

THE HILL

A VILLAGE IN THE WOODS

Conceptual Plan

September 3, 2009

HOOD DESIGN STUDIO
URBAN LANDSCAPE AND SITE ARCHITECTURE

with
ARUP

Studio for Spatial Practice

Find the Rivers!

Pittsburgh Park Conservancy
Hill House Association
Hill District Consensus Group
Community Partners Institute

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DEDICATION

“I’m not sure anyone’s going to take us seriously but let’s run with it and have some fun.”

Community resident Loretta Comans at an early *Find the Rivers!* meeting (2003)

In the early years of the new millennium, encouraged by Pittsburgh’s renewed interest in her rivers as forces of nature rather than solely of commerce, I saw in the city’s landscape a new opportunity for creative community organizing -- for a shift toward crafting green local economies. Two important questions loomed: “What if a community were to envision its future by exploring its landscape? How can technical experts be better deployed to support a community’s vision rather than to craft it?”

Terri Baltimore of Hill House saw the possibilities right away and we instantly became collaborators. When we proposed *Find the Rivers!* to the Hill District Consensus Group, we were encouraged first and foremost by the elders – those who lived the exciting days of the Hill District when all the connections to surrounding areas were still intact. Dwayne and Myrtle Cooper, Edna Council, Samuel Lawlor and other members of the Consensus Group joined Loretta Comans in encouraging the early work of *Find the Rivers!* As youngsters they spent a lot of time outdoors and owned the landscape, forging paths down steep hillsides to the rivers and occupying slopes and valleys for play. They grew up in the buzz of the place before the wrecking ball arrived. They remained or returned to help lovingly renew the Hill and continue to work faithfully on that endeavor today. Such community leaders provided much of the early spark that energized our work.

The Greenprint is dedicated to them.

Denys Candy

ABOUT FIND THE RIVERS!

Find the Rivers! (*FTR!*) is a facilitated, community-driven initiative to craft a framework for future development in Pittsburgh’s Hill District by creating new connections and relationships between people, landscape, and ecology. *FTR!* invites stakeholders to consider the question, “How can we explore our future community and city by working with the beauty of our local landscape?”

Founded by Terri Baltimore (Hill House Association) and community development consultant Denys Candy (Community Partners Institute) in 2002, *FTR!* produced an innovative design vision for the Hill. Riverlife Task Force and the Urban Lab of Carnegie Mellon University provided important early support and technical assistance. The vision has been developed through planning for three strategic corridors – Kirkpatrick Park, Herron Avenue and Bedford/Cliff/Arcena area – with Klavon Design Associates. *FTR!* engages people over time in exploring and re-imagining familiar places so that they can be re-made to add further benefit to a community. By inviting Pittsburgh Parks Conservancy to join *FTR!* in 2007, the effort gained the capabilities required to re-make places with physical upgrades such as the current project to renovate Cliffside Park as a gathering place that incorporates a river overlook.

FTR! is a model of innovation in urban development by convening diverse stakeholders, including artists. It uses creative community organizing tools to facilitate the development of plans and actions to upgrade all aspects of community health – economic, ecological, cultural, physical, and psychological.

The *FTR!* consortium includes the Hill House Association (a multi-purpose service and development agency), Hill District Consensus Group (a coalition of local residents and organizations), Community Partners Institute (a consulting firm that acts as strategic facilitator) and the Pittsburgh Parks Conservancy, a city-wide Parks non-profit organization that acts as fiscal agent and manages selected projects for the consortium, including the Greenprint).

For more information, please visit www.findtherivers.net

Welcome to the Greenprint – a visionary template for the Hill’s future.

Over several years, *Find the Rivers!* (FTR!) has facilitated exploration of the Hill District -- its history and landscape, and its visual and physical connections to both the rivers and nearby neighborhoods. Over time, we moved from facilitating many small groups exploring ideas to widespread stakeholder involvement in spotting strategic opportunities and producing concept plans that laid the groundwork for Phase One of the FTR! Greenprint. A key step was recruiting the Pittsburgh Parks Conservancy to join FTR!, bringing expertise in park planning, design, construction, and management skills to the effort.

The FTR! core team worked closely with Walter Hood and his design team to organize the many tasks involved in producing Phase One of the Greenprint. Following our previous practice, we allowed for maximum input from residents and stakeholders by establishing a broadly representative advisory group, administering surveys, and facilitating community events such as conversations and a cookout.

We were struck by the joyful energy that greeted Walter Hood’s presentation of Greenprint Phase One at the new August Wilson Center for African American Culture on September 3rd, 2009. Our intention for the Greenprint is that it will provide an innovative ecological and aesthetic structure for the upcoming Hill District Master Plan. We view this document as an important advance in ongoing conversations that are taking place among Hill stakeholders about the future. The Greenprint offers an historic opportunity. It provides a practical framework for a beautiful urban landscape around which housing, commercial development, transportation, the arts, and community services can be woven.

We are grateful to all of those who have given their time, energy and ideas to the *Find the Rivers!* Greenprint and excited to work with you to realize the promise outlined in these pages.

Sincerely,

The FTR! Core Team
Terri Baltimore, Hill House Association
Denys Candy, Community Partners Institute
Susan Rademacher, Pittsburgh Parks Conservancy



The Greenprint project re-connects both the Hill to its landscape as well as its community members to the greater Pittsburgh area, while strengthening social ties through linkages to adjacent neighborhoods. It plans to:

- Craft a tool with specific guidelines for establishing the Hill District as a healthy place with better than average quality of life characterized by urban development that works in concert with natural assets and offers people substantial daily access to nature, green spaces, walking/biking routes and parks;
- Re-frame the identity of the Hill as a paragon of urban beauty: a prospective leader in preservation, restoration and value-added uses of its natural landscape;
- Identify opportunities for leadership and innovation in a growing green local economy that is connected to emerging markets and can catalyze practical local solutions to issues of local and national scope, such as energy security and food security.

Previous reports include *Arcena Connections Planning Concepts*, *Herron Corridor Coalition Planning Concepts*, *Kirkpatrick Park Planning Concepts*, *River Opportunity Report*, *Development and the Hill*, *The Hillside Study*, *Hillsides*, *Uptown Community Vision Planning Documents*, and *City of Pittsburgh Athletic Fields Analysis*. Upon investigation, the ideas behind the Greenprint preceded these studies. This document suggests that a closer look at the Hill community can derive site specific improvements that validate the historical, cultural and physical development over time. Particular sites that have been identified for future development are the cornerstone of the Greenprint. Utilizing existing resources such as reservoirs, parks, and overlooks as the framework to re-connect people to landscape demonstrates a sustainable response because it sees opportunity in the place, the Hill.

Rise and Fall

Coal mining brought thousands of jobs and generated economic stability. Because of this, the early to mid 20th century was a time of great prosperity for Hill residents. Home to diverse populations, cultures, and businesses offering goods and services, providing everything a person needed. The Lower Hill featured a diverse shopping and entertainment district. Musical culture and nightlife cultivated talent and a rich artistic heritage. Redevelopment brought more residents to the Hill.

Urban renewal and the Mellon Arena construction in the 1960s contributed to the dismantling of the Hill. Visual and physical disconnections to downtown, razed large portions of the neighborhood. Disinvestment in the community followed, contributing to property, social and cultural abandonment. Later revitalization efforts included developments like the Crawford Square and Hope 6 housing.



Historic map of the Hill, mid 20th Century

Map source: City of Pittsburgh Geodetic and Topographic Survey Maps, 1923-1961, University of Pittsburgh Maps Collection



Centre and Kirkpatrick Street *



Better Neighborhood Contest, Irene Kaufmann Settlement *



Nesbit's Restaurant; Photo courtesy Oscar J. Petite, Jr

LANDSCAPE LEGACY

The landscape is a physical marker of time and change, radically altered over time through natural ecological forces and human development; it bears the scars of time and change. There exist three landscape legacies in the Hill:

Natural History

The Ohio, Allegheny and Monongahela Rivers carved the city of Pittsburgh and much of the Hill itself, leaving deep valleys and canyons in its path. These created smaller creeks and tributary areas, which later provided circulation routes for vehicular traffic.

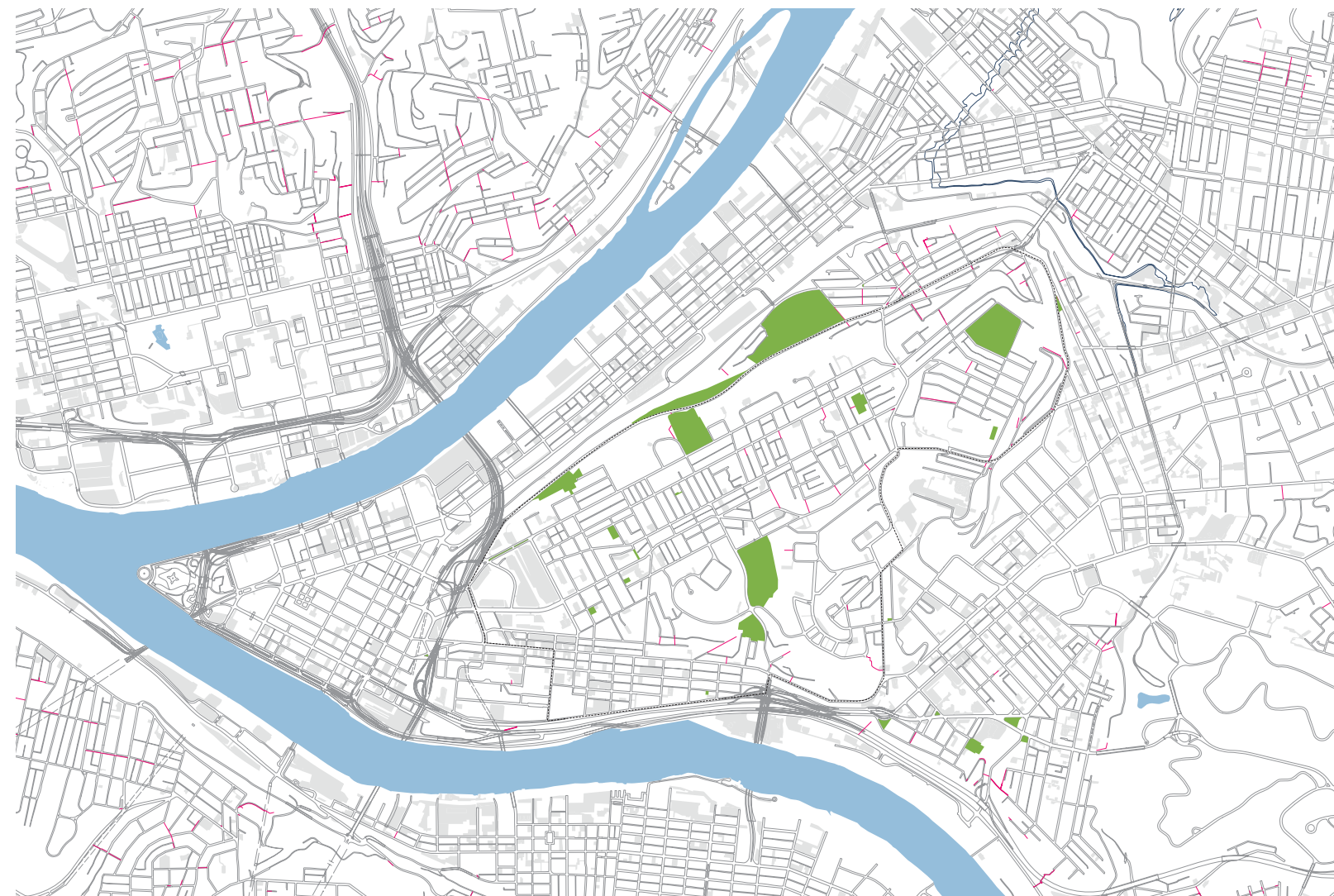
Industry

Coal in the early to mid- 19th century was one of the main industries in Pittsburgh and one of the first locations in the state of Pennsylvania. The industry brought with it an abundance of jobs and helped to generate income for the neighborhood and Pittsburgh. Coal mining removed nearly all of the coal, leaving a 15' thick open "seam" around the Hill edge. The presence of the seam has had an economic and environmental impact on the landscape, boosting the economy during its peak production and contributing to unstable ground and subsidence in the Hill after the coal was removed.

Culture

The "Hill" is actually a collection of smaller hills, all at different elevations with their own distinct ecological and cultural characteristics. The musical identity and local businesses were major entities in the Lower Hill. Mixed-use residential neighborhood development occurred on the hillsides and hilltops. These neighborhoods are Crawford-Roberts, Upper Hill, Middle Hill, Bedford Dwellings, and Terrace Village.

The Hill contained a rich public outdoor life that emanated from the mixed-use urban fabric. Stoops, porches, yards and gardens became the architectural vehicle for public social interaction in the community. People sat outside of their houses and talked with their neighbors, watched the streets, and enjoyed being outdoors. Children played in neighborhood parks like Kennard Park, Cliffside Park and Ammon Playground. This heritage is deeply embedded within the life of the Hill.



Current Map of the Hill

Map data source: City of Pittsburgh and Allegheny County GIS data



Kirkpatrick and Reed Street, looking towards Kennard Field *



Construction of Mellon Arena, Image from *The Lower Hill Renewal and Pittsburgh's Original Cultural District*, by William J. Mallett



Crawford Grill *

* Images Courtesy Carnegie Library of Pittsburgh and University of Pittsburgh Archive- Irene Kaufmann collection

ACKNOWLEDGEMENTS

Hill District Consensus Group, Carl Redwood, Convener, and all of the Hill District residents and citywide stakeholders who attended Greenprint events and told us of their ideas and favorite places in the Hill.

Find the Rivers! Project Team–

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Denys Candy, Community Partners Institute
Susan Rademacher, Pittsburgh Parks Conservancy

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Greenprint Support and Funding

BNY Mellon
Hill House Association, Evan Frazier, President and CEO
McCune Foundation
Pennsylvania Department of Community and Economic Development, Neighborhood Partnership Program
Pittsburgh Parks Conservancy, Meg Cheever, President and CEO

General and Project Support for Find the Rivers!

Community Design Center of Pittsburgh
Eden Hall Foundation
Heinz Endowments
Local Initiative Support Corporation
Maurice Falk Foundation
Pittsburgh Partnership for Neighborhood Development
Richard King Mellon Foundation

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Kim Graziani, Office of Mayor Luke Ravenstahl
Elbert Hatley, Hill District Consensus Group and Hatley Associates, Inc.
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Bomani Howze, The Heinz Endowments
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Sheila Petite, Crawford Square Homeowners Association
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Lee Walls, Schenley Heights Community Development Program
Chuck Williamson, Wesley A.M.E. Charities
Senator Jim Ferlo Lloyd Wright
Joy Wright Abbott, Pittsburgh Department of City Planning
Bonnie Young, Hill District Consensus Group

Our purpose in developing the Find the Rivers! Greenprint is to create an ecologically sound template for future development in the Hill District. We hope the Greenprint will:

- Establish the Hill District as a healthy place with better-than-average quality of life characterized by urban development, working in concert with natural assets and offering people daily access to nature, green spaces, walking/biking routes and parks;
- Re-frame the identity of the Hill as a paragon of urban beauty, and a prospective leader in preservation, restoration and value-added uses of its natural landscape;
- Identify opportunities for leadership and innovation in growing a green local economy that: (1) is connected to emerging markets; and (2) can catalyze practical neighborhood-based solutions to issues both local and national in scope, such as energy security and food security.

METHODOLOGY

Following the established *FTR!* model, a broad group of stakeholders were involved in the Greenprint. Views and stories were collected in the following way:

Hill District Consensus Group:

On May 8th, 2009, a briefing on the Greenprint was delivered to the Consensus Group, a coalition of residents and organizations. During a facilitated discussion, initial ideas were aired, using a questionnaire as a guide (see Appendix). Forty people attended. On August 14th, the Hood Design team conducted a working session with Consensus Group members.

Visual Surveys:

One hundred and twenty visual surveys were collected at different locations throughout the Hill, mainly involving children and families. Respondents drew pictures and wrote of their ideas and aspirations for different parts of the Hill. A summary of key issues was prepared for the Hood Design Team.

Community Cookout:

On July 21st, *FTR!* hosted an outdoor “Community Cookout and Conversation” at St. Joseph’s House of Hospitality on Bedford Avenue, featuring a talk by Walter Hood. Seventy-five people attended, of whom 50-60 were residents. They were joined by representatives of citywide agencies and organizations. Attendees mixed informally with *FTR!* and design team members to share ideas.

