“No Jobs, No Hope”

Connecting Low Income Communities to Green Collar Jobs via Philadelphia’s “Green City - Clean Waters” Plan

Making STORMWATER MANAGEMENT Everybody’s Business

Creating Jobs by Bundling Stormwater Management Strategies

Water Proofing Buildings + Green Infrastructure

Community School as Center of Job Training Program for Local Low Income Residents

Hires and Trains Local Low Income Residents
- Job Traning Programs

Conducts Outreach to Property Owners
- Encourage property owners to take responsibility for onsite stormwater management strategies
- Workshops, incentives, technical assistance and outreach

Block-by-block Contest

- Winning block becomes pilot and receives free retrofitting, incentivizing participation and increasing buy in of entire neighborhood
- Involve block residents and high school students in the process of proposal
- Residents take ownership of stormwater management
- Team of professionals and university students assist each block
- Leverage funds and resources

Rehabilitate Homes

Leaky Roofs, Flooding Basements, Subsidence

Increase Care for Public Spaces

Poorly Cared for Public Spaces

Increase Jobs, Decrease Crime

Unemployment = Crime

Individuals understand and take ownership of water management

Low awareness for stormwater management

Community School as West Philadelphia’s Hub for Neighborhood-based Green Collar Jobs

Block-by-block Implementation in Brown St Transect

- Economies of scale reduces costs
- Increases visiblity and adoptation

Transforming the Brown St Transect into the Hub of Stormwater Management

- Replicate Pilot Throughout Philadelphia
- Other Neighborhoods Create Community School Job Training Centers

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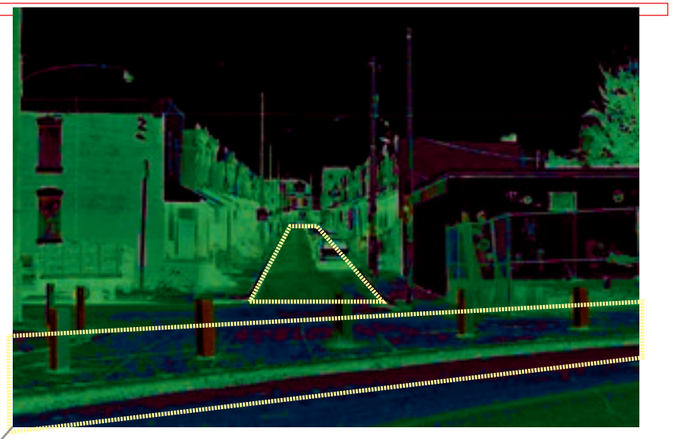
SITE ANALYSIS : CHALLENGES

CRIME

Stop the Violence "Mural"
List those who have been
killed in neighborhood

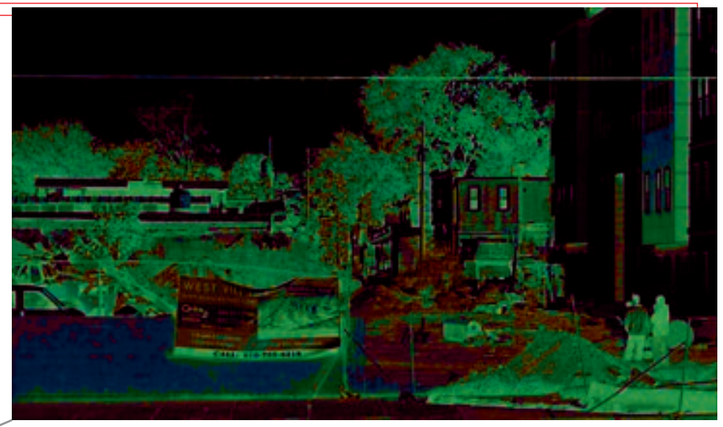
Unconnected Streets = Easy Gataways
Barriers prevent law enforcement vehicles from chasing suspects, creating spaces known for easy getaways that attract criminal activity

