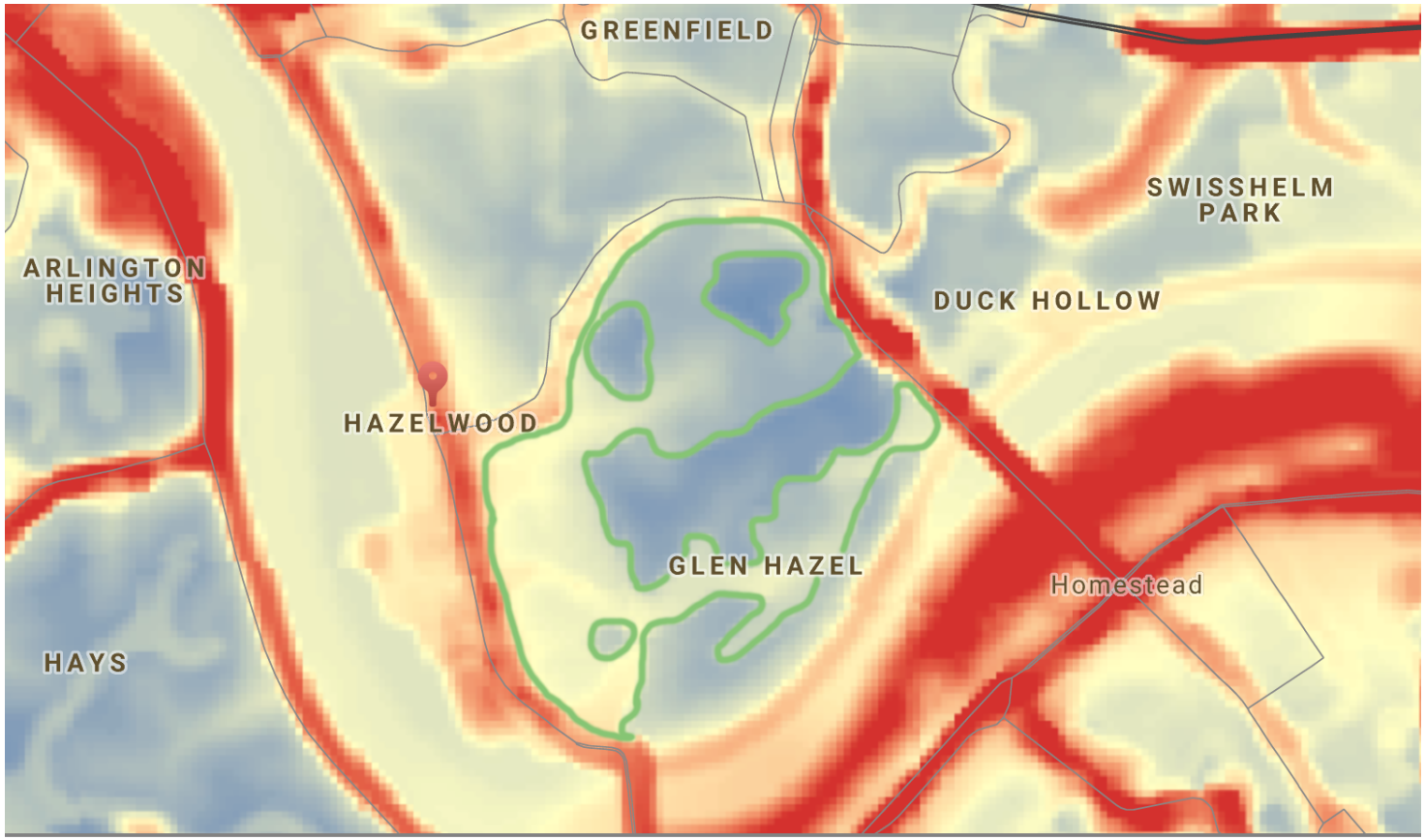
Each of these staircases is in relatively good condition as of autumn 2018, requiring only minor repair, weeding, and paint-touch ups. By further emphasizing walkability in any neighborhood scale development planning, these disused thoroughfares could eventually become pulsing conduits filled with neighbors bustling to and from commercial districts on foot.