Greenprint Advisory Group: On July 22nd and August 13th, the Greenprint Advisory Group engaged in working sessions with the *FTR!* and Hood Design team. Twenty-five members attended in July and 20 in August. The Advisory Group is comprised of neighborhood leaders and citywide agencies and organizations, including City Planning, Urban Redevelopment Authority, Community Design Center, Tree-Vitalize, Friends of the Urban Forest, Green Innovators, Venture Outdoors, and Grow Pittsburgh.

Questionnaire: Supplemental surveys were sent to Advisory Group members who were unable to attend the July 22nd and August 13th sessions. The questionnaire was also used in interviews with community leaders. Further questionnaires may be administered as part of Greenprint, Phase Two. (See Appendix.)

HYBRID AND DIAGRAM ANALYSIS

COMMUNITY ENGAGEMENT MAPPING



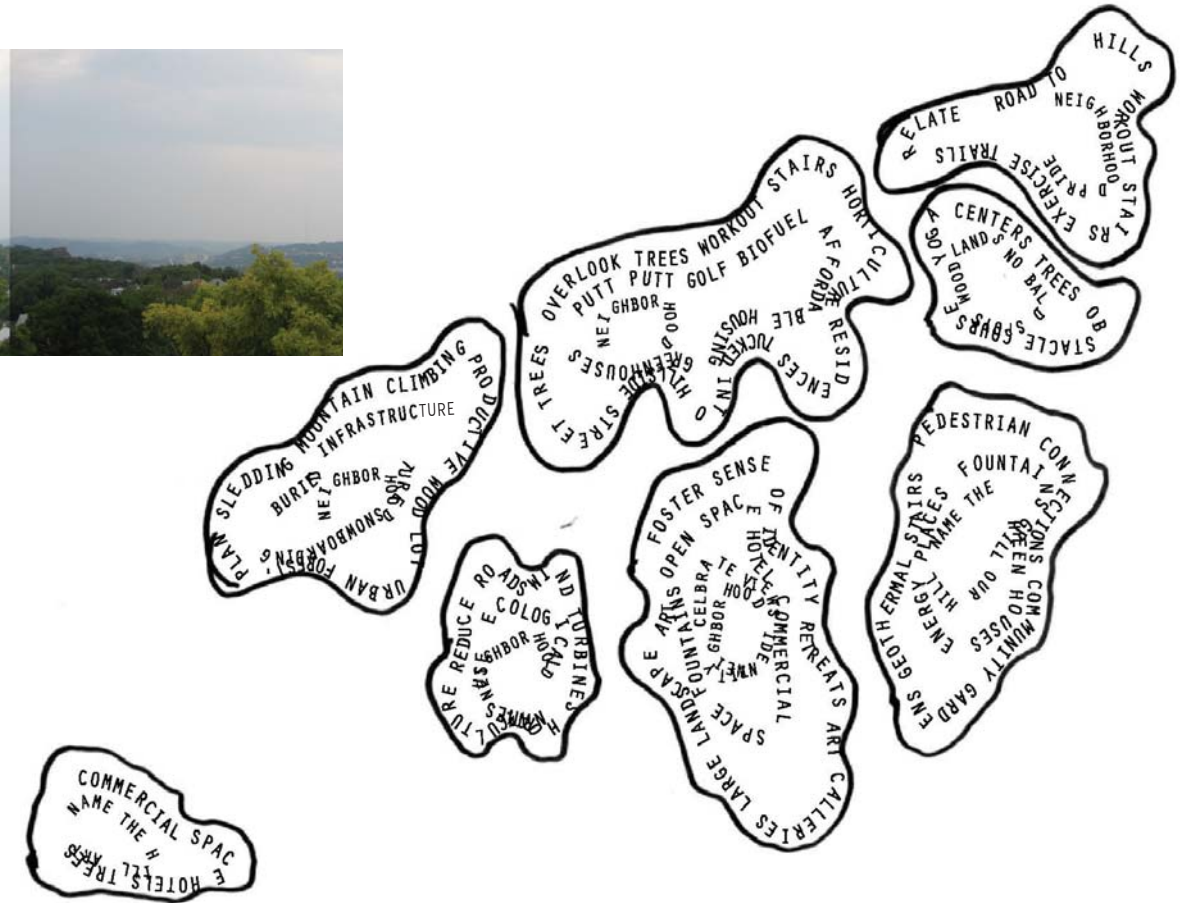
In July and August of 2009, the *FTR!* team convened working sessions of the Hill District Consensus Group and the Greenprint Advisory Group. To encourage landscape-based proposals, Hood Design and Studio for Spatial Practice separated the Hill into three landscape typologies: Hill, Edge, and Tributary. Participants were asked to suggest programs that could be accommodated by each landscape type. The results are diagrammed here.

NOTE: See page 96 for a montage of photographs keyed to a map of the Hill.



View from the Herron Hill Park

- trees for run-off management
- (no “bald spots”)
- sledding
- snowboarding site
- mountain climbing
- obstacle course
- woodlands at top
- sunny orchard
- urban forest, reforestation plan
- productive wood lots
- street trees
- open space strategy
- overlap between Herron Hill and Sugar Top



HILLS

The Hill is composed of several hills, all at varying elevations. Each hill can then be subdivided according to sun orientation and location, which will influence what should happen there – “the program.”

Images below show hills in other places, including methods of construction on their surface and ways of navigating around the slopes.



Gasworks Park, Seattle, Washington



Lombard Street, San Francisco, California

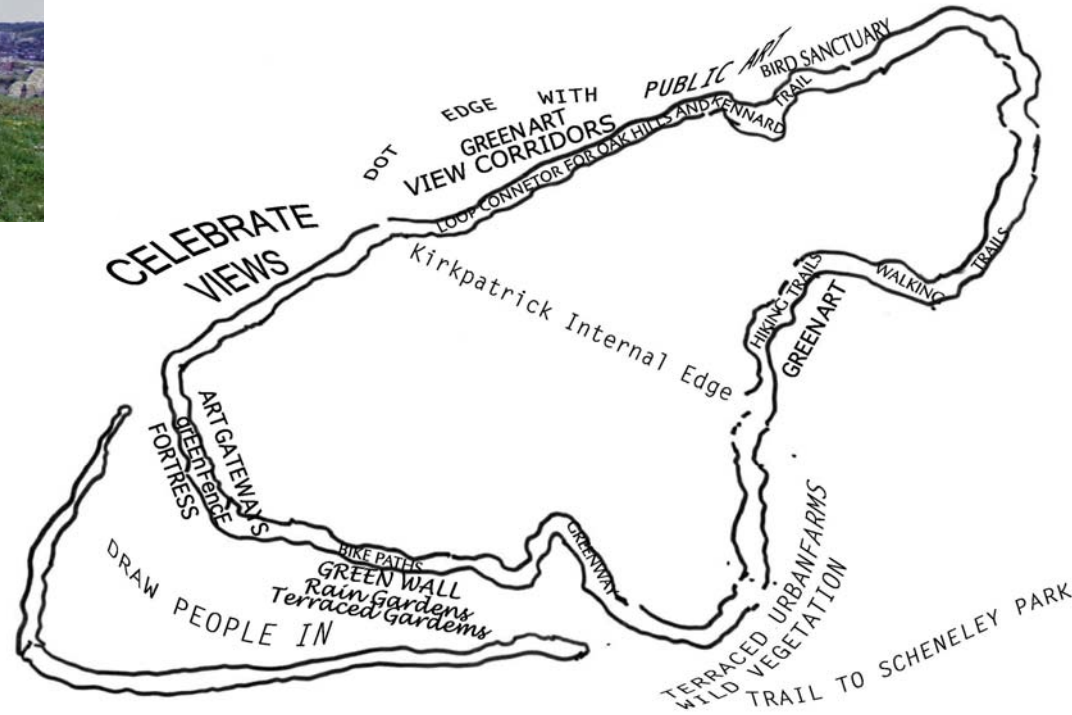


Botanical Garden, Barcelona, Spain



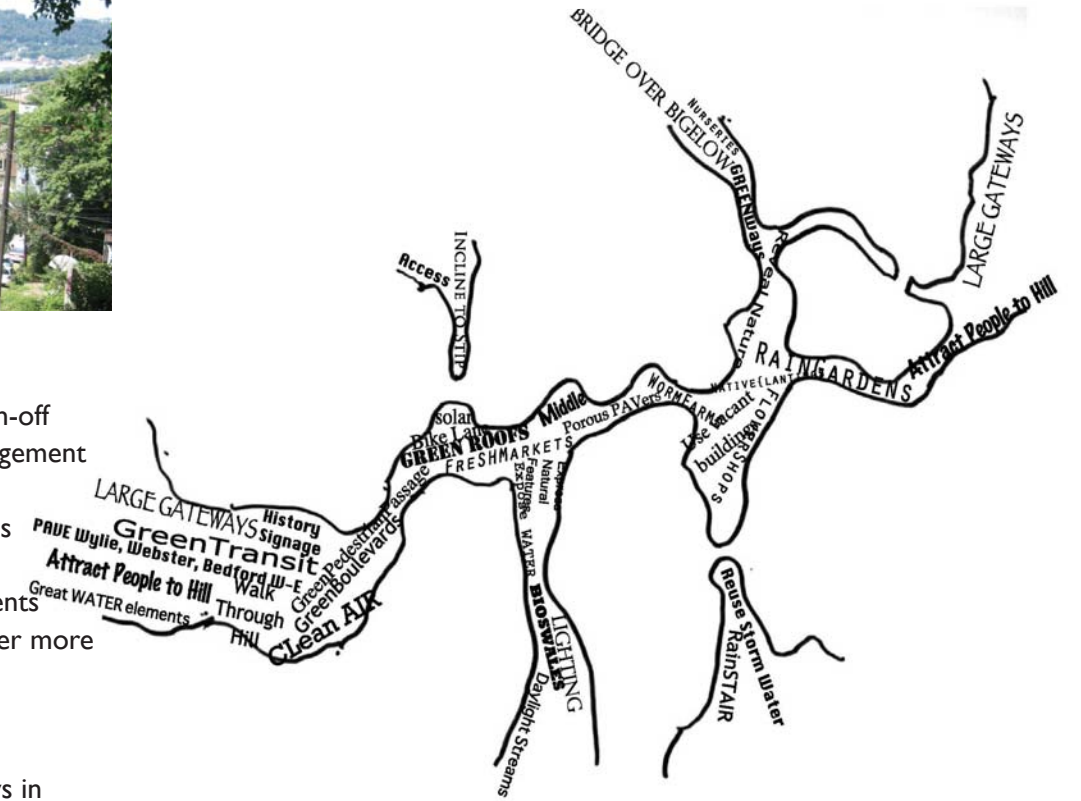
Arcena Street

- expand/widen green hillside
- linear park (width of a street)
- green fence, green necklace
- waterfalls
- gateway into park space
- planting to define edge
- lookout points/overlooks/view
- defined points of entry
- bird sanctuary
- terraced gardens, multiple levels
- colorful plantings along the edge
- green stairwells
- natural woods along edge
- vineyards
- community gardens



Allequippa Street

- rain gardens to collect run-off
- bioswales for water management
- daylight streams
- expressing natural features
- use native plants
- expose great water elements
- organize/make storm water more visible
- spectacular rain stair
- find Lizard Creek
- connection to wild turkeys in Frank Curto Park
- reveal natural assets



EDGE

Edge conditions in the Hill are clearly marked in the landscape through dense vegetation and steep slopes. These conditions create very distinct thresholds into and out of the neighborhood. Edges vary in different locations, according to width and elevation, which then set guidelines for program. Interior edges look toward the center of the Hill, while exterior edges look out toward the surrounding landscape.

Images below highlight various edge conditions through vegetation, surface material changes, and elevation changes (retaining walls). Edges can be transparent and permeable, or dense and closed.



Emscher Park, Essen, Germany



Olympic Sculpture Park, Seattle, Washington



Park Lafontaine, Montreal, Canada



San Antonio Riverwalk, Texas



Arroyo Seco Parkway, Los Angeles, California

TRIBUTARY

Tributaries refer to the topographical low points in the Hill, defined by the movement of water. Tributary areas have the potential to create opportunities for threshold and gateway conditions, according to their length, width, and geographic location.

Images below show how tributaries can be developed as amenities.

PROPOSAL

GREENPRINT SUMMARY

The existing landscape structure is a reverse figure ground with a thick verdant edge, and a center. This typology makes both inside and outside equal, and can be interchangeable through development, ecology, infrastructure, leisure, etc. The Greenprint's intent is to develop this structure that also builds upon the existing historical, ecological and cultural landscape. These two conditions can be further amplified through the landscape lens as bluff, hillside, terrace and tributary and valley, respectively. This duality suggests an urban structure providing an outside and inside condition, but more importantly gives clarity to topography – a set of hills on a hill. The ecological and social/cultural history reveals the edge as a wooded condition: a site specific ecology that has emerged from the shifting rivers rises and falls and form the fallow coal mine seams. The term “Woods” is common language, not a woodland or a single forest, but rather implies a thick collection of trees and shrubs with mythical appeal, brimming with things unknown and unexplained. In contrast, the Village is not like a downtown or main street in its character, but is rather a collection of community buildings and landscape. Conveyances are abandoned stream channels and riparian areas that cross the hilly central area before reconnecting to the rivers.

Sampling

Finding Value in Landscape

The Garden City Movement, America's rural lifestyle and our transcendentalist ideologies have influenced community building over the past two centuries. These ideas particularly inspired early suburban development with new communities outside of the city's edge. Today, many of these private developments have been engulfed by the expanding city. These communities have preserved their “green” ecology and formal logic, while maintaining their value economically, socially, culturally and politically.

Places like Chestnut Hill and the Wissahickon in Philadelphia, PA., Frick Park, Chatham Village and Schenley Park in Pittsburgh, and Radburn, NJ exhibit communities set within a verdant, wooded landscape. Woodlands, ravines, riparian areas, parks and streets and housing are all enmeshed (combined) with the larger landscape. It may be argued that these planned communities exhibit mature successional landscapes due to their age. Our community is just as old but not planned in the same manner. An emergent landscape has developed in the Hill that was caused by the ecological industrial practices and processes. It is for the same reason that communities have also gone verdant due to disinvestment and abandonment. The question arises: if the value of mid- to upper- class communities is determined through its green context, why can't all neighborhoods take advantage of those same landscape features in their own community? Redevelopment can make the most of their circumstances by copying or “sampling” their typologies to use in the Hill. These typologies are then transformed to become site specific to the Hill landscape.



Greenprint



Woods Zone



Village Zone



Conveyance Zone

Woods

Parks

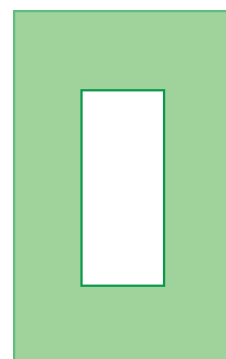
- Enmeshing with adjacent woods
- Patch Ecology
- Immersion (Inside/ Outside)
- Program (Performative) - Large scale leisure/ recreation

Housing

- Enmeshing with adjacent green
- Patch Ecology
- Car is subordinate
- Interior green connected to larger green

Circulation

- Enmeshing with adjacent green
- Soft shoulder/ bleeding edge
- Divided
- Following or in relationship to a natural feature



Grandview Park

Schenley Park

Olympia Park

Highland Park

Frick Park

Chatham Village

Roads

Rock Creek Park

Wissahickon Trail

Village

Parks

- Interconnected/ Sustainable Civic and Neighborhood Space
- Civic ecology (formal environmental systems)
- Allee and bosque
- Program is diverse

Housing

- Distinct urban edge
- Porches and sidewalks
- Multi-use auto space
- Courts, courtyards

Circulation

- Visible infrastructure
- Performative edges (rain gutters, etc.)
- Distinct materials
- Historic experience



Courtland Creek

Lafayette Square Park

Harlem

Frick Park

Chatham Village

Penn Squares

Alleys

Freedom Trail

Conveyance

Ponds and Streams

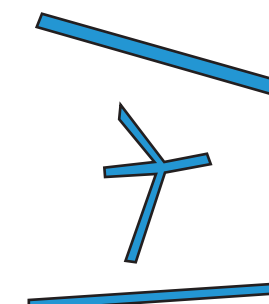
- Water is slowed through catchments
- Patch Ecology
- Performative systems

Stream/ Run

- Water becomes infrastructure
- Relationship to circulation
- Fast or slow water (obstructions/ free-flowing)

Tributary

- Immersion (Inside/ Outside)
- Relationship to adjacent buildings
- Patch Ecology



Shop Creek Park

Mill Creek Canyon Earthworks

Chicago River

Buffalo New York

Erie Canal

Strawberry Creek Park

University of California Campus

PROPOSAL

WOODS



“A large and thick collection of growing trees; a grove or forest”

The Woods is an edge condition in the Hill. Ecologically, the Woods are composed of upland river planting and emergent industrial species that have acclimated to the post coal landscape. The Woods exterior edge is defined by topography; hillside and terrace, and its interior defined by public streets. These streets create a boundary for the woods, but trees and understory overlap and enmesh into the public realm as well. Bedford Avenue, Rose and Reed Streets, Adelaide Street and Mario Lemieux Place define this porous interior edge.