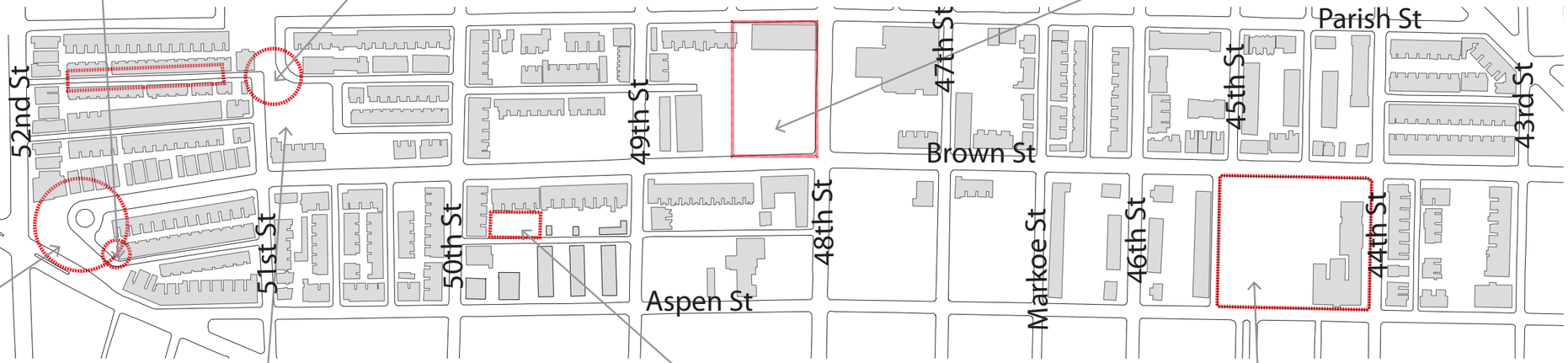


Prostitution, Drugs
Some streets and corners were particularly known for prostitution and drugs.
They were located around unconnected streets

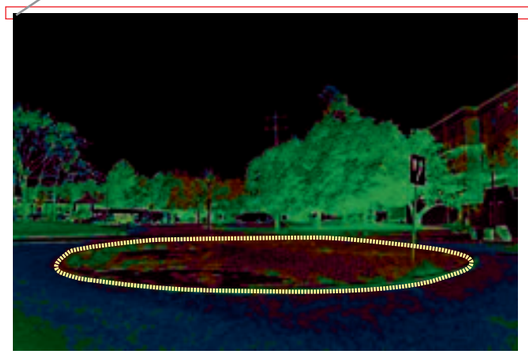
NO JOBS = NO HOPE

Local Hiring
Hiring from outside the neighborhood eg: L
"You can't see no hope."

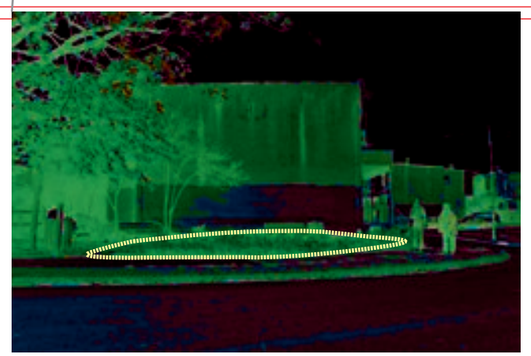




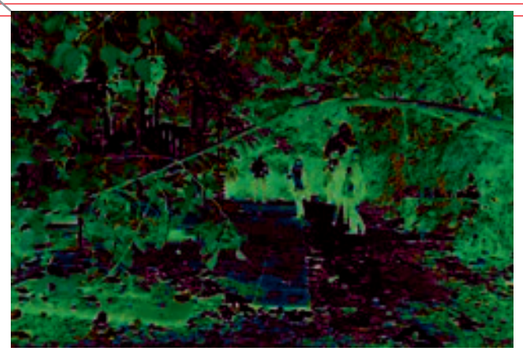
UNCARED FOR PUBLIC SPACES



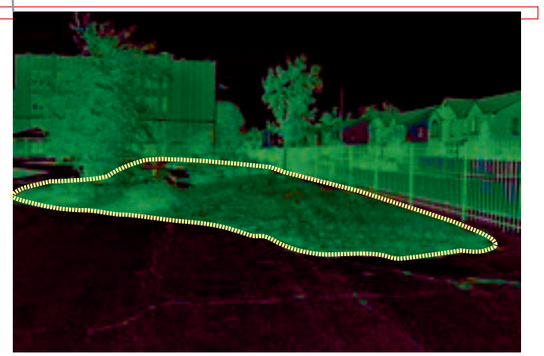
Circle
Block captain says hard to get neighbors involved in caring for circle. Stolen pavers.