By applying plantings of edibles and ornamentals to flank each set of stairs, as well as solar powered illumination, Hazelwood could signal to residents that these routes are not only open for travel, but also safe and inviting.
In concert with other suggestions from this section, these stairs serve as a valuable connection to improve neighborhood connectivity and resilience.



Map credit: pittsburghpa.gov/citysteps/
Accessed December 2018

Greenspace Impacts on Air Quality: Black Carbon



Black carbon (**BC**) is easily identifiable as black or grey "soot" emitted from a diesel truck, industrial facility, or camp fire. **BC** is a component of fine particulate matter ($\mathbf{PM_{2.5}}$); breathing fine particles increases risks of asthma attacks, heart attacks, reduced lung function, lung cancer, and death. Allegheny County does not meet federal standards for $\mathbf{PM_{2.5}}$ concentrations, and **BC** is part of the problem. In Pittsburgh, the major sources of **BC** are industrial facilities and diesel vehicles. Elevated BC (and $\mathbf{PM_{2.5}}$) concentrations are found in communities in the river valleys, and people living in those communities have higher risks of negative health impacts from pollutant exposures than the county average.

Map credit: https://breatheproject.org/pollution-map/
Accessed December 2018

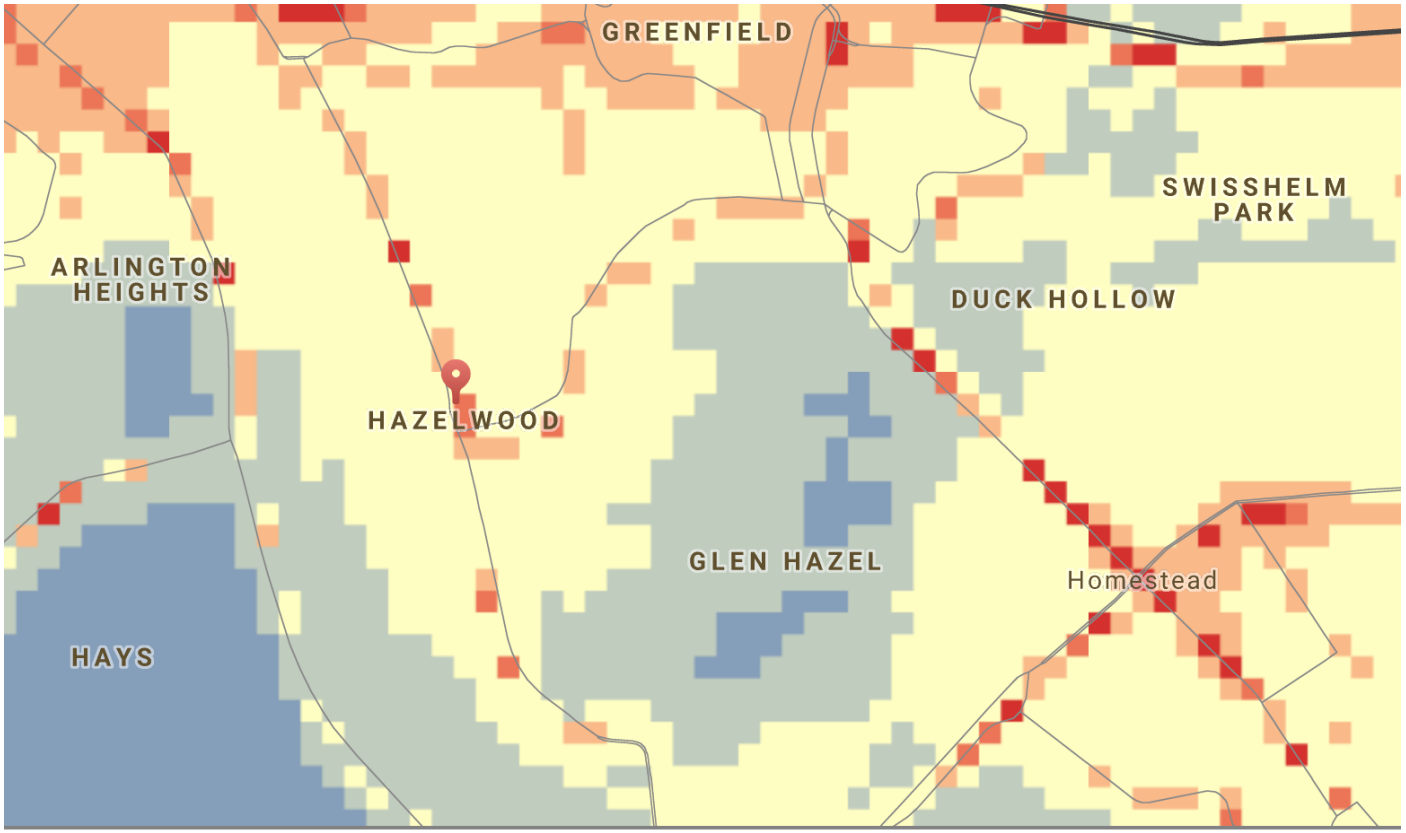
In order to mitigate the polluting effects of PA-885's traffic within the neighborhood, Grounded recommends an expansion of the vegetative buffer between the high traffic volume areas illustrated in red (left) and the nearby residential sectors.