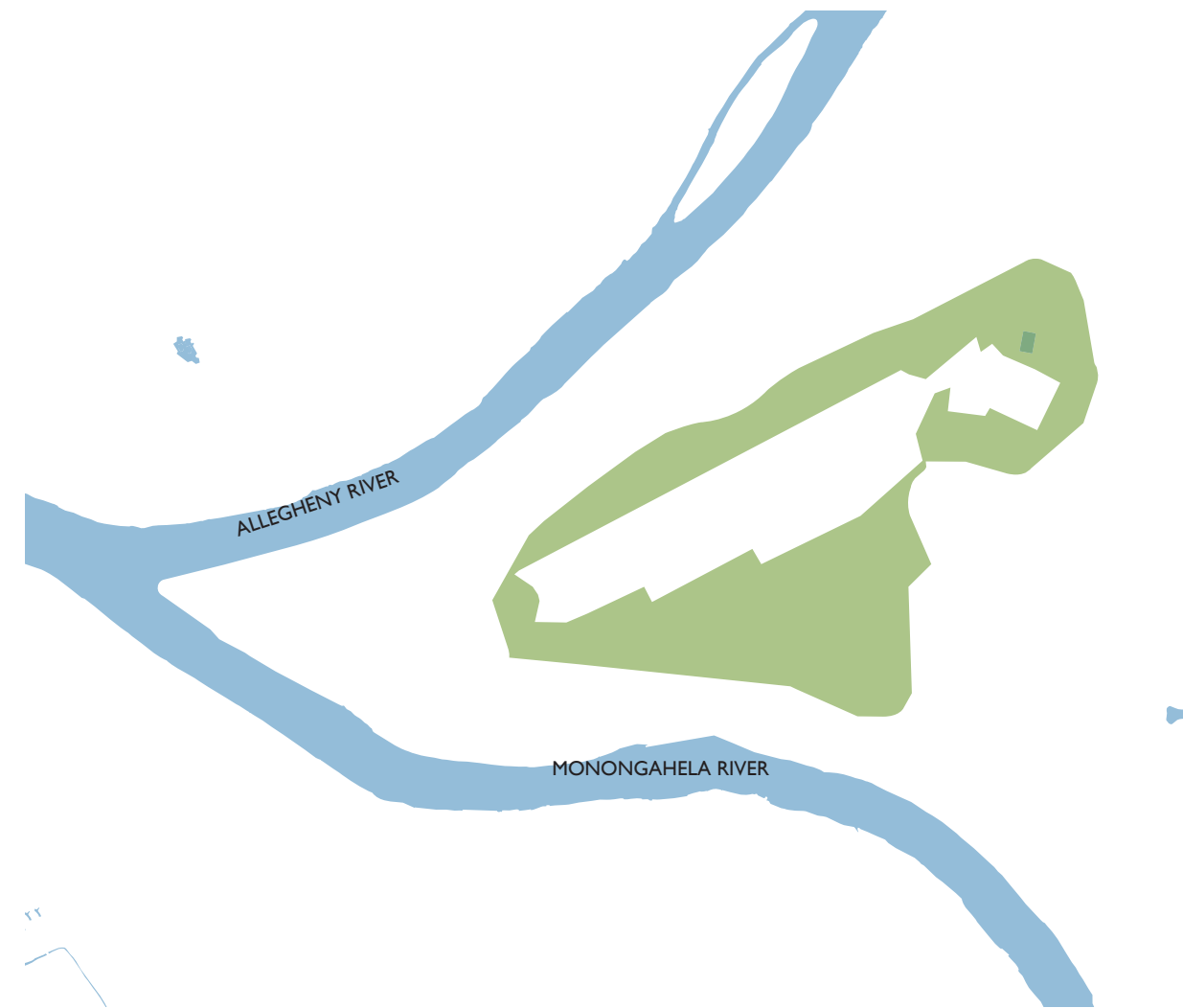
The Woods is characterized by dense, vegetated areas on topographically challenged and hilly terrain. Tree planting is distinguished as native upland and urban in concept. Considerable understory planting is developed for bio-diversity and wildlife habitat. Built landscapes and buildings in the Woods district borrow the landscapes around them creating larger patch ecologies and green public spaces. Formally the Woods create a contiguous landscape figure.



Kennard Playground



Bedford Street





PROPOSAL

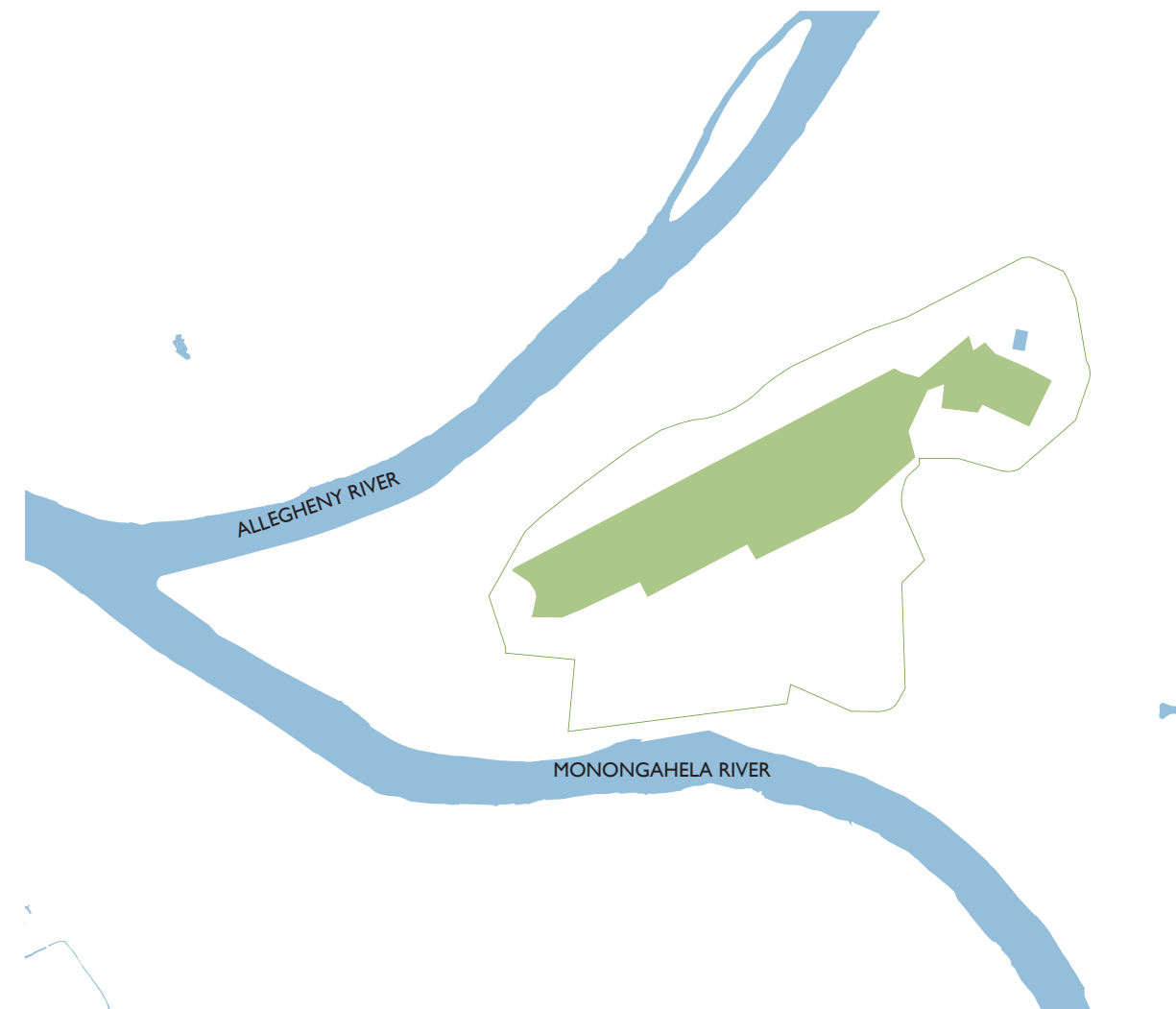
VILLAGE



“A small community or group of houses in a rural area, larger than a hamlet and usually smaller than a town.”

The Hill’s autonomy in Pittsburgh bears testament to its cultural and social history. As a place of segregation and aggressive urban renewal, the collection of buildings on the hilly slopes adjacent to the downtown has remained an ‘imageable structure’ (part of the community’s collective consciousness). Historic buildings set amongst new developments are a reminder of the Hill’s rich past as well as its future. Developing urban strategies that can preserve this “imageable structure” but that also create a symbiotic context for rebuilding and development is crucial to the Hill’s legacy. The “Village” within the urban context validates the community’s demographic rural emergence while suggesting a clear community structure and autonomy.

Centre Ave is the central spine for the Hill District featuring historic and new development (i.e., library, Grocery Store, YMCA, etc). The Village is developed around this spine that formally connects commercial and institutional density to the downtown. The Village has a civic ecology; interconnected urban and neighborhood spaces that utilize sustainable practices for infrastructure and leisure. Multi use is preferred over single use; suggesting the integration of auto/pedestrian space, streets and park/ plazas, courts and courtyards , public and private realm. A distinct urban edge is desired between the Village and Woods. Residential areas are distinguished by their porches and sidewalks, multi-use auto space, and shared public space. Performance based public spaces, distinct materials and building upon the historic pattern and development is a major characterization for the Village.

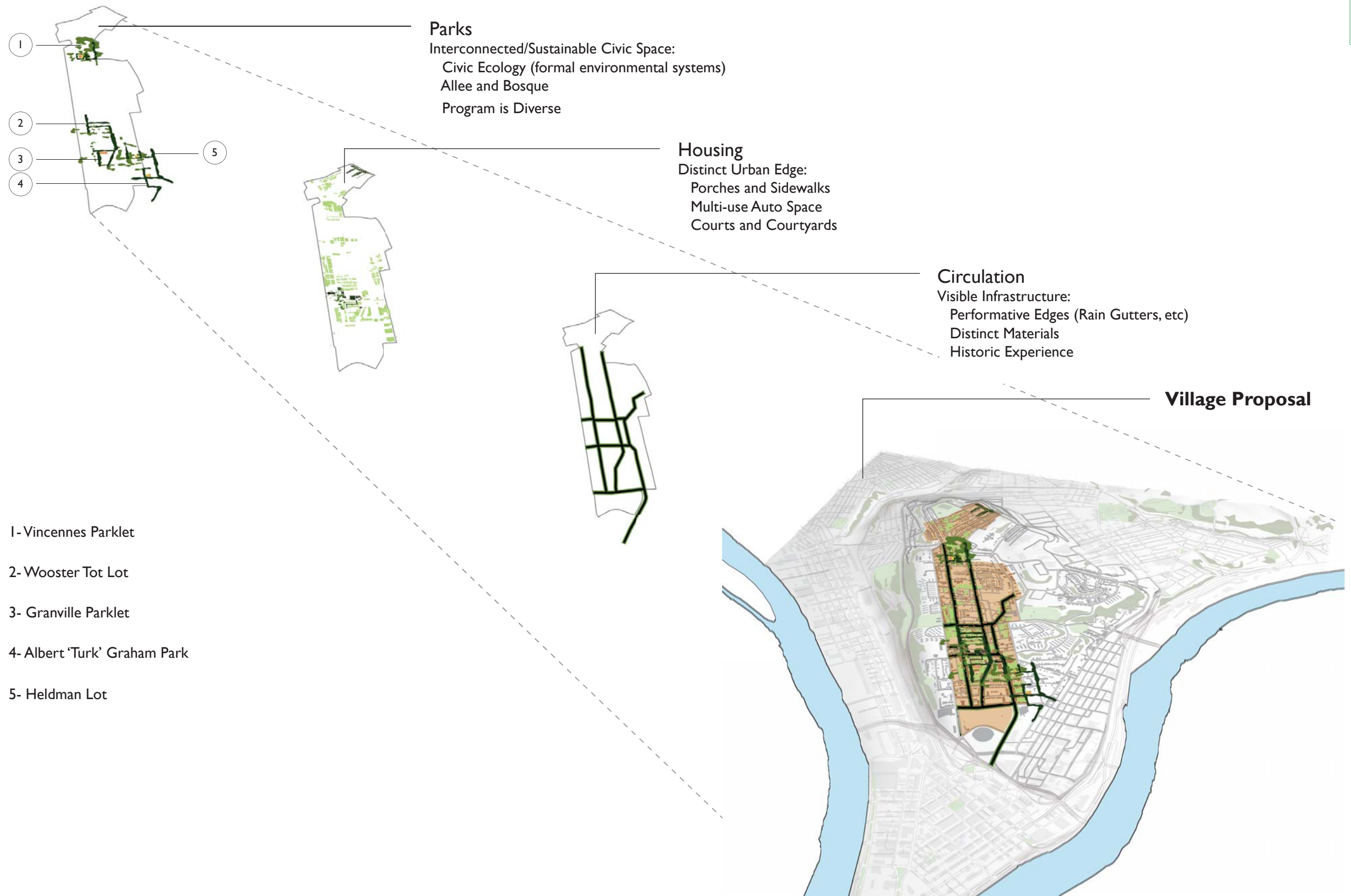
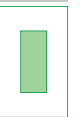


Wylie Avenue at Caramel Way



View from Centre Avenue looking at Soho Street

*Allee is a walkway or land line with trees; bosque is a small, wooded area.



- 1- Vincennes Parklet
- 2- Wooster Tot Lot
- 3- Granville Parklet
- 4- Albert 'Turk' Graham Park
- 5- Heldman Lot