Pocket Park
Two months after the Earthkeepers converted a corner lot into a pocket park, the pocket park had reverted to an unkempt area and a site for illegal activities. This area is also near an unconnected street

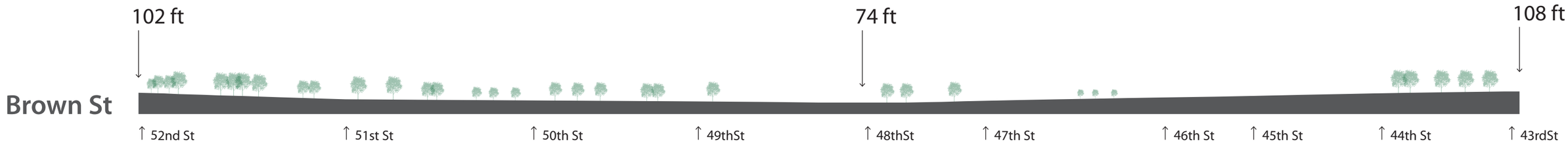


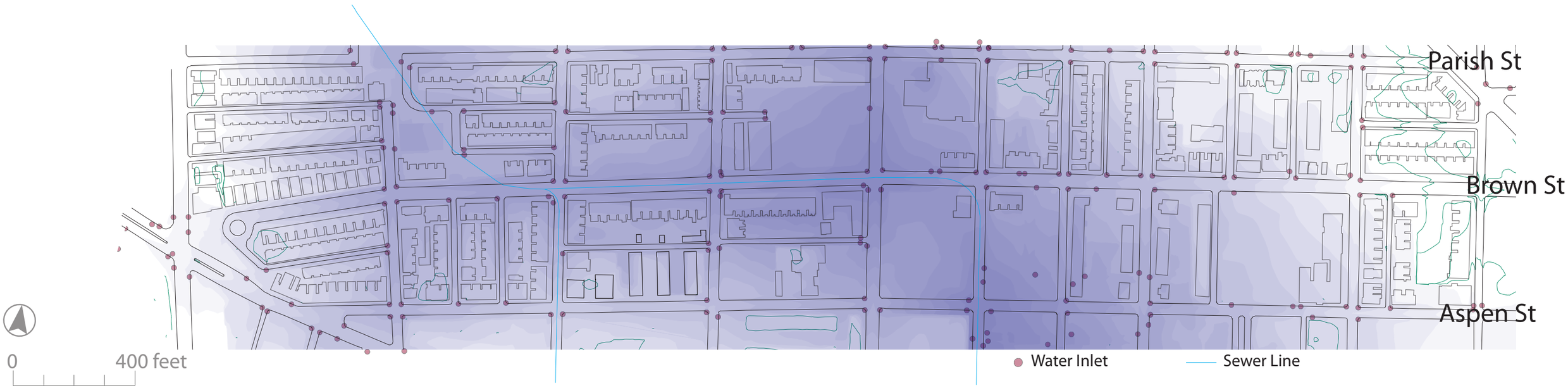
Playgroung
Nearly new, completely abadoned, overgrown. Weeds and trees pushing up pavement. This green space was poorly maintained, un-mowed and unkempt

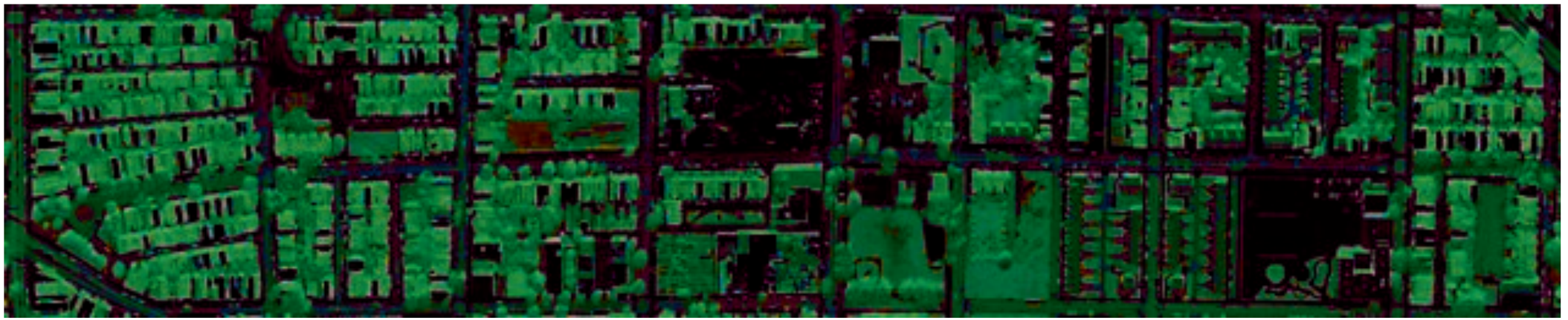


School
A small corner of the large paved playground was already converted to green space. This green space was poorly maintained, un-mowed and unkempt