The following species have been identified as highly effective in tempering the effects of air pollution: *Ficus carica* (edible fig), *Chenopodium murale* (nettleleaf goosefoot), *Salix purpurea* (purpleosier willow), *Catalpa speciosa* (northern catalpa), *Syringa meyeri* (Lilac), *Ulmus pumila* (Siberian elm), *Broussonetia papyrifera* (paper mulberry), *Platycladus orientalis* (arbor vitae), *Abies alba* (silver fir), *Picea rubens* (red spruce).

Efforts to improve one area's green infrastructure can often lead to the development of several supporting endeavors in the locality, such as bulk materials suppliers, and nurseries. Propagation of remediation-oriented species in Hazelwood could eventually turn into an export business to other communities in atmospheric distress.

Note the area highlighted in green (left): the green line represents the extent of previous clear-cutting in the area. The forest still has not yet recovered its previous air filtration capacity.

Greenspace Impacts on Air Quality: Nitrogen Dioxide



Nitrogen dioxide (NO_2) is part of a larger class of compounds called nitrogen oxides (NO_x) that are emitted by cars, trucks, buses, trains, power plants, industrial facilities, and outdoor power equipment. NO_2 is one of the EPA's criteria pollutants that have strict ambient concentration standards. Exposure to NO_2, even for as little as 30 minutes, increases airway inflammation in healthy people and can worsen asthma symptoms. In Pittsburgh, the highest NO_2 concentrations are found downtown, along major roadways, and near industrial areas. People living or working in these areas have higher risk of airway inflammation and asthma attacks.

Map credit: https://breatheproject.org/pollution-map/
Accessed December 2018

In addition to the health risks listed in the diagram at left, nitrogen oxides also increase the acidity of precipitation. While some of this nitrogen is taken up by plants during the growing season, that which is not contributes to the mobilization and leaching of elements from the soil, including lead (Pb), iron (Fe), aluminum (Al), manganese (Mn), copper (Cu), zinc (Zn), and arsenic (As). Increased mobilization of these elements leads to their infiltration into groundwater sources, which can have negative ecological implications.