Village Proposal

PROPOSAL

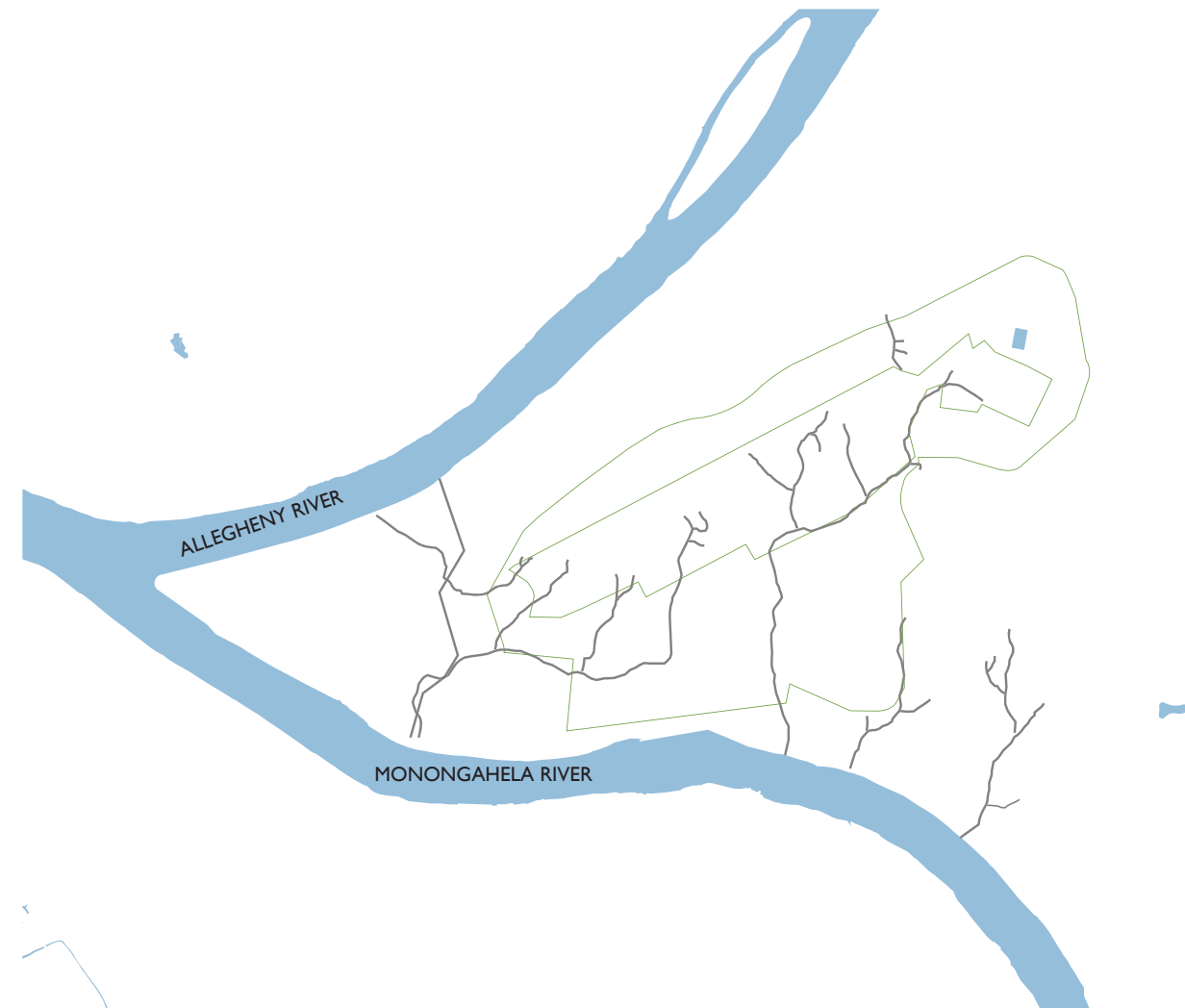
CONVEYANCE



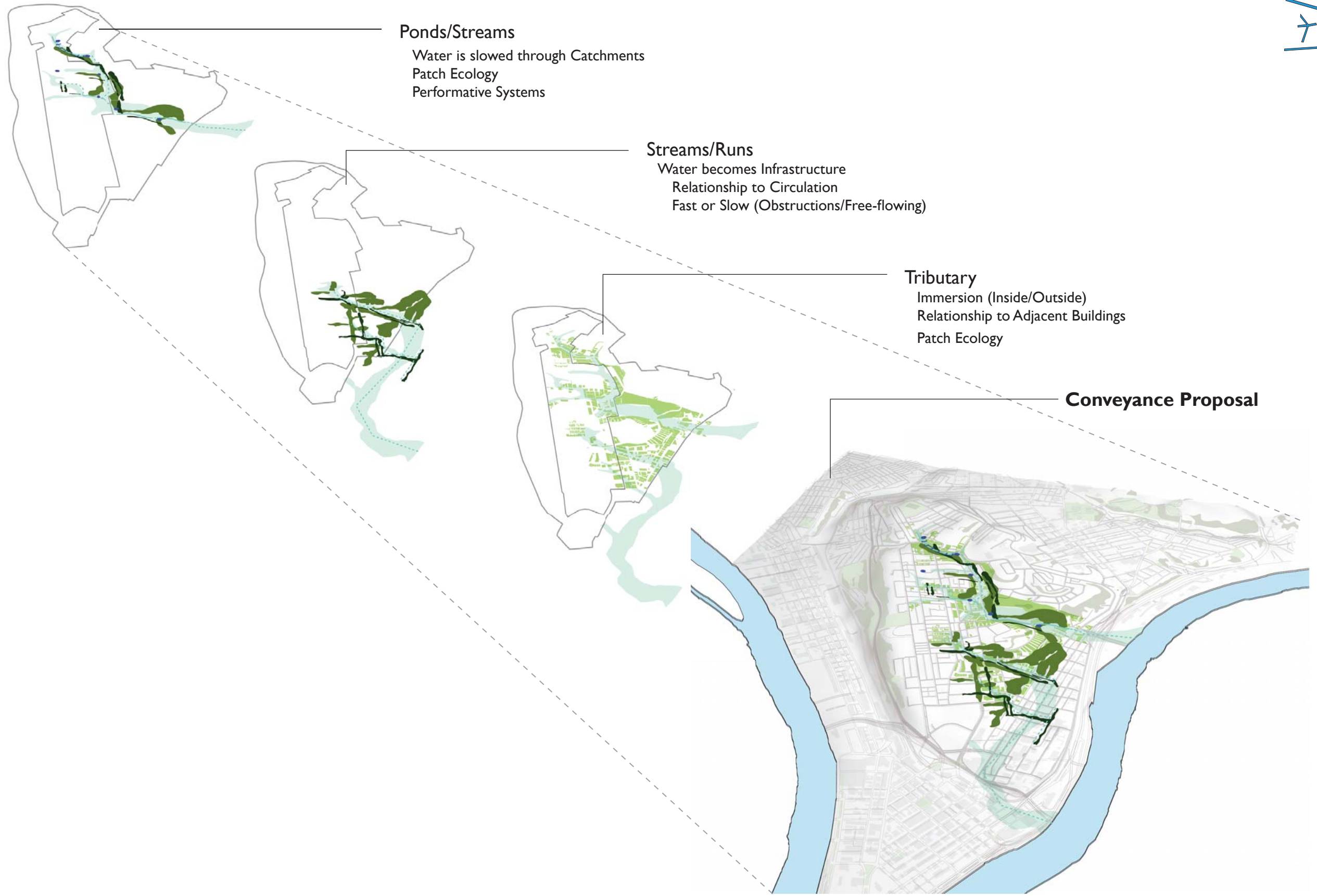
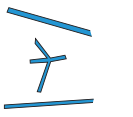
conveying; transmission; a means of transporting communication.

Conveyance recognizes that the Hill features a collection of stream tributaries that have historically and contemporarily transported people, water and wildlife through and across the community- down and out to the rivers. Conveyance is neither “Woods” nor “Village”, but a separate overlay that connects and transmits; watersheds, historic streams, habitats, pathways, etc. weaving them figuratively and literally across the surface through design specific design interventions.

Building and developing a conveyance system begins with connections. Riparian areas can connect Village storm water schemes and tributaries that emanate from the woods. Vegetation cover from Wood and Village can merge with those featured in the conveyance. Trails and paths can be introduced to follow these elements and systems, creating a diverse set of tributaries that are ecologically derived but social and culturally profound.



Cherokee - Ossipee Tributary at Herron Hollow



HYBRID AND DIAGRAM ANALYSIS

SUMMARY

GIS data is overlaid on the Greenprint project site to reveal new relationships between landscape, social and cultural frameworks. Historic maps show the evolution of the Hills within the Greenprint study area and development of the city grid. Successive maps show the manipulation of the hill over a century. Contemporary maps show transportation, parks, landuse types, planned developments, stairs, and housing. Hybrid maps overlay contemporary human ecological patterns over historic landscape features. These hybridized maps look at the relationships between the human ecology and the landscape.



Cliffside Park



Addison Terrace



Bedford Street House



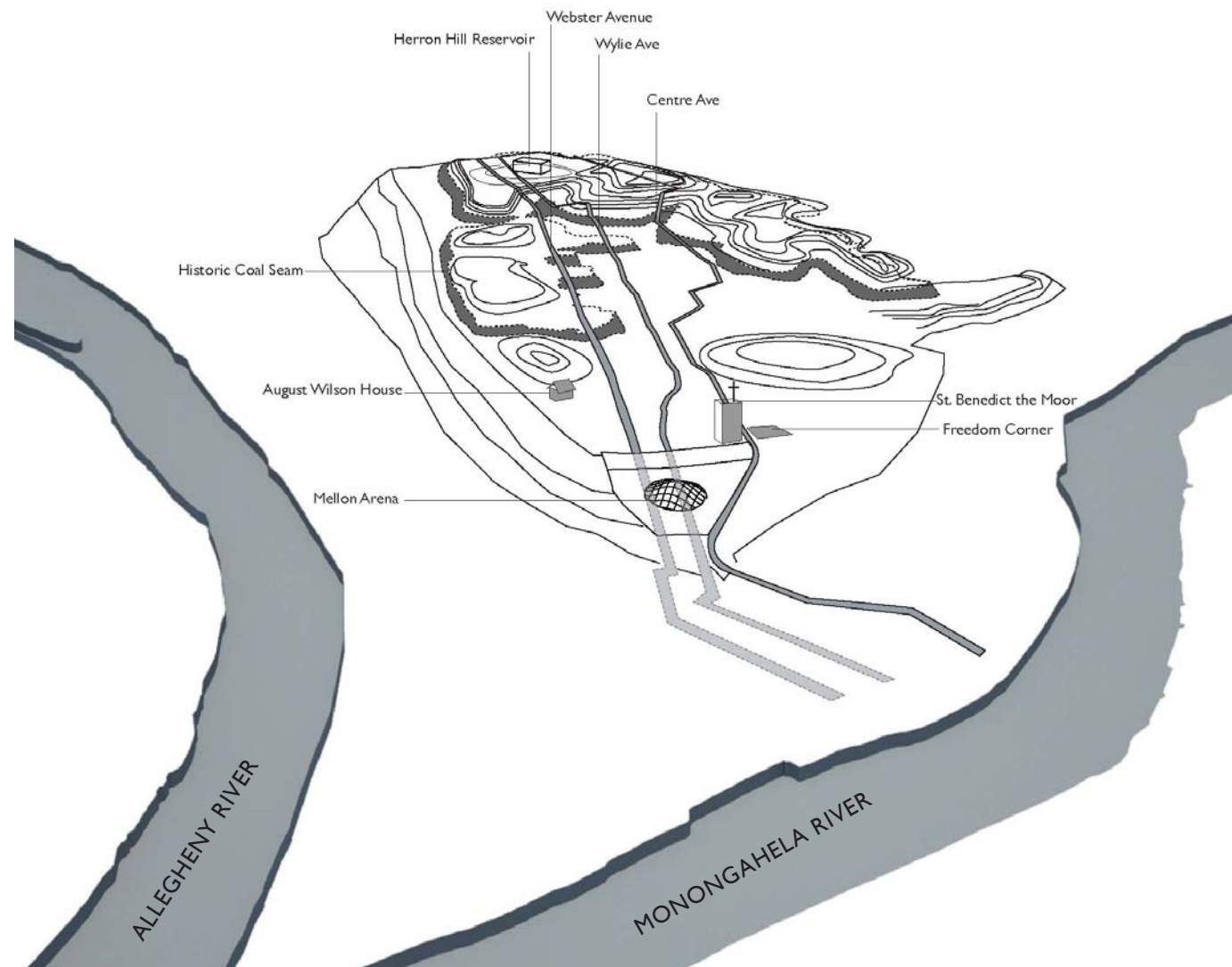
Chauncey Street Staircase



Ammon Playground

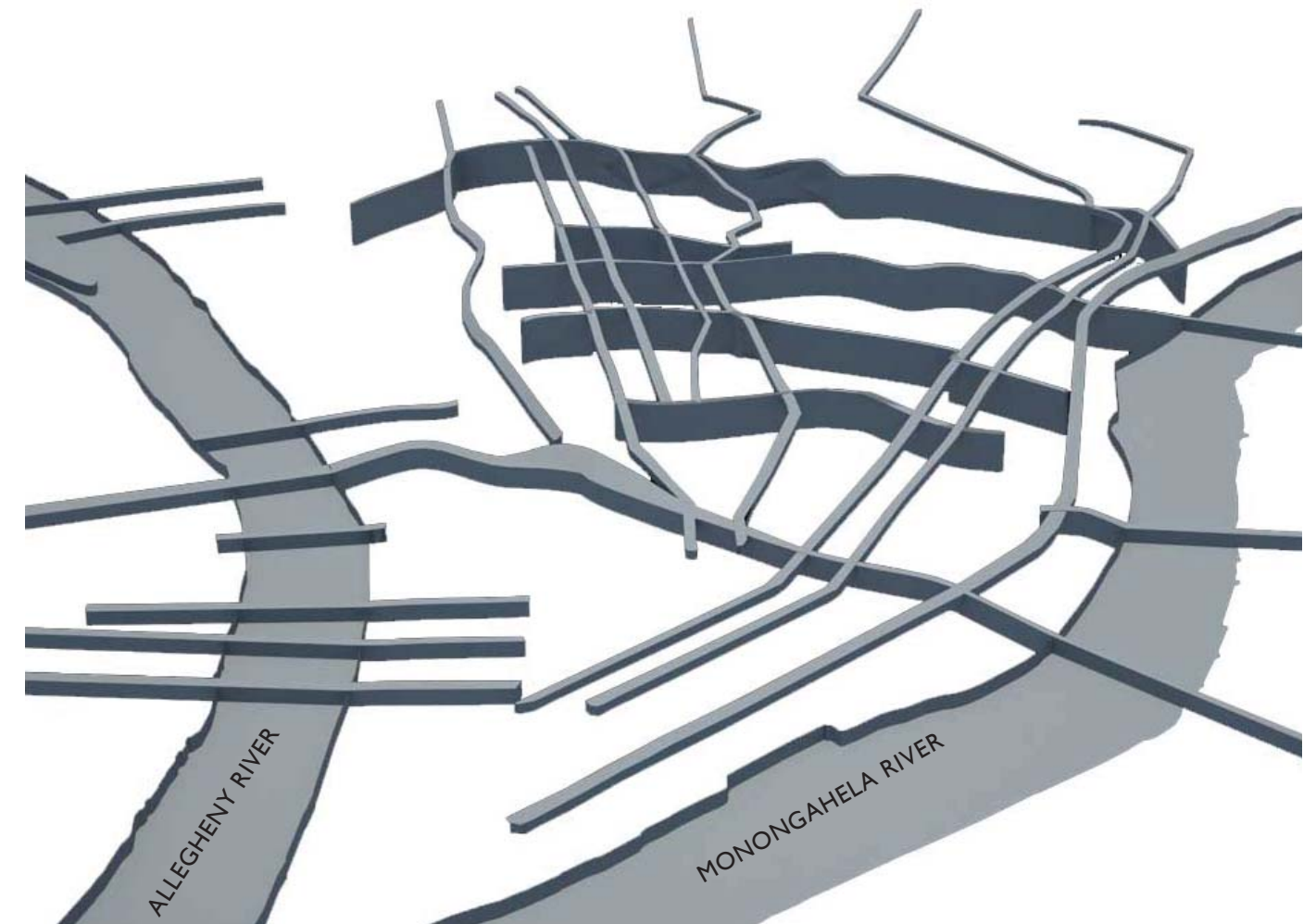


View from Arcena Street; Photo courtesy Larry Rippel



HISTORY

Historically, the Hill has been shaped by both landscape and human ecology. Coal extraction left a void that encircles the Hill. Hilltops were leveled over time to make way for development. From the human perspective, both Webster and Wylie Avenue - streets that historically ran through the district to downtown - were cut off physically and economically by construction of the Mellon Arena.



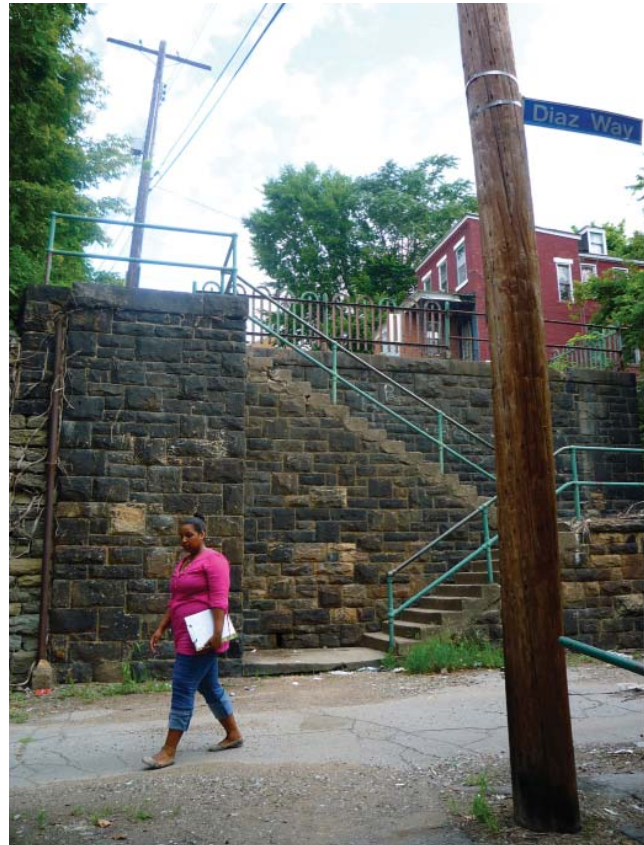
TRANSPORTATION

Roads through the Hill reveal topographical changes in addition to navigating the site. North/south roads cut through the Hill, creating major thresholds and gateway conditions. Interstate 579/Liberty Bridge is the only clear, continuous connection from Allegheny River through to the Monongahela River, linking the Hill to the broader city and region. East/west roads follow the surface of the ground, revealing the topography of the various hills, which makes moving through the Hill in this direction a linear and straightforward experience.