SITE ANALYSIS : TOPOGRAPHY







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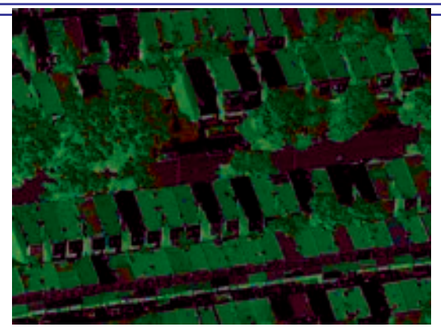
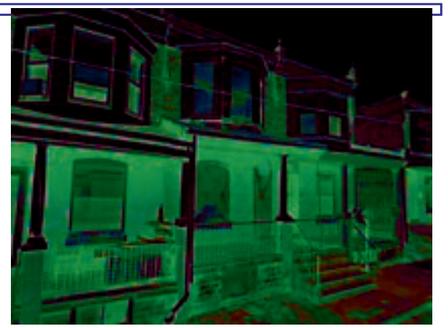
SITE ANALYSIS : OPPORTUNITIES

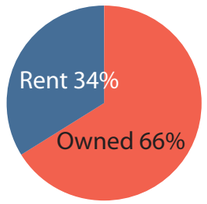
Row Houses

- Old buildings in need of repair - leaky roofs & detached downspouts
- Connected roofs and density allow for bundling of green infrastructure implementation and maintenance which may create threshold market demand to support sustained green infrastructure labor and may also drive down costs by taking advantage of economies of scales
- Home owners
- Many city owned



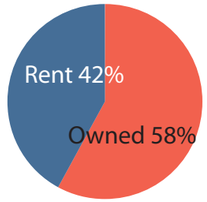


Building Ownership (Census 2000)

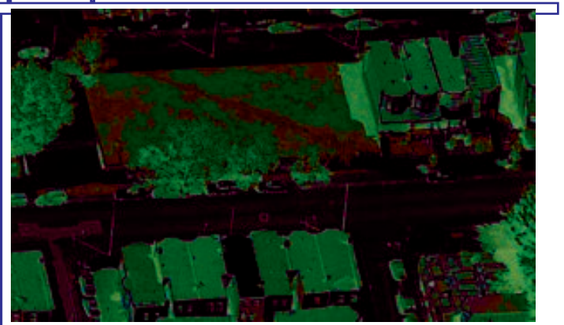


Brown St
(from 52nd st to 50th st)

Philadelphia



Open Space



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SITE ANALYSIS : OPPORTUNITIES

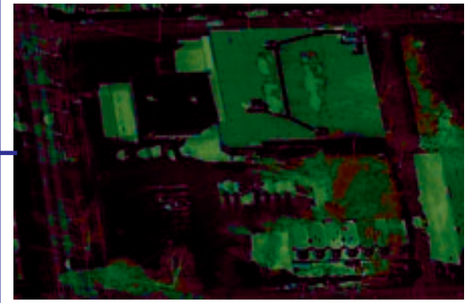
0 100feet

Flat-roof Building | Sloped-roof Newly Constructed House | City-owned parcel | Partly City-owned Parcel

Parish St

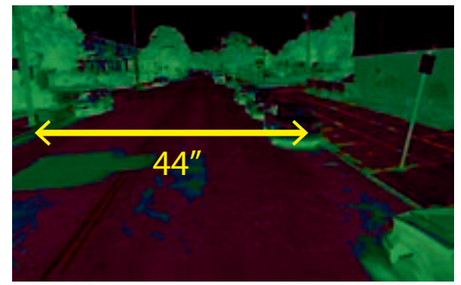
Vacant supermarket

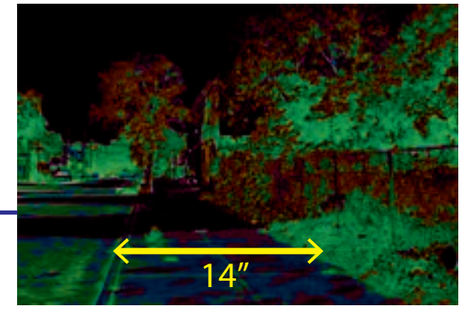
- Large flat roof
- Large impervious parking lot