Each of the following species is particularly well suited to removing nitrogen oxides from the atmosphere. Additionally, many of these species are trees with relatively large water demands, which could reduce leaching effects by taking up mobilized ions in the soil solution, capturing them before they escape to groundwater. Grounded recommends the following species to combat the negative effects of nitrogen oxides: *Populus nigra* (Lombardy poplar), *Robinia pseudoacacia* (black locust), *Nicotiana tabacum* (cultivated tobacco), *Fagus grandifolia* (American beech), *Liriodendron tulipifera* (tuliptree), *Populus deltoides* (eastern cottonwood), *Platanus occidentalis* (American sycamore), *Magnolia kobus* (Kobus magnolia), *Erechtites hieraciifolius* (American burnweed).

Urban Agriculture Team Chairperson

The chairperson of HI's Urban Agriculture Team serves as a nexus between the Hazelwood community, materials purveyors, and Hazelwood Initiative Inc. As such, this role must be filled by an individual who is capable and willing to address a wide variety of concerns, issues, and challenges.

Furthermore, this role should be filled by an individual who has a passion for maintaining and improving greenspaces. The following page details some of the duties, ideas, and ideals of current and previous greenspace stewards in Hazelwood.

Urban Agriculture Team Chairperson Duties

- Hold a regular public meeting every month except December. Third Tuesday, 6:30 PM at rotating locations in the neighborhood.
- Send out monthly newsletters detailing goings on at the various garden sites (1-2 sentence brief for each greenspace under the agriculture team's umbrella). These are to be shared on FB, via email to the Urban Ag Team, and archived in an online Blog.
- Monthly article for Hazelwood Homepage.
- Administer bed-allotment assignments and other volunteer or member involvement.
    - Provide oversight or administration to semi-autonomous garden steering committees
- Photograph each site (10 photos) every other month to aid in publicizing the garden's progress/setbacks, and to better demonstrate the need for gardeners when it comes time to weed, prune, or otherwise tend these spaces.
- Inventory and transport shared tools between garden locations
    - If tools are not personally transported by the Ag Chair, documentation of chain of custody will be necessary (can be as simple as a handwritten list or as elaborate as an online checklist/report).
- Schedule seed/media orders in accordance with garden needs and funding availability.
- Coordinate events in cooperation with outside organizations (Grounded, Grow Pittsburgh, Tree Pittsburgh, etc.) in order to support green space efforts.
    - Maintain good standing and communication with these local support organizations
- Attend gatherings of new/prospective greenspace groups as they arise in the Greater Hazelwood area, with the hope of including them under the HI greenspace umbrella.
- Develop a calendar of Workshops, a repeating series of basic skill-share sessions based on seasonal needs.
    - Schedule Annual seed-swaps, plant swaps, canned goods swaps, etc
- Supervise garden tasks for large volunteer groups.
- Amplify community interest in green spaces through several (~3) events each year.
    - These might include Planting/Harvest festivals, mulching parties, litter cleanup events, and the induction (grubbing) of new green spaces into the network.
- Host education sessions to increase local knowledge of helpful/hurtful plant species
    - Can be built into volunteer workdays/posted in social media.
- Plan expansions/augmentations to existing green spaces in order to increase their sustainability
    - Composting facilities
    - Greenhouses/hoop houses
    - Tool Sheds
    - Biogas Digesters
    - Monitoring stations (weather, air quality, etc.)
    - Earthworks (swales/ponds/infiltration pits)
    - Kitchen
    - Rainwater harvesting
    - Food Forests
    - Kernza - perennial grains
    - Fiber Arts: Sunn Hemp, Kenaf, flax etc. Dyes, Dyer's Garden. Industrial History.
    - Paper: knotweed
    - Baskets: vines
    - Animals: goats or sheep, chickens, bees…. (horse traction? Forestry, stone, other incidentals?)
- Act as a liaison between the production side of things (green spaces/gardens) and local markets (caterers/grocers) in order to reduce/prevent waste of cultivated products.