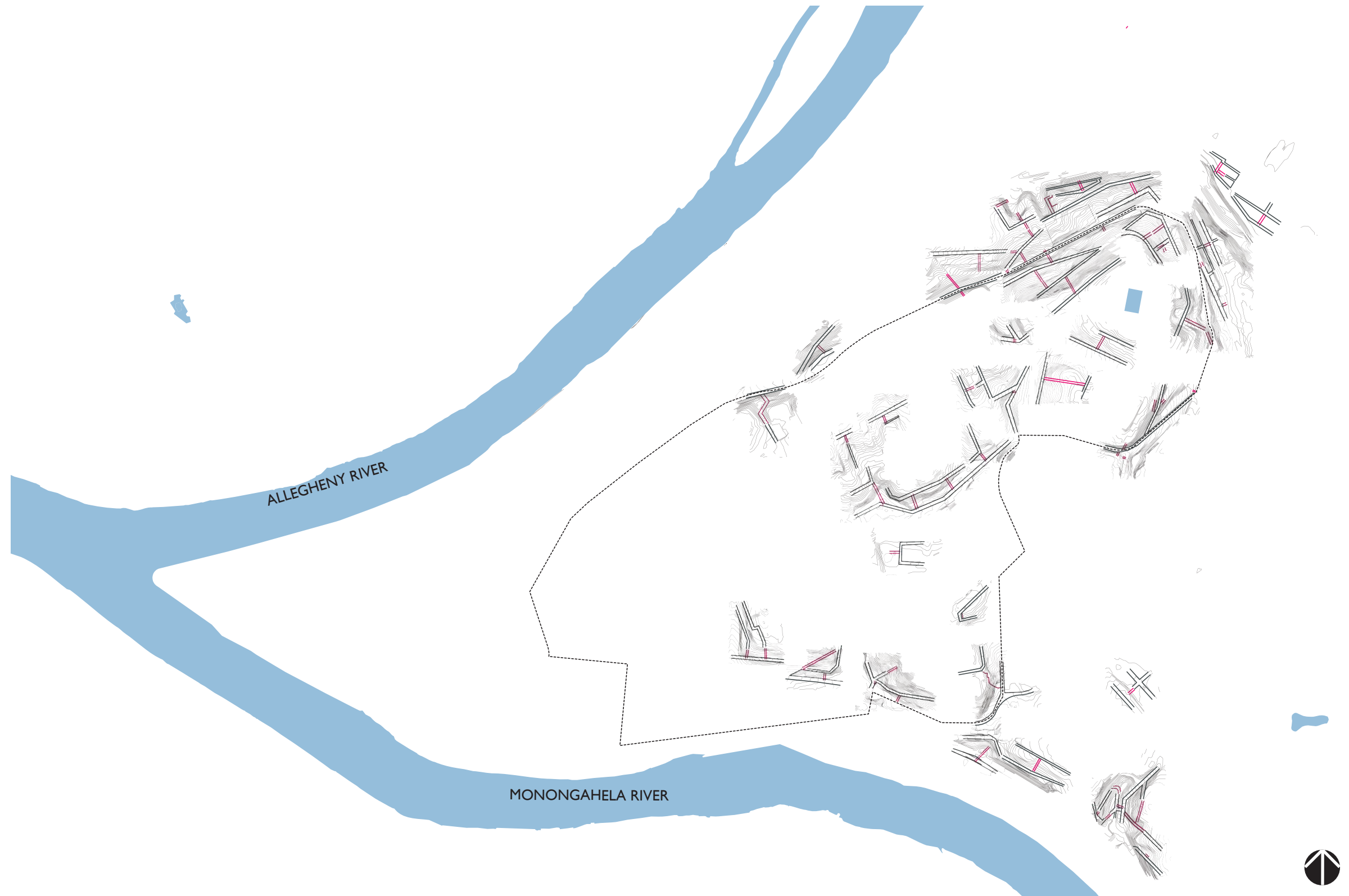
HYBRID AND DIAGRAM ANALYSIS

STAIRS

Staircases traverse steep slopes to allow for direct access to adjacent streets, crossing through neighborhoods. The density of staircases increase around bluff areas.



Diaz Way Staircase



HYBRID AND DIAGRAM ANALYSIS

BUILDINGS IN TRIBUTARIES

Development within the historic creek zones and tributary areas is primarily single and multi family housing, and institutional buildings.



Mellon Arena

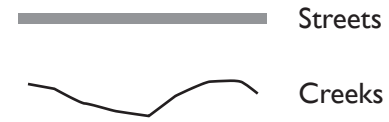


Centre Avenue and Ewerts Way Housing

HYBRID AND DIAGRAM ANALYSIS

HISTORIC CREEKS AND CONTEMPORARY ROADS

Contemporary roads generally follow historic creek paths and tributary areas.



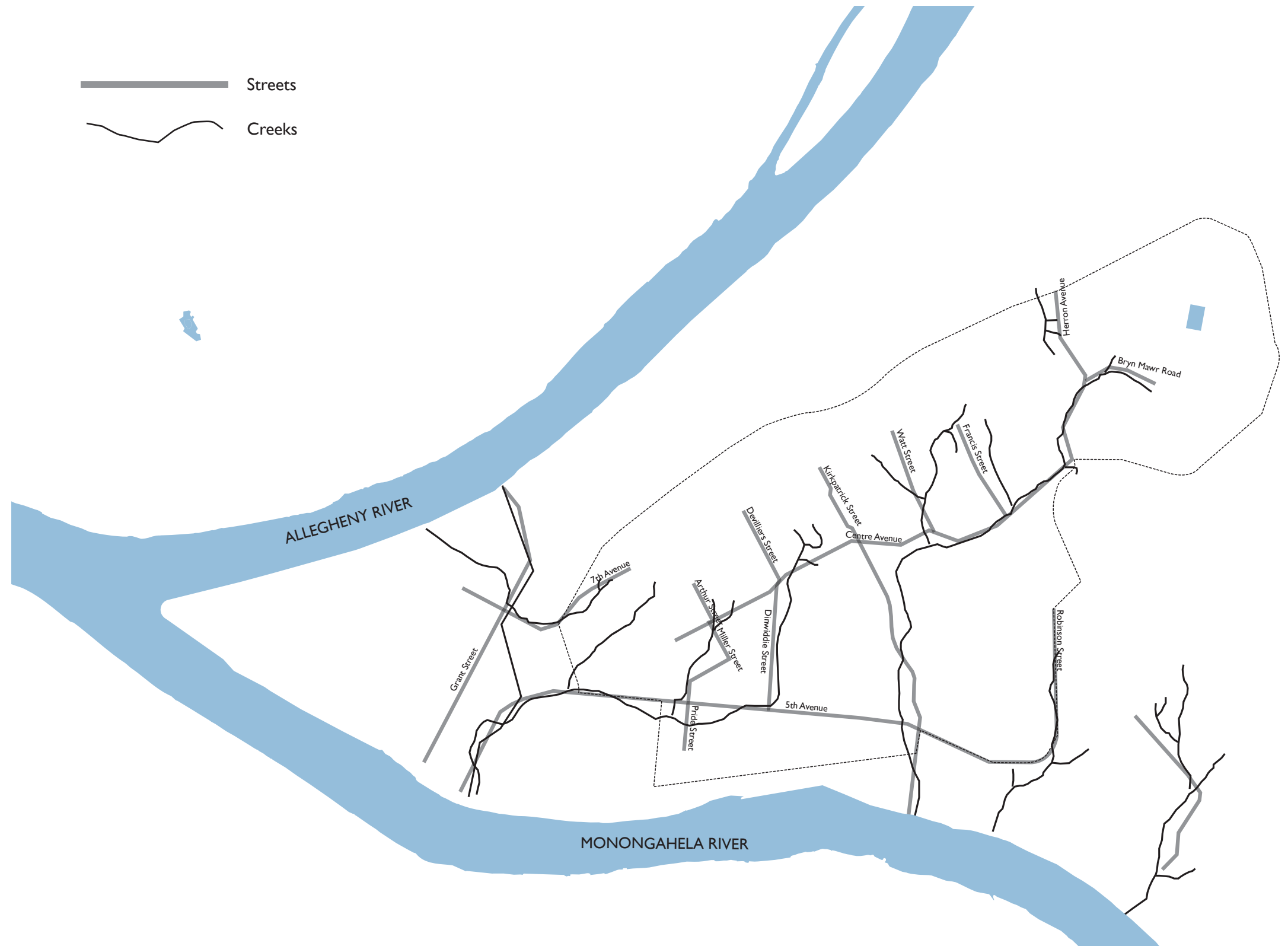
Herron Avenue



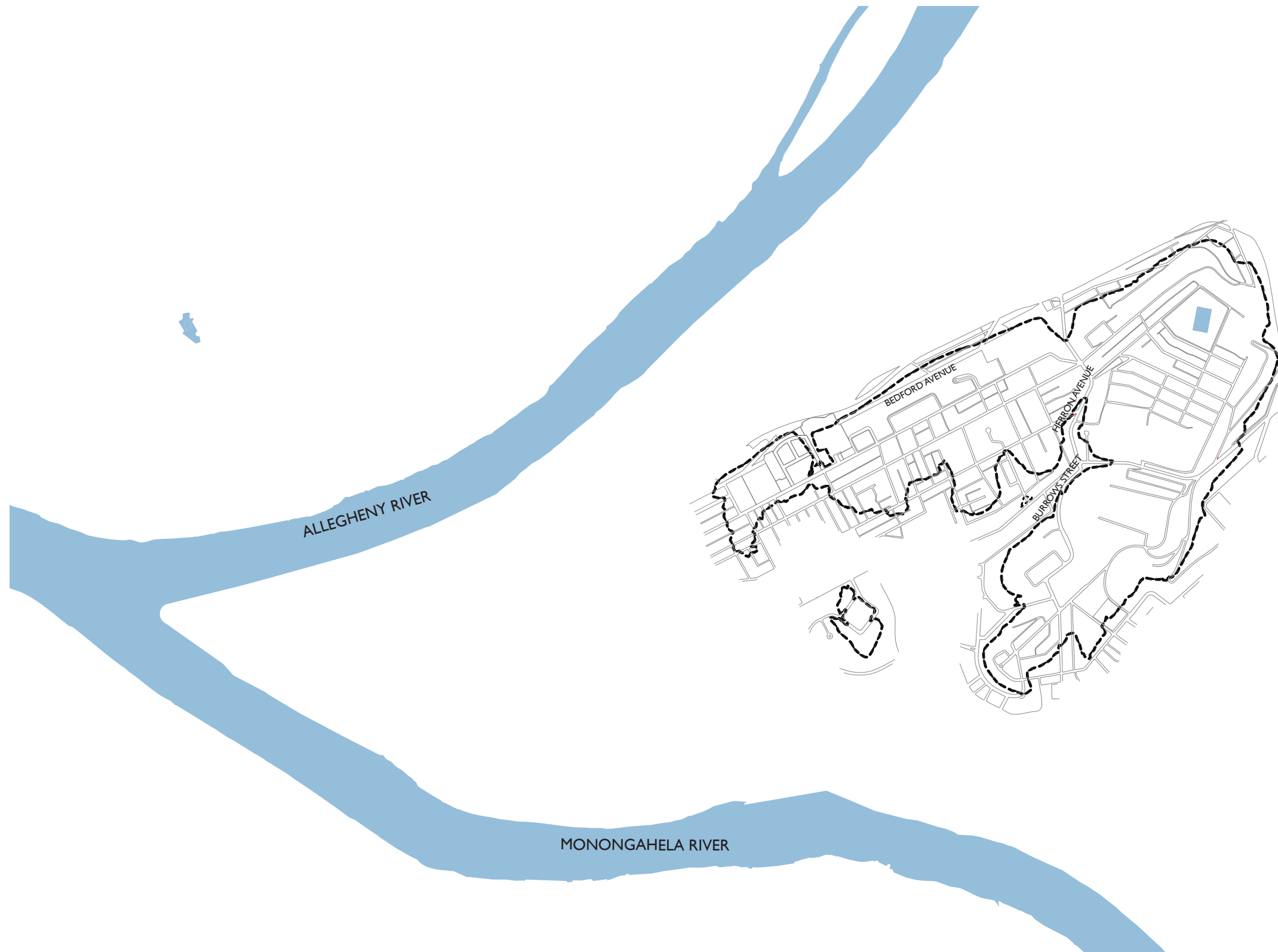
Dinwiddie Street



Bryn Mawr Road



Roads run independent of the coal seam in the Hill. The coal seam can be found at the 1055'-1065' contours.



Burrows Street

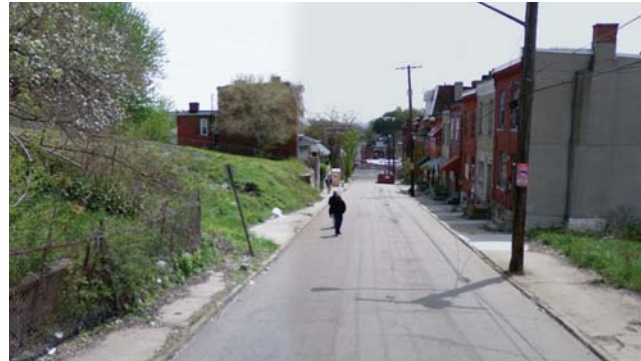


Herron Avenue

HYBRID AND DIAGRAM ANALYSIS

NORTH SOUTH CONNECTORS

North - South roads that run through the Greenprint study area cut through the site and topography, creating thresholds and gateway conditions. Dense vegetation and steep elevation change prevent direct access to the Allegheny and Monongahela Rivers.



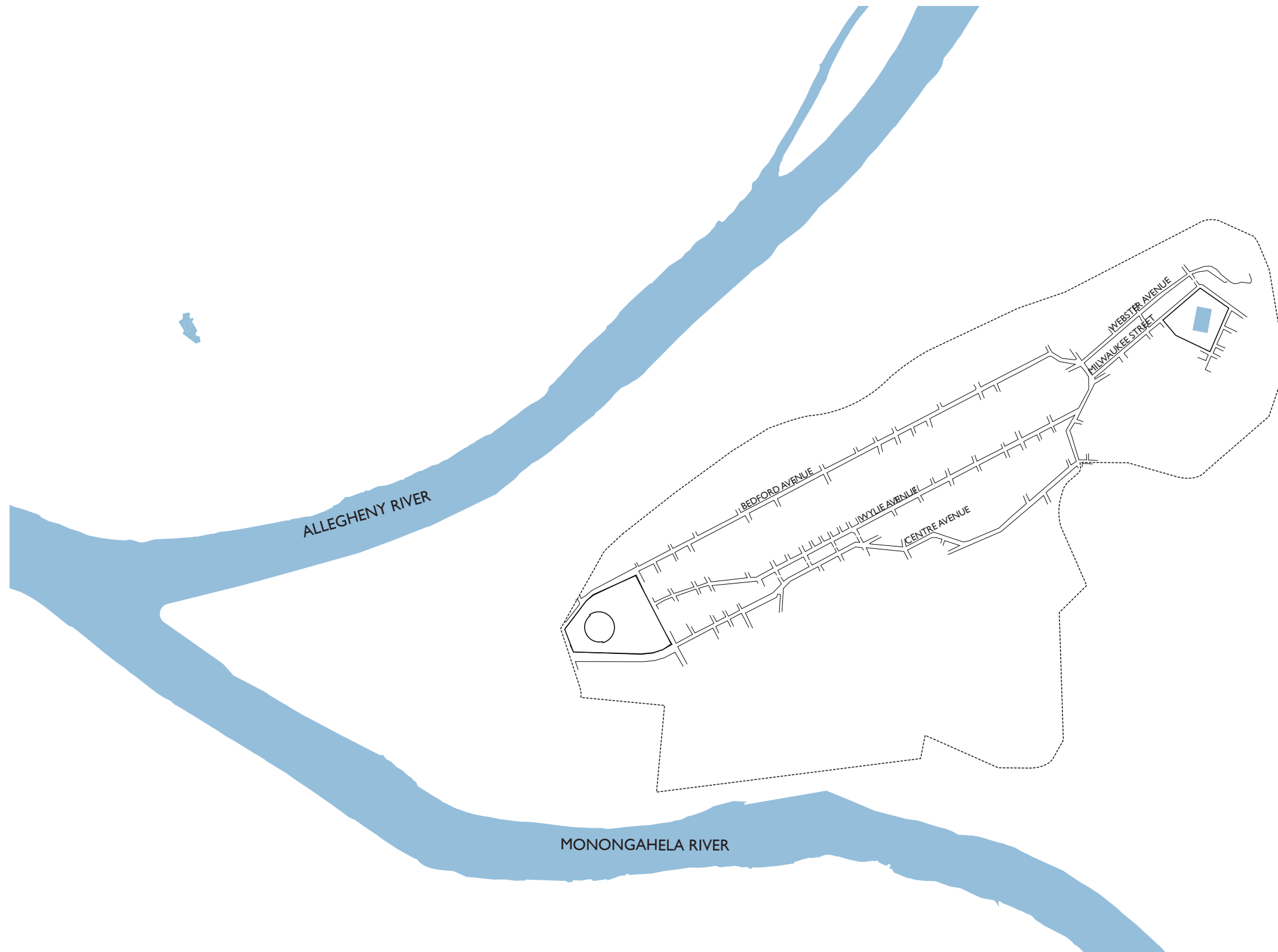
Kirkpatrick Street



Chauncey Street



East-West Roads connect from Herron Hill Park to the Mellon Arena Site. Roads follow the contours.