Street & Sidewalk

- Wide street and sidewalk
- Impervious surfaces





48th St

47th St

46th St

45th St

44th St

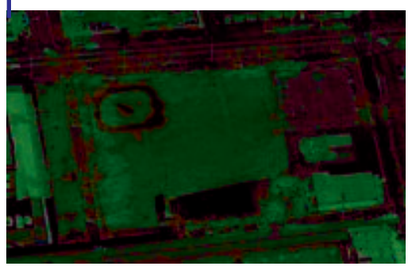
43rd St

Brown St

Aspen St

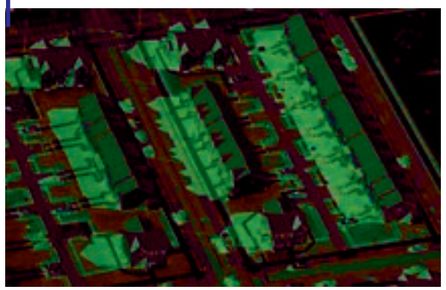
Playground

- Large pervious area



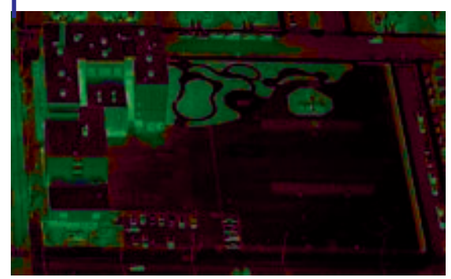
Newly Constructed Houses

- Sloped roof
- Larger, pervious yards
- Impervious parking lots
- Rain Barrel



School

- Large flat roof
- Large impervious spaces for recreation and parking
- Unmowed green area
- Single entity controls a large space
- School children
- Extra physical capacity (school rooms empty on nights and weekends)



IMPLEMENTATION: CONNECTING LOCAL LOW INCOME COMMUNITIES TO GREEN COLLAR JOBS

DEWEY'S IDEA OF COMMUNITY SCHOOLS , "School As Social Center"

• University-neighborhood collaboration. • Collaboration teaches participatory democracy. • Use of school building during off-peak hours (nights & weekends) (education, health, employment services).
• Share overhead and reduce costs • Share information & resources

Hosts block-by-block contest

Competitions supported by university students and professionals can specify job training programs at the schools

Community Outreach

Education that building collaspe is often caused by poor site drainage rather than subsidence

Encourage participation of neighborhood residents in the adoptption of on-site source control measures and the job training programs

Business incubator services

Publicize funding streams •Federal and State Programs for Energy efficiency /Insulating buildings • In-kind labor • Beautification or garden clubs / Downtown & neighborhood associations • Low interest loans

Grant and loan application assistance Publicize existing technical assistance programs and connect property owners to programs (e.g. workshops for property owners, community leaders, small businesses, and community groups)

Job Training Center

WHO IS TRAINED? • Local low-income residents •High school students • Ages 25-40 • 50% women
WHO TRAINS? • NGOs and community groups w/existing connections to neighborhoods (community assisted schools) • Office of Sustainability – administers the city's sustainability plan called "Green Works Philadelphia" • Green Jobs Corp (developed by Sustainable Business Network) provides a green collar workforce
SUPPORTING PROGRAMS • Job training curriculum • Recruit trainees

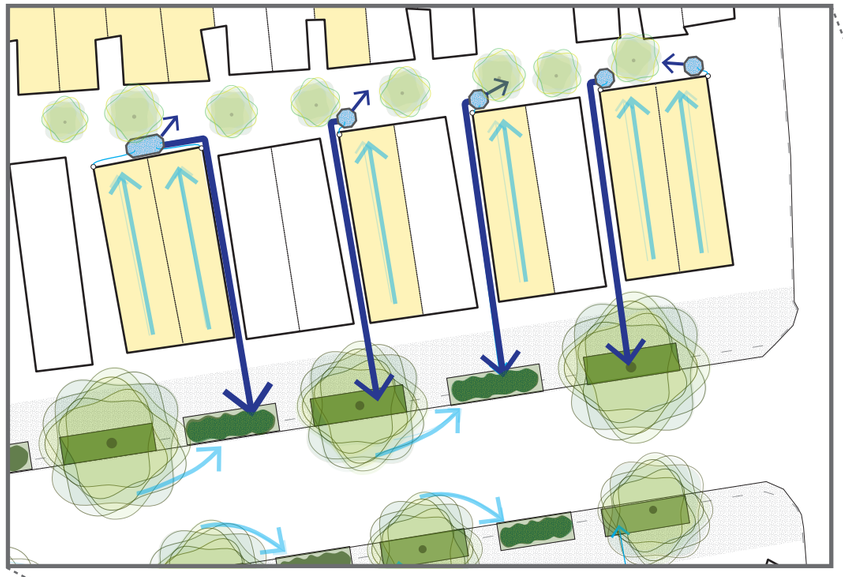
Other city strategies for encouraging adoption of green infrastructure