Hazelwood Community Greenspace Perennial Calendar	Tasks
January	January 8th - Deadline for Fedco seed order
February	Tree Pruning - Nuts, Apples, Pears, Osage Orange, Walnut [Dry day] Monthly Meeting Schedule Begins
March	Seed starting under light trays at Hazelwood Library [Workshop]
April	Seedling transplant/care [Workshop] Mushroom Culture [Workshop]
May	Weeding 101 - Annual Weed Identification [Workshop]
June	Weeding 102 - Perennial Weed Identification [Workshop]
July	Tree Pruning - Stone fruits (Cherry, Peach, Plum, Pluot, etc.) [Dry day]
August	Processing + Canning [Workshop] Seed Saving [Workshop]
September	Cover Crops [Workshop]
October	Composting 101 - Open systems [Workshop]
November	Composting 102 - Containerized systems [Workshop] Season Extension 101 - Low Tunnels [Workshop] Final Monthly meeting of the year
December	Fallow time - Research for next year

Potential Funders and 2019-2020 Calendar

A critical element of any sustainable plan is its resource base. Without sufficient funding, materials, and personnel, objectives cannot be achieved. To this end, Grounded Strategies has researched a few funding opportunities that might be applicable to greenspace projects in the Greater Hazelwood Area.

Grow Pittsburgh
- Small Potatoes & Big Tomatoes Grants

Pennsylvania Department of Environmental Protection (PADEP)
- Environmental Education grants
- Growing Greener

Fiskars
- Project Orange Thumb

Foundation for Pennsylvania Watersheds

Heinz Foundation - Grant Program

Pennsylvania Association of Conservation Districts

Pennsylvania American Water
- Environmental Grant Program

Pennsylvania Department of Conservation and Natural Resources (PA-DCNR)
- Community Conservation Partnerships Program
- Community parks & conservation
- Pennsylvania recreational trails program
- Trails program
- Treevitalize grant program
- Wild Resource conservation program

Pennsylvania Department of Aging
- Health and Wellness Program

Pennsylvania Department of Agriculture
- Agritourism
- Organic Cost-Share program
- Good agricultural practices/good handling practices cost-share program
- PA Grows
- Specialty Crop Block Grant Program

Department of Community and Economic Development
- Community Development block grant
- Community services block grant
- Flood mitigation
- Greenways, trails, & recreation program
- Historic Preservation tax credit
- Industrial sites reuse program
- Innovate PA
- Life Sciences Greenhouse
- Multimodal Transportation fund
- Neighborhood assistance program
- Neighborhood partnership program
- Special program priorities

Pennsylvania Infrastructure Investment Authority
- Renewable energy Program
- Watershed restoration protection program

Pennsylvania Department of General Services
- Federal surplus property program
- State surplus property program

PennDOT
- Multimodal transport fund

Hazelwood Community Greenspace Action Plan Fundraising Goals 2019-2020	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Rationale
Monetize Garden Products	Plan(t)	Process	Peddle	Plan	Plant	Process	In order to tie revenue generation to each site, consider monetizing one or more products from that site for marketing within the community.
Shed and Tools	Fundraise	Deploy	Advertise				A relatively low-cost upgrade that can, almost by itself, convert a vacant lot into a community garden.
Perennial Propagules		Fundraise		Deploy	Advertise		Another low cost amenity that appreciates over time. By getting perennials onto sites early, it is possible to eventually source propagules from within the local garden network rather than expending resources to gather them.
New Raised Beds	Fundraise	Deploy	Advertise	Fundraise	Deploy	Advertise	As this plan is implemented, additional gardeners will arrive seeking space to till. Expansion of designated gardening spaces will be pivotal in boosting individual site capacity.
ADA Upgrades	Fundraise	Fundraise	Deploy	Advertise			These moderate cost upgrades required more planning to implement. However, inclusivity is paramount when planning at the community scale. Accessibility upgrades allow more gardeners to participate, lowering the individual maintenance burden.
Earthworks				Fundraise	Fundraise	Fundraise	These expensive upgrades pay long-term dividends by improving site resiliency against extreme weather events as well as increasing surface area and microclimate effects.