Bedford Avenue



Centre Avenue

HYBRID AND DIAGRAM ANALYSIS

PARKS AND WOODLANDS

Parks and Woodland areas are concentrated along the edges of the Greenprint study area, with the most dense woodland vegetation occurring on the steep bluffs. Smaller parks are towards the Hill's center, whereas larger parks are around the edges in open space.



Cliffside Park



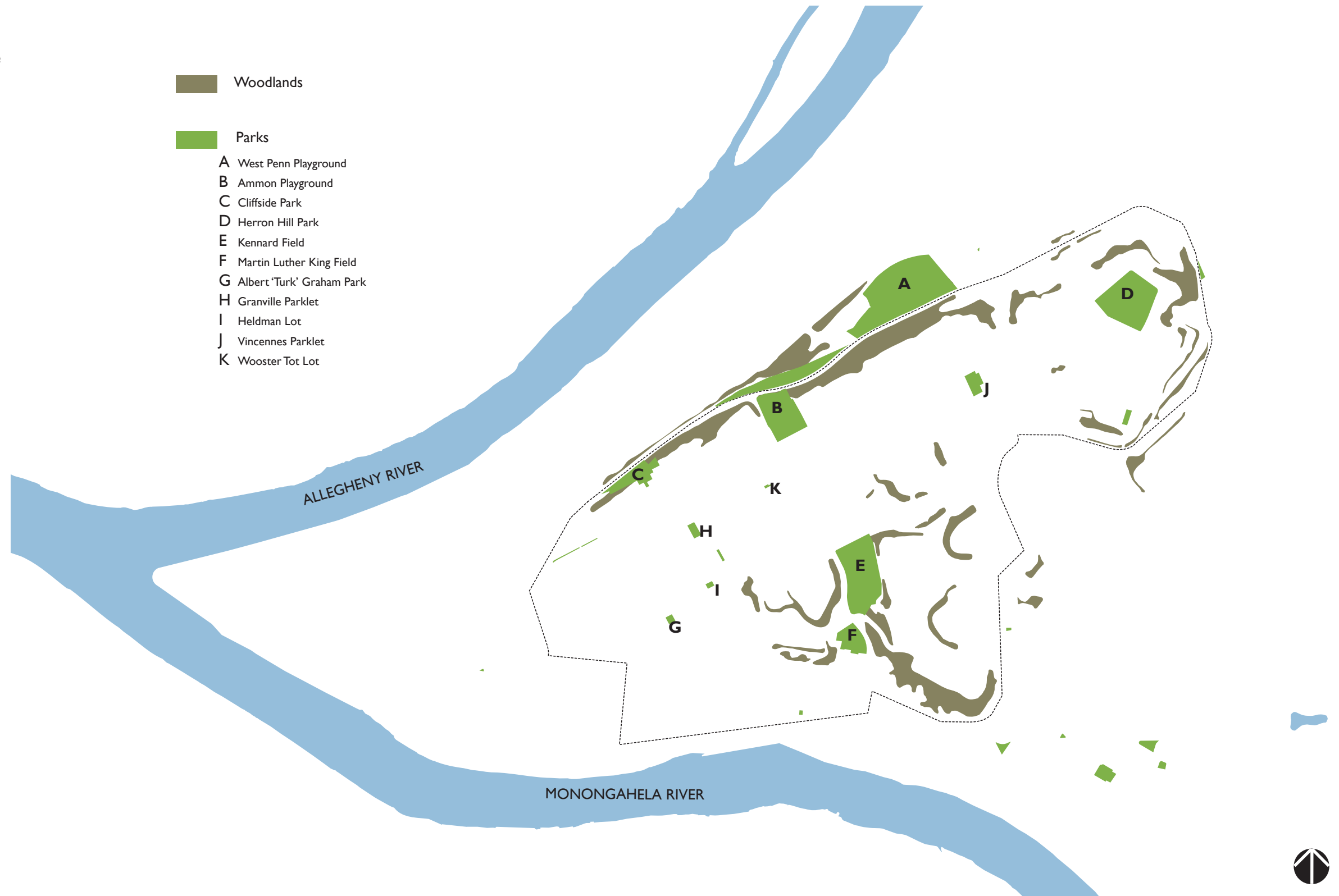
Ammon Playground



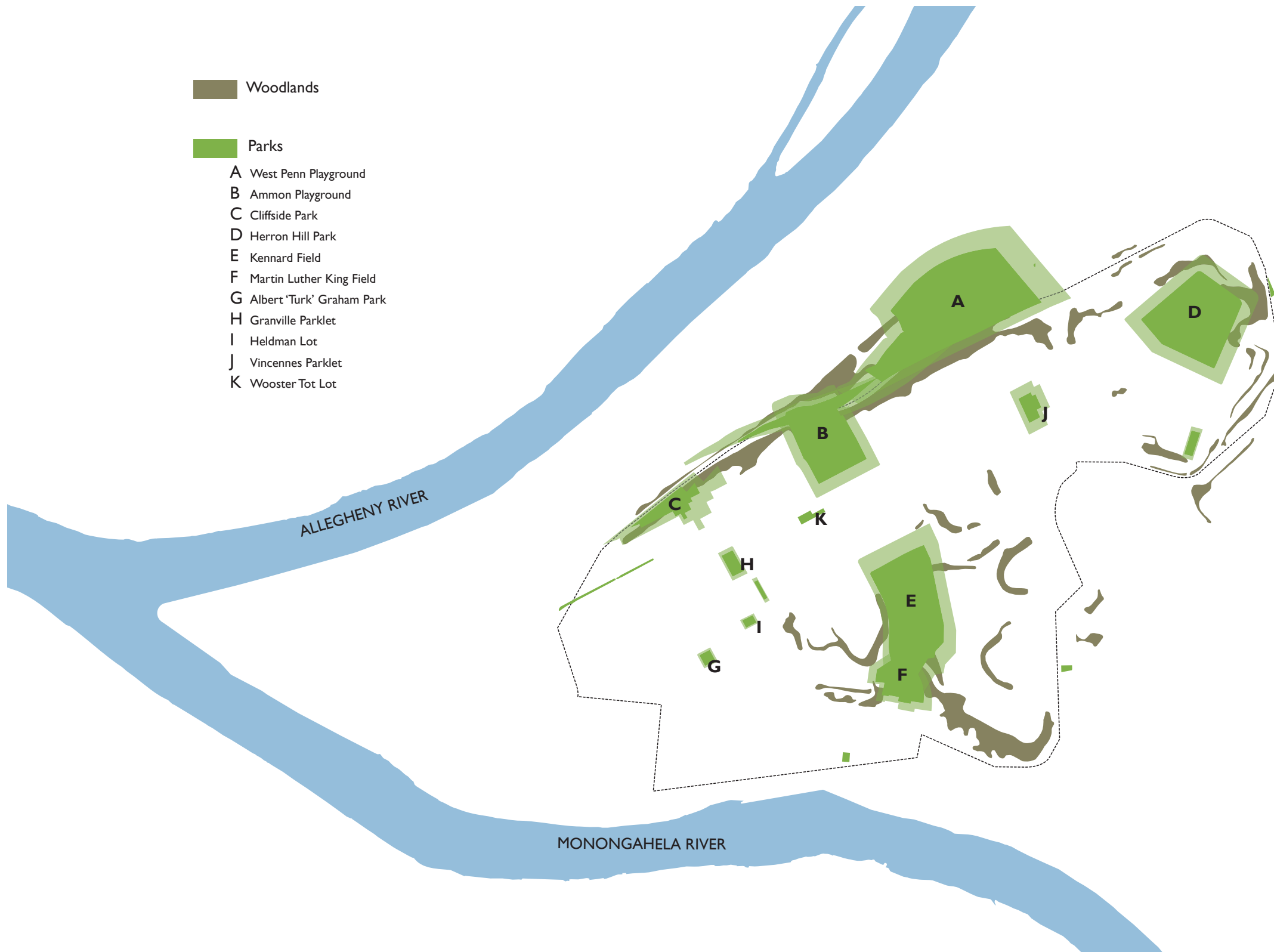
Herron Hill Park

- Woodlands

- Parks
- A West Penn Playground
- B Ammon Playground
- C Cliffside Park
- D Herron Hill Park
- E Kennard Field
- F Martin Luther King Field
- G Albert 'Turk' Graham Park
- H Granville Parklet
- I Heldman Lot
- J Vincennes Parklet
- K Wooster Tot Lot



- Woodlands
- Parks
 - A West Penn Playground
 - B Ammon Playground
 - C Cliffside Park
 - D Herron Hill Park
 - E Kennard Field
 - F Martin Luther King Field
 - G Albert 'Turk' Graham Park
 - H Granville Parklet
 - I Heldman Lot
 - J Vincennes Parklet
 - K Wooster Tot Lot



Enlarging existing parks and woodlands in the Hill creates overlapping conditions that make larger greenspaces. The concept moves “green” into streets, neighborhoods and backyards through bioswales, tree-lined roads, gardens, subordinating the vehicle, adding trails and corridors, creating outlooks, expanding porches and sidewalks, and enmeshing with existing woodland and vegetated areas.



PROPOSAL

DETAILED PROPOSALS

The following pages are detailed proposals for the Woods, Village and Conveyance in the Greenprint. Each proposal contains a case study example that exemplifies the suggest landscape concept. Strategies are derived by sampling specific attributes from each case study.

The final proposals illustrates how these strategies are introduced to specific projects in the Hill.



Entrance to Cliffside Park



Granville Parklet



Watering the plants at Lombard Street



Frick Park Case Study



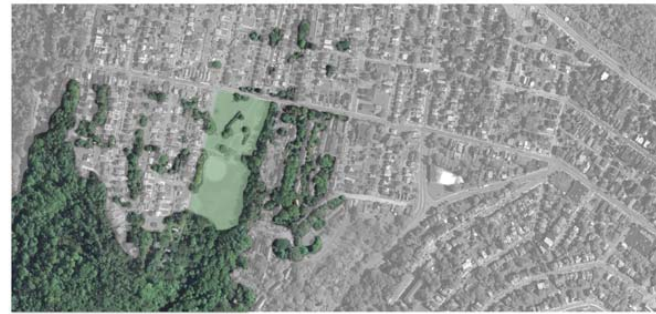
Frick Park Sampled

PROPOSAL

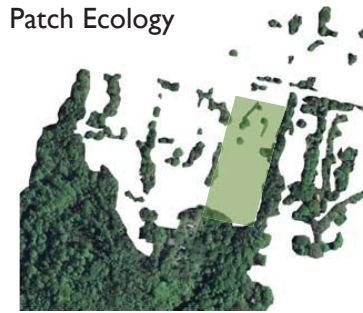
WOODS - PARKS - SAMPLING



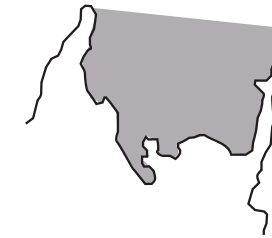
Olympia Park, Pittsburgh, Pennsylvania



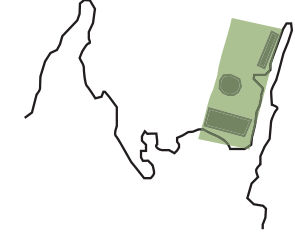
Patch Ecology



Immersion



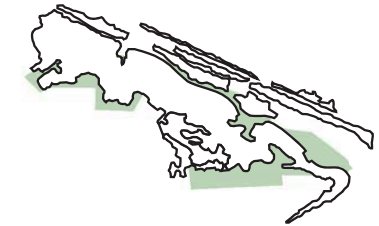
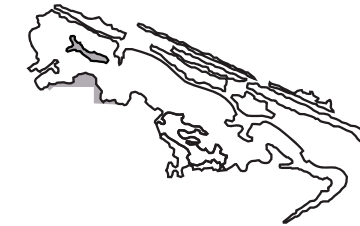
Large-Scale Program



Vegetation on three sides of the park makes access exclusive to the northern edge. Amenities in Olympia Park include a baseball field, soccer fields, tennis and basketball courts and an open, un-programmed green space. A pavilion holds restrooms and indoor meeting space.



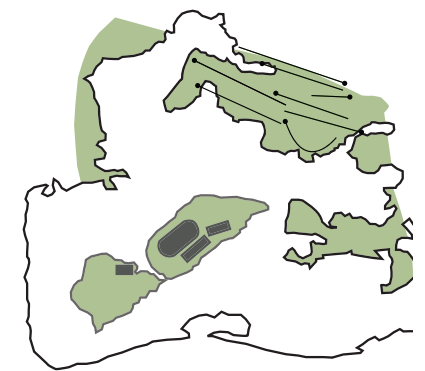
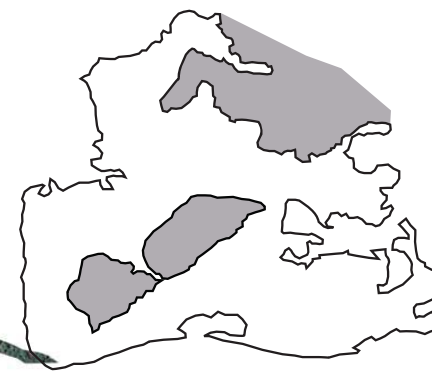
Grandview Park, Pittsburgh, Pennsylvania



Vegetation at Grandview Park runs primarily along the hill slope, just above the Fort Pitt Tunnel and in narrow strips on smaller terraces. Program includes a dog run and park, multi-use performance stage, hiking and walking trails.



Schenley Park, Pittsburgh, Pennsylvania



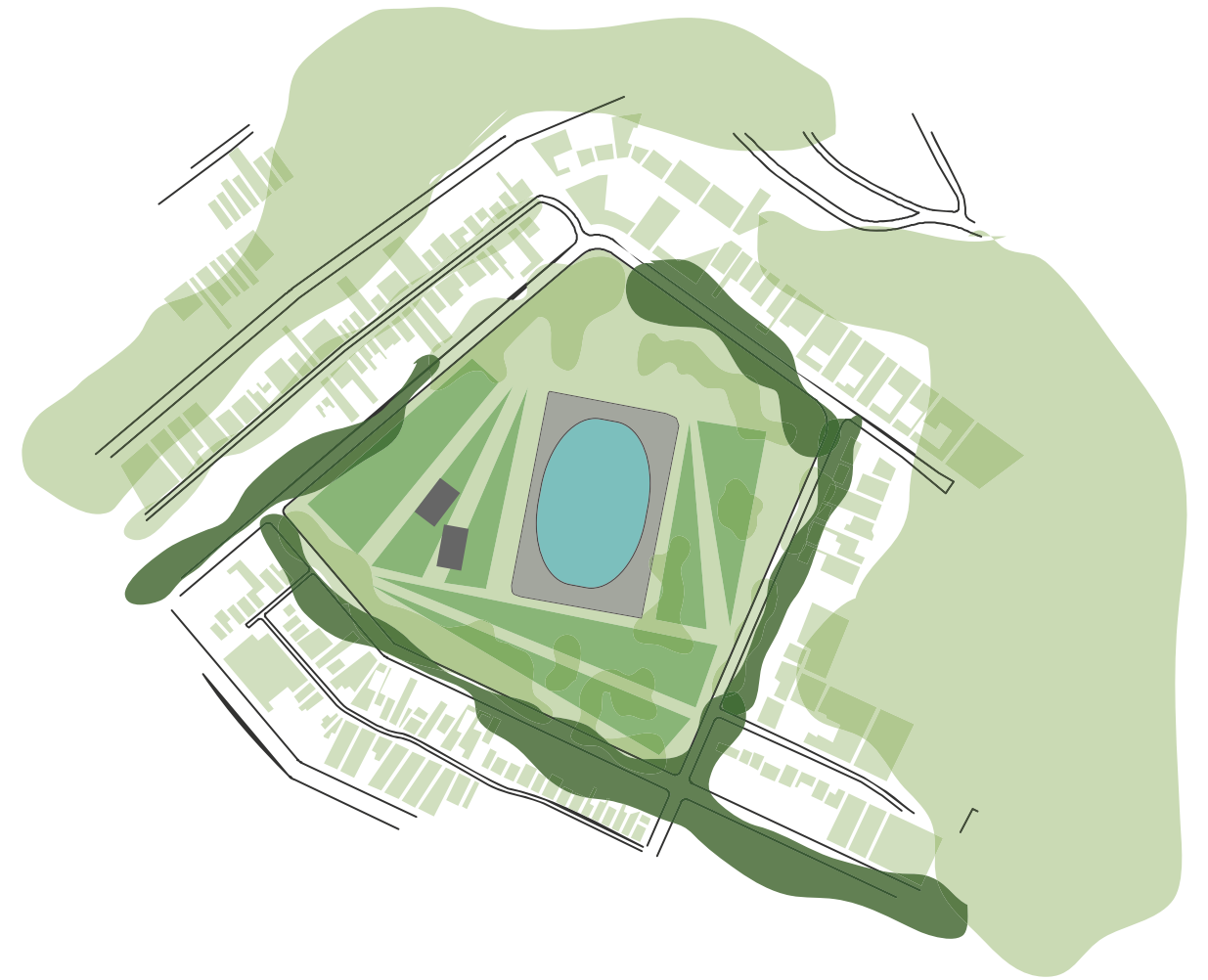
Vegetation at Schenley Park creates multiple points of immersion, from partial to full enclosure. Amenities include a golf course, running track tennis and basketball courts, hockey rink and botanical garden.