Regulations
• Integrate BMPs into building code • Remove barriers to innovation (building code, etc.)
• Require all municipal buildings to manage storm water on site

Incentives
• Storm water utility fee - based on water from property which flows into sewer. Provide abatement for managing storm water on site.
• Density bonus for managing storm water onsite
• Expedited permitting & waiving permitting fees eg: Chicago Green Permit Program
• Abatement of impact fees eg: Chicago abatement of open space impact fee for roof access

Certification

DIAGRAMATIC TRANSECT DESIGN : PILOT PROJECT



BMPs

Rain Garden

Tree Trenches
Capture water from street and sidewalk.
Capture water from rain barrels and cisterns.

Cisterns
Suitable for duplexes (Gaps between homes allow pipe access to back yards. Yards have soft soil for excation.)

Rain Barrels
Suitable for row homes (No gaps between home = no pipe access to back yards. Front yards are concrete and not suitable for digging.)

Dry Roof/Dry Building Program
Assumed 50% adoption rate

Porous Pavement Retention garden - - - Street narrowing

0 100feet

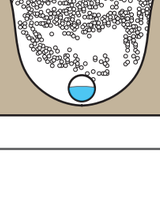
WATER CATCHMENT

The size for catching 1st inch of stormwater for each house is about

3.3 * 3.3 * 5.0 CuFt

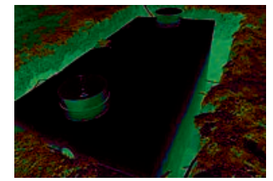
cistern for single house

rain barrel



cictern for multiple houses

precast concrete cistern for multiple houses



gravel filter/retention

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Bundling BMPs for Stormwater Management & Dry Buildings Program Creates Jobs

CERTIFICATION PROGRAMS

Plumbing
Dry roofing and downspout reattachment
Home repair (Dry buildings)
Tree trench and rain garden intallation and maintenance
OSHA
Tree pruning and tree climbing
Chain saw safety and usage
Herbicide/pesticide applicator
Porous pavement installation and maintenance
Vegetative selection, installation, and maintenance
Home inspections
Cistern installation and maintenance

Flashing installation and repair

Rain barrel installation and maintenance

Porous pavement installation and maintenance

Dry roofing (patching leaky roofs, debris removal)

1 Inspecting homes for water damage

4 Downspout reattachment and installation

5 Cistern installation and maintenance
Water quality testing

6 New lateral installation

7 Tree trench installation and maintenance

8

9

0 10 feet

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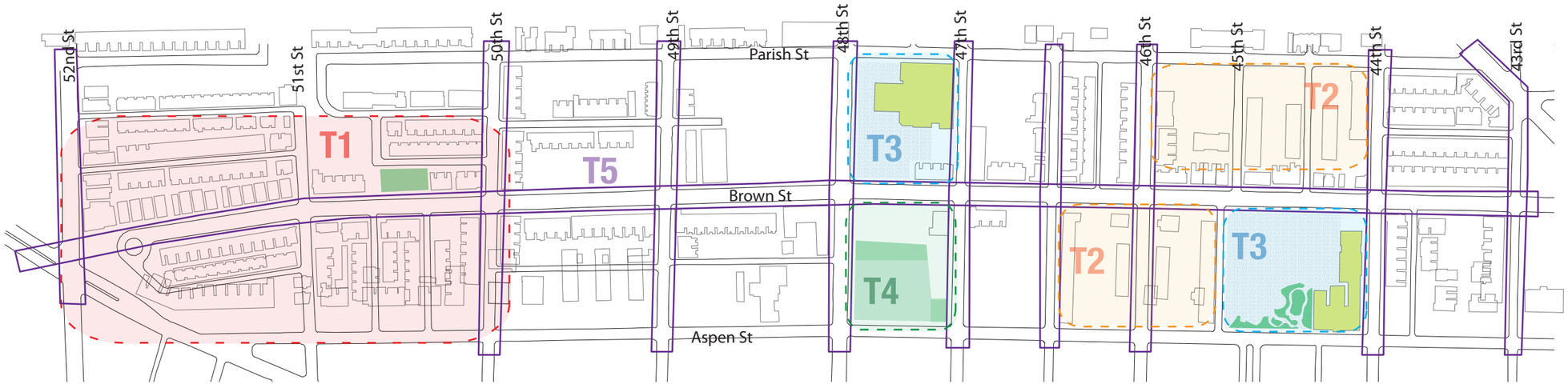
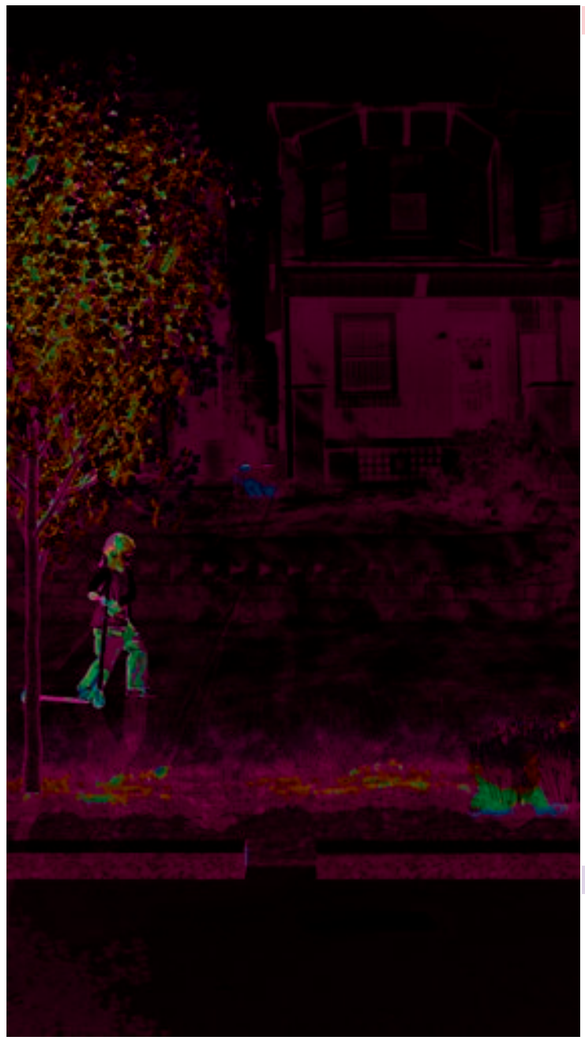
Implementation : Typology



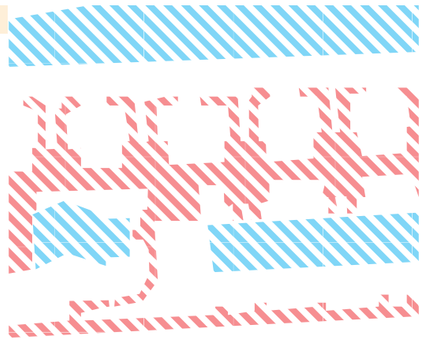


Typology 1

- Pilot project
- Older row homes and duplexes adopt dry roof /dry buildings program

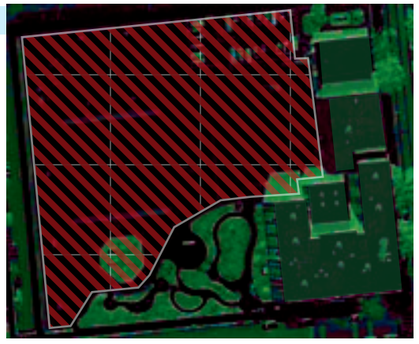
Typology 2

- New construction, sloped roofs, water catchment
- Parking converted to porous pavement



Typology 3

- Large flat roofs converted to green roofs
- Large parking lots converted to porous pavement



Typology 4

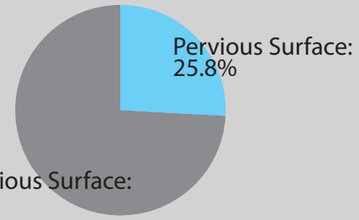
- Existing large pervious areas improved with swales, berms, and bioretention