Existing Aerial

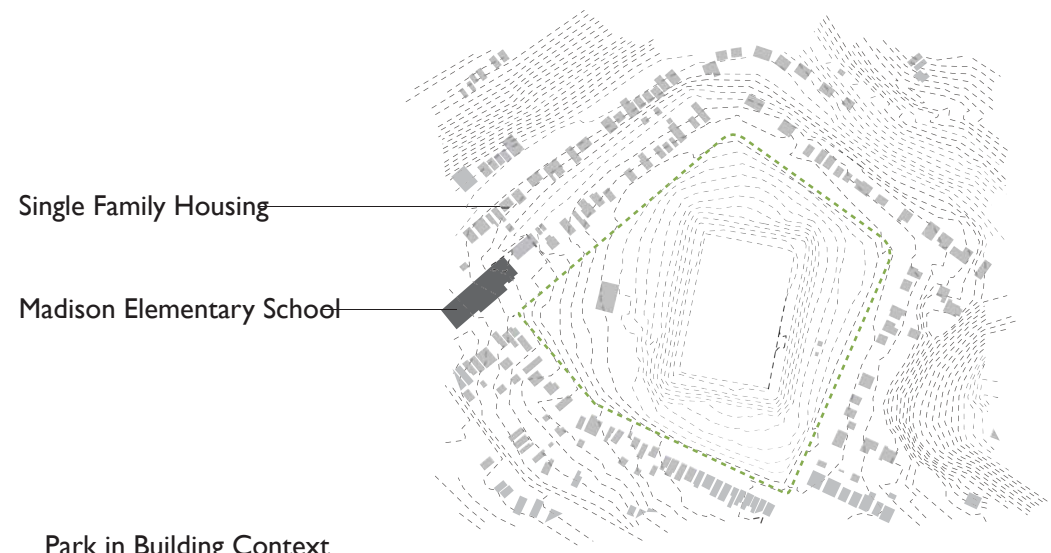


Vegetation Context

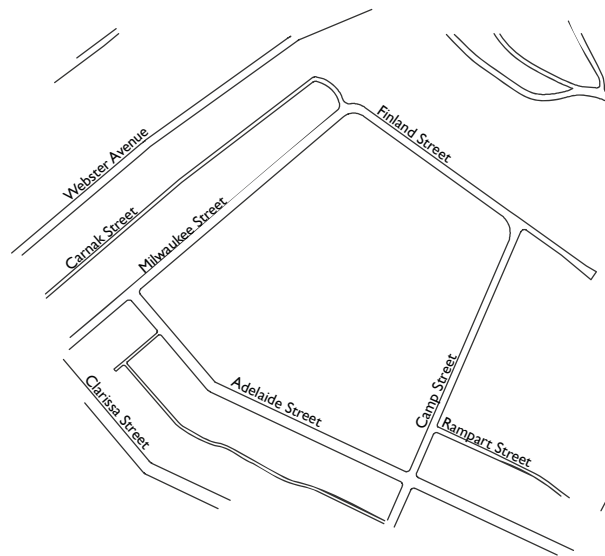


Park Enmeshed

Vegetation is added along Milwaukee Street, Finland Street, Camp Street and Adelaide Street to reinforce edges and extend the woods into the neighborhood. A large-scale water feature and formal gardens are added to the program in the park.



Park in Building Context



Circulation Context



Existing Aerial

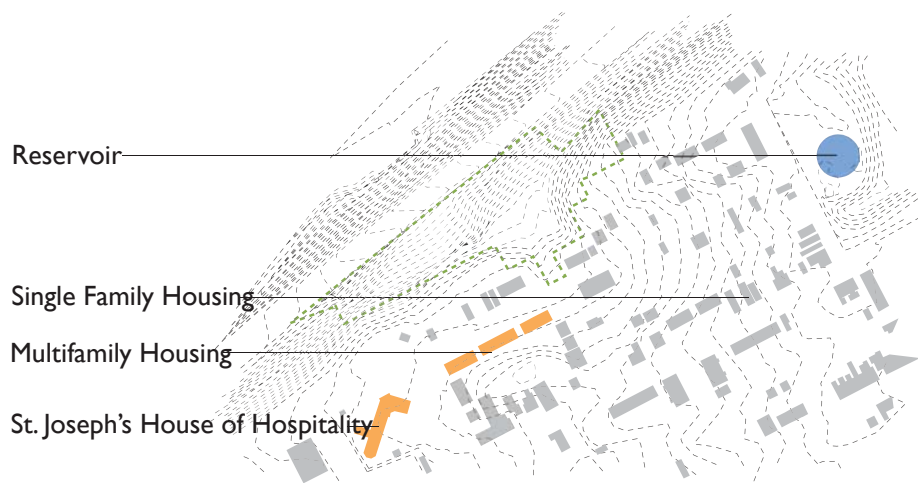


Vegetation Context



Park Enmeshed

Vegetation is added along Cliff Street, Monaca Place, Bedford Avenue, Manilla Street and Roberts Street to reinforce edges and extend the woods into the neighborhood. An amphitheater and terrace is proposed for the Cliffside Park, along with renovation of existing basketball courts and programmed space.



- Reservoir
- Single Family Housing
- Multifamily Housing
- St. Joseph's House of Hospitality

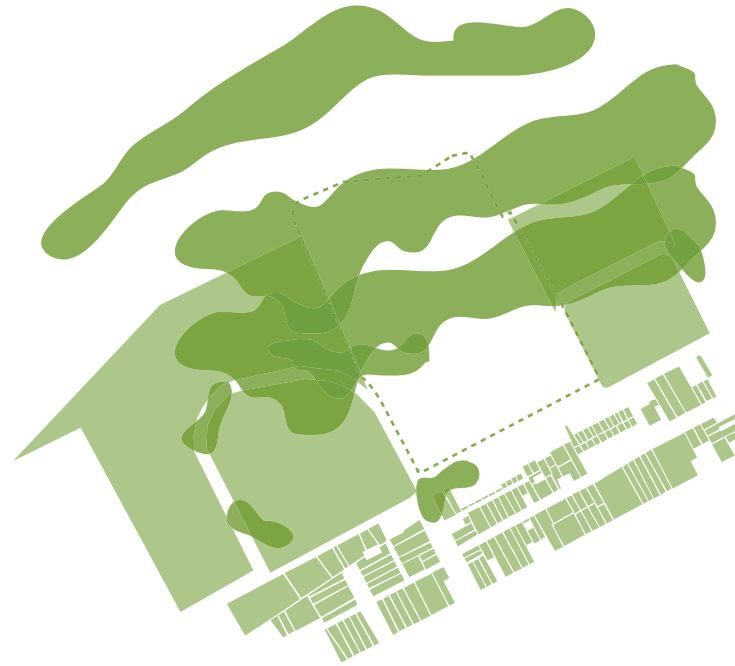
Park in Building Context



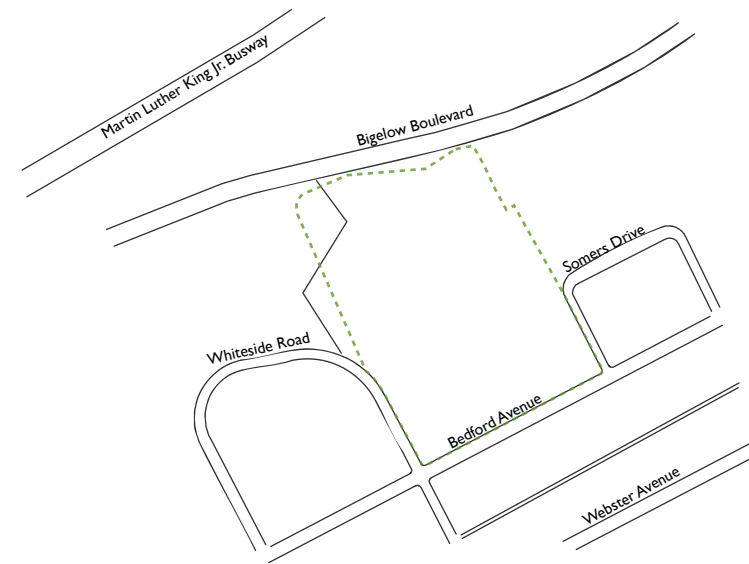
Circulation Context



Existing Aerial



Park in Vegetation Context

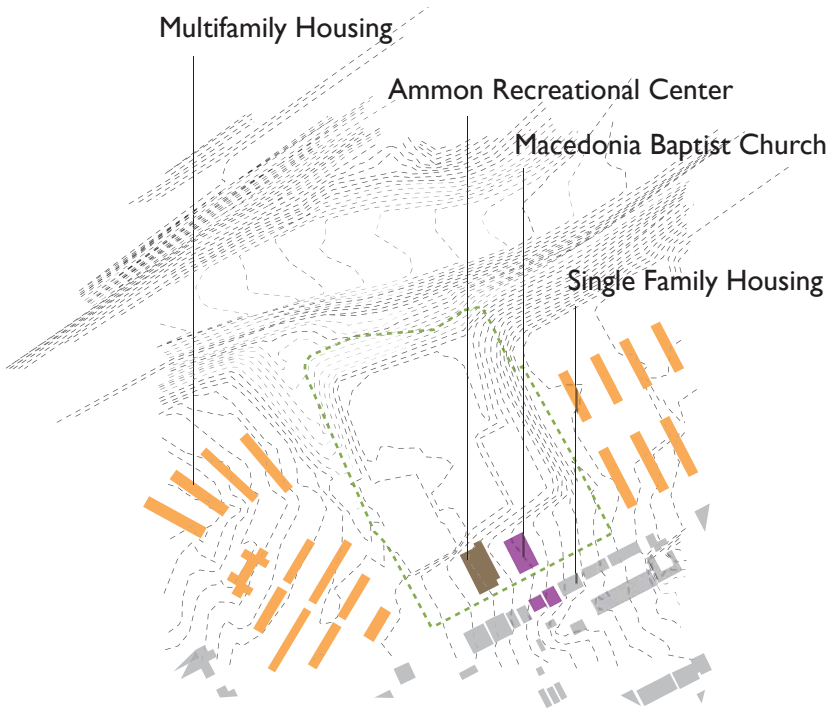


Circulation Context



Park Enmeshed

Vegetation is added to create a park setting and reinforce edges above Bigelow Boulevard and along Bedford, and is brought down Kirkpatrick Street. Tree canopy extends from the wooded slopes into the multi-family housing in the form of garden plots and green courtyards. A running track as the large-scale program circles the existing baseball fields.



Park in Building Context

PROPOSAL

WOODS - PARKS - KENNARD PLAYGROUND



Existing Aerial

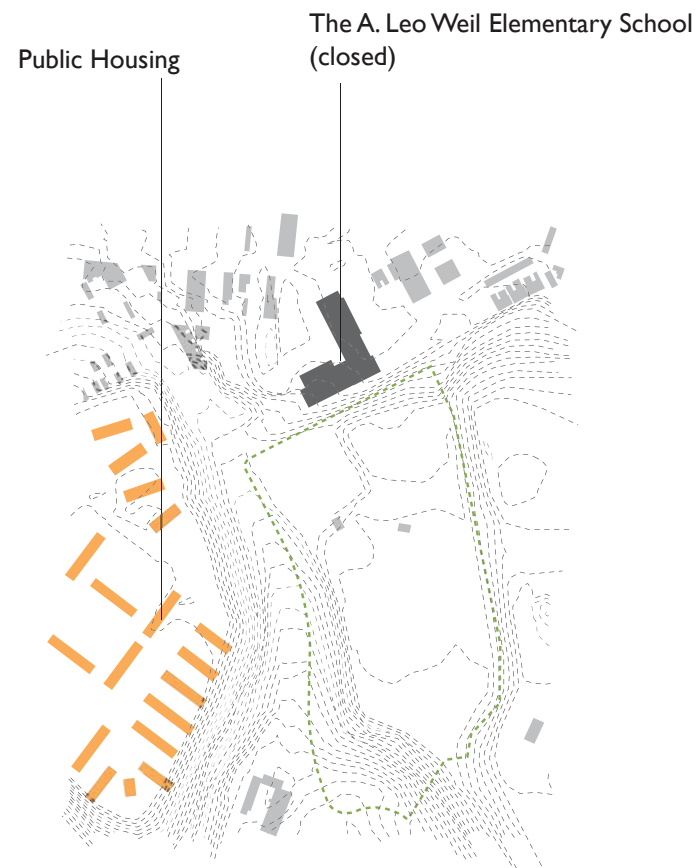


Park in Vegetation Context

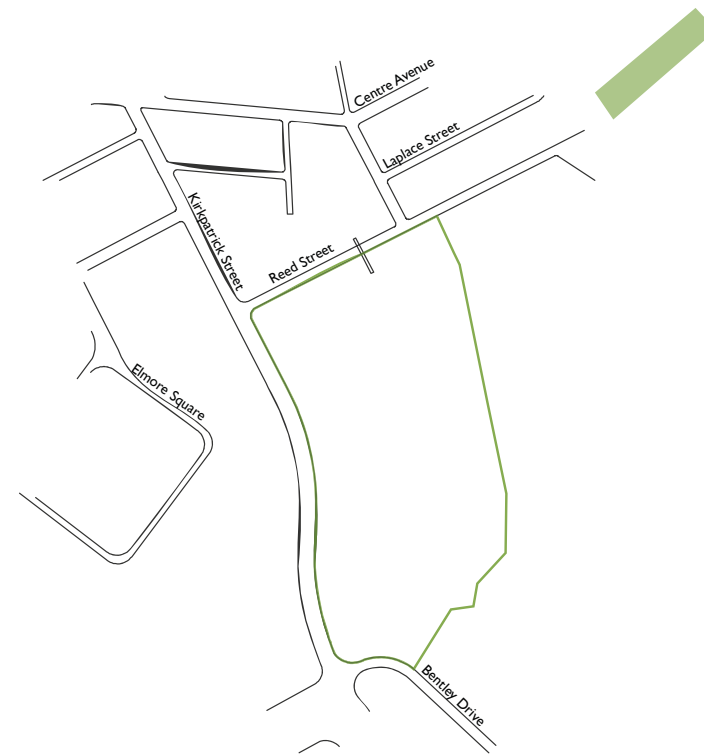


Park Enmeshed

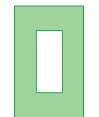
Vegetation is added Kirkpatrick Street and along the edges of the multi-family housing in the form of garden plots and courtyards. Tree canopy is also added on Center Avenue to expand the park into the single-family housing. Soccer fields are added to the south of the park space as large-scale program.



Park in Building Context



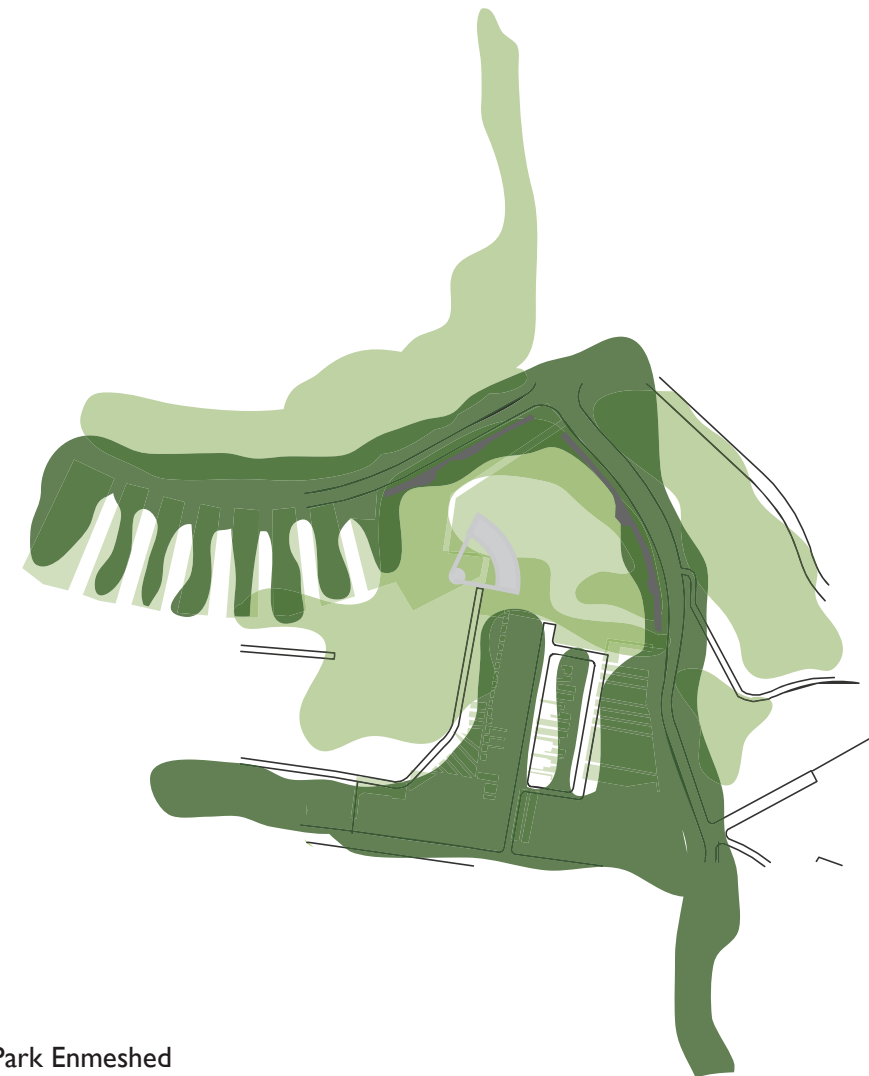
Circulation Context



Existing Aerial

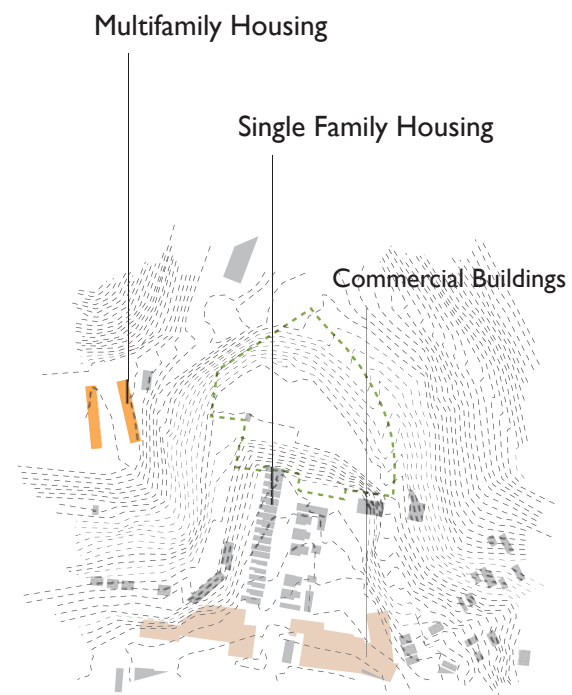


Park in Vegetation Context

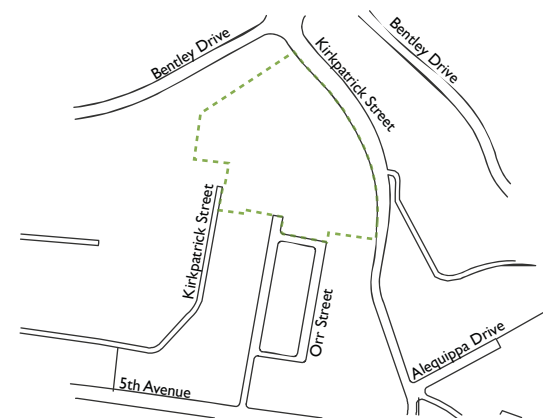


Park Enmeshed

Vegetation is added along Bentley Drive and Kirkpatrick Street, also along Orr Street and 5th Avenue. Terraced edges are added along the park edges slopes, to be used for rock climbing, planting plots.



Park in Building Context



Park in Street Context

PROPOSAL

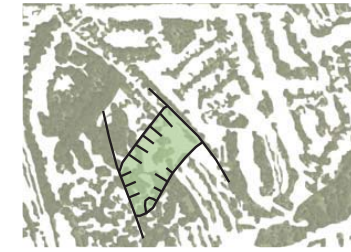
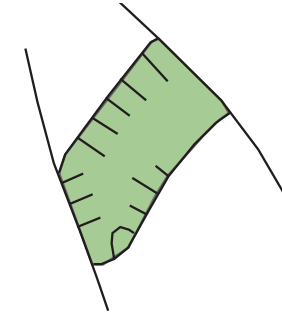
WOODS - HOUSING - SAMPLING



Radburn, New Jersey



Radburn



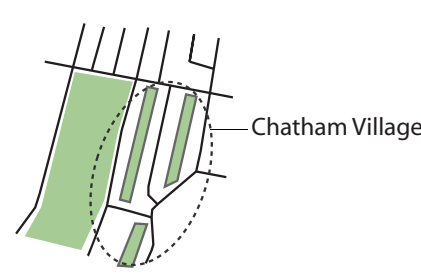
Historic Radburn, NJ demonstrates a multi-family housing design characterized by homes that face a common interior green. Car access is pushed to the back of buildings by employing short alley-ways that minimally disturb the interior green. Tree-lined streets merge with interior green.



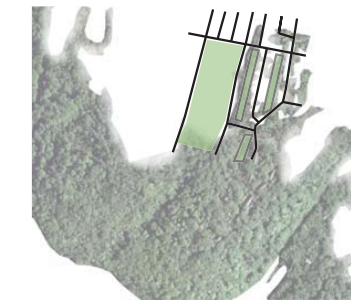
Chatham Village, Pittsburgh, Pennsylvania



Chatham Village



Chatham Village



Chatham Village is an example of multi-family housing where, similarly to Radburn, homes face an interior green and car access is kept at the street. The block width is wider than typical surrounding blocks to accommodate this interior green space. The surrounding woods perceptibly mesh with tree canopy in the interior green.

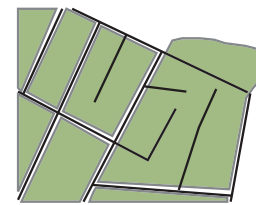
Single-Family



Highland Park, Pittsburgh, Pennsylvania



Highland Park



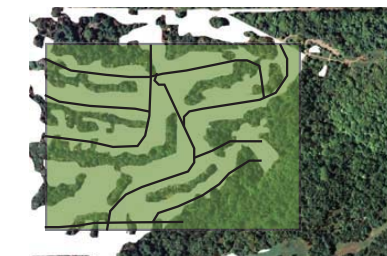
The tree canopy in Highland Park enmeshes with surrounding wood. Lots are larger than typical to allow for wider backyards. Narrow, dead-end roads subordinate the car to the green and mitigate street traffic.



Frick Park, Pittsburgh, Pennsylvania



Frick Park



Frick Park enmeshes with adjacent woods with tree canopy cover and utilizes widened blocks for enlarged interior green space.



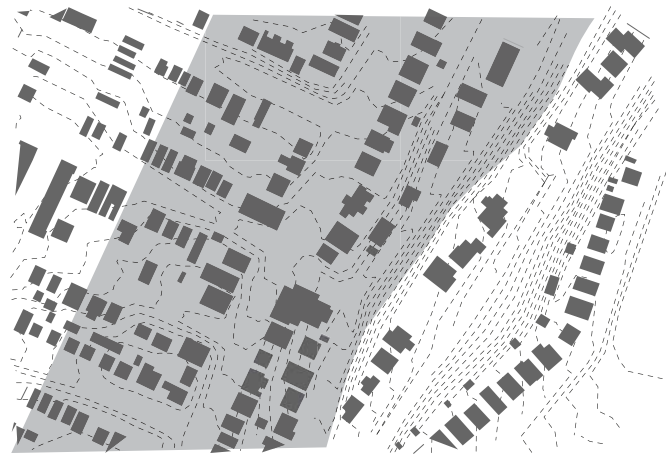
Existing Aerial



Existing Housing Context



Housing Enmeshed



Site Area and Existing Housing in Topographic Context



Site Area and Street Context

- Section of Iowa Street is narrowed and becomes pedestrian-only corridor.
- Streets become green corridors that enmesh the woods with the neighborhood.
- Streets are lined with green trees and plantings.

PROPOSAL

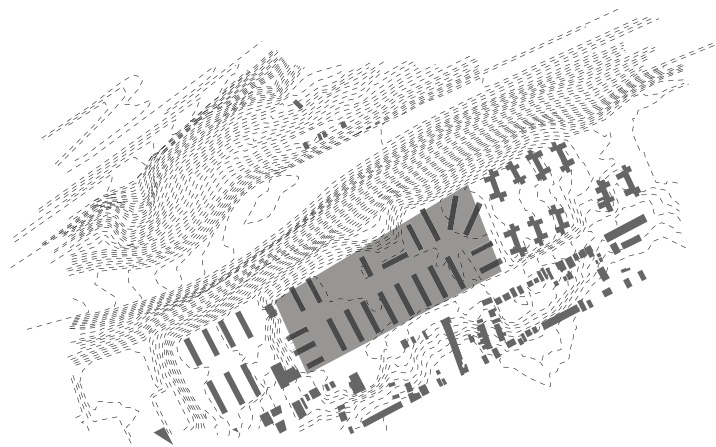
WOODS - HOUSING - DRIVE MULTI-FAMILY



Existing Aerial



Existing Housing Context



Site Area and Existing Housing in Topographic Context



Site Area and Street Context



Housing Enmeshed

- Chauncey Drive is removed to create larger green space.
- Tree corridors are added between multi-family housing units to link the development to neighboring woods.

PROPOSAL

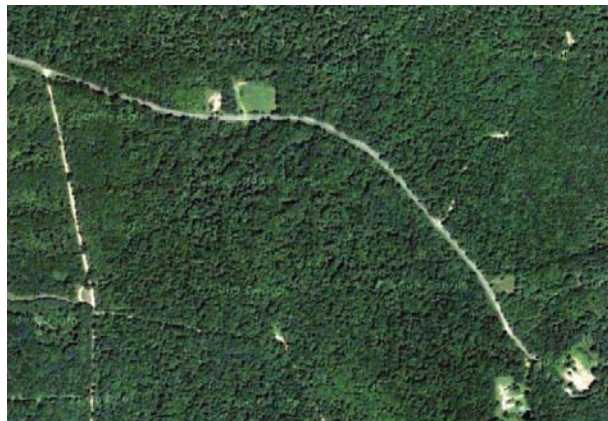
WOODS - CIRCULATION - SAMPLING



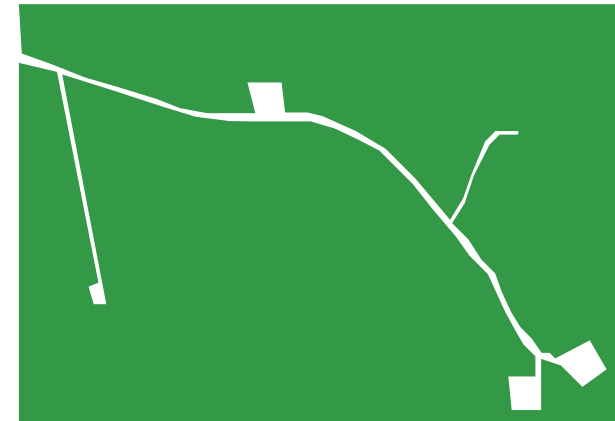
Rock Creek Parkway, District of Columbia



The parkway in Rock Creek Park is an example of a green corridor with dense vegetation on both sides and a green vegetated strip in the median. Buildings and structures are hidden from view while on the parkway.



Typical Road in Pennsylvania



This Pennsylvania road is a narrow two-lane roadway with dense vegetation on both sides, and typically without curbs (i.e.- soft edges). Buildings and structures are hidden from view with small open spaces along the road edges, creating an immersed condition.



Wissahickon Trail, Philadelphia, Pennsylvania



The Wissahickon Trail in Philadelphia is an example of a narrow bike and pedestrian pathway surrounded by dense vegetation. The trail is completely immersed within the landscape. Adjacent to the Wissahickon Creek, the trail closely follows the meandering twists and turns.



Existing Aerial

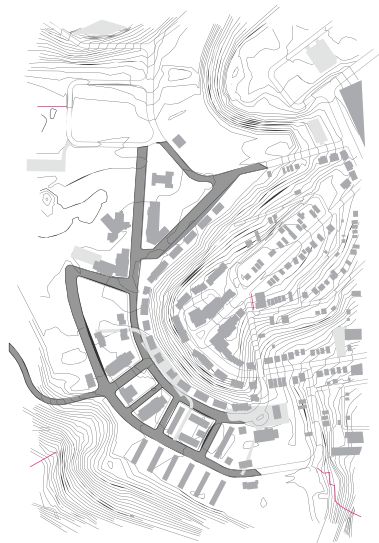


Road in vegetation context



Road Enmeshed

- Green is added along the edges of Burrows Street and Oakhill Drive, in the form of bioswales and rain gardens.
- Extension of the streets goes into the multifamily housing spaces, through garden plots.



Road in building context

PROPOSAL

WOODS - CIRCULATION - HERRON AVENUE



Existing Aerial



Parkway in Vegetation Context



Road in Building Context



Parkway Enmeshed

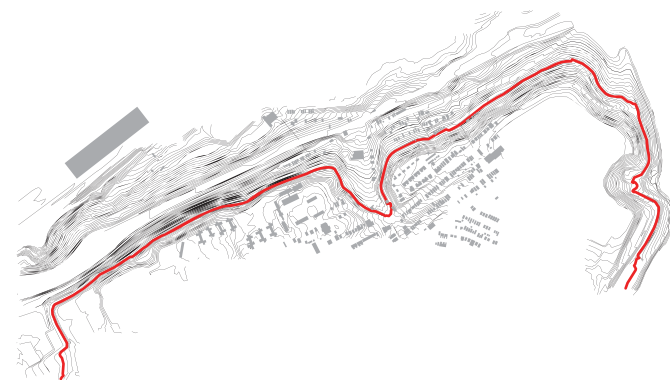
- Green is added along the edges of Burrows Herron Avenue, in the form of bioswales and rain gardens.



Existing Aerial



Coal Seam in Vegetation Context



Coal Seam in Building Context

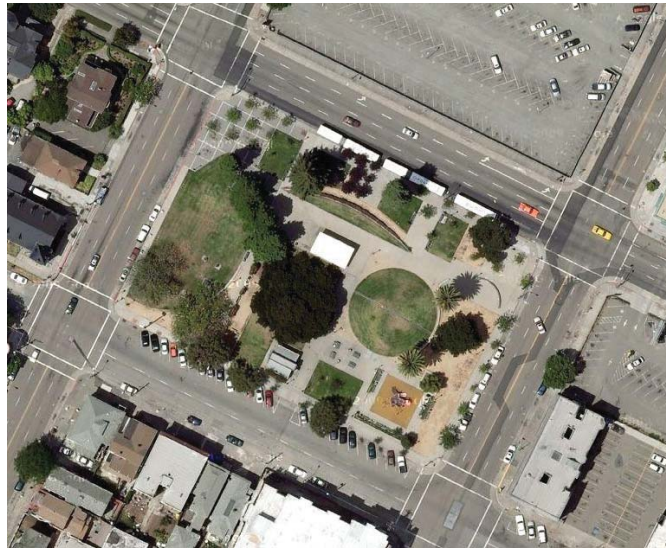


Trail Enmeshed