Typology 5

- Street narrowing
- Porous pavement
- Tree trench

IMPROVEMENT ANALYSIS

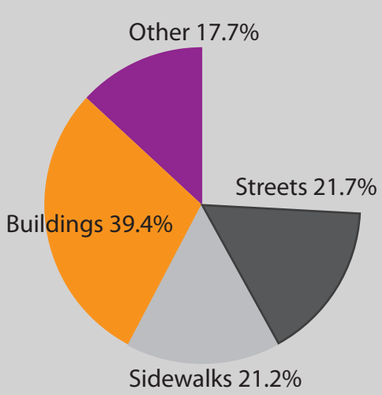
Existing Conditions



Pervious : 847,000 Sq Ft

Impervious: 2,439,000 Sq Ft
Runoff from Impervious:
201,000 Cu Ft

Percent of Impervious



Streets : 528,000 Sq Ft

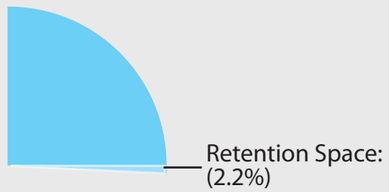
Sidewalks: 515,000 Sq Ft

Buildings: 957,000 Sq Ft

Other: 430,000 Sq Ft

Improvements

Pervious Area Improvements



Pervious : 847,000 Sq Ft
19,000 Sq Ft
(Orchard, Millcreek Playground)

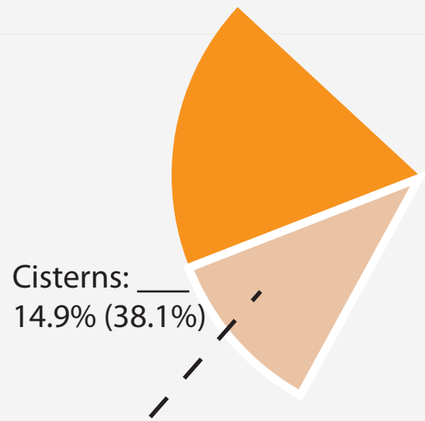
Impervious Area Improvements

Streets : 528,000 Sq Ft
24,000 Sq Ft (Brown St. Narrowing)

Sidewalks: 515,000 Sq Ft
361,000 Sq Ft (Porous Pavement & Tree Trench)

Buildings: 957,000 Sq Ft
46,000 Sq Ft (Green Roof)

Other: 430,000 Sq Ft
301,000 Sq Ft (Porous Pavement)



First-Inch Storage Benefit:

Buildings : 957,000 Sq Ft
364,000 Sq Ft (Cisterns)

Runoff from Impervious:
201,000 Cu Ft
93,000 Cu Ft

Converting 38.1% of buildings to catchment **converts 14.9% of pervious surface** on the Brown Street transect (Assumes 50% adoption rate of dry roof/catchment) and **creates green job training opportunities for local residents.**

Home inspections

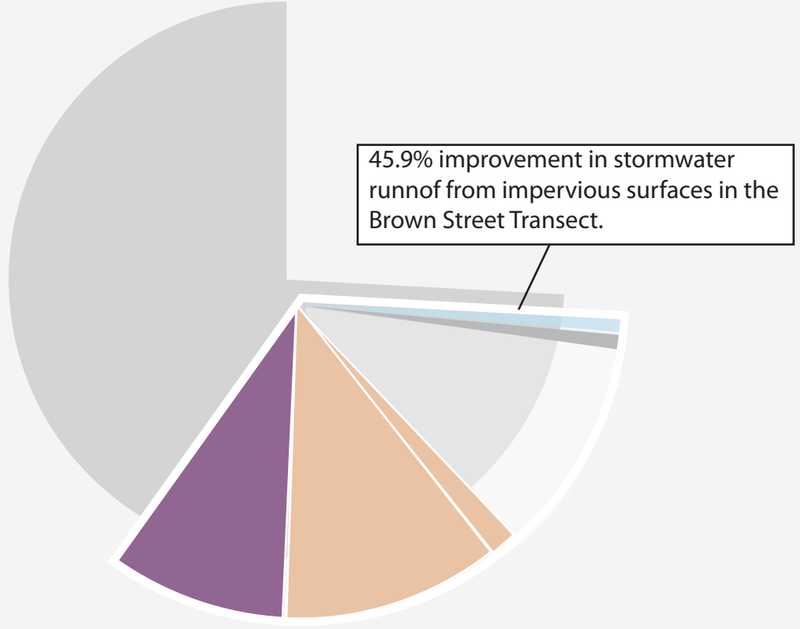
Dry roofing

New lateral instlalation

Rain barrel installation and maintenance

Cistern installation and maintenance

Downspout reattachment



Total Improvement: 45.9%

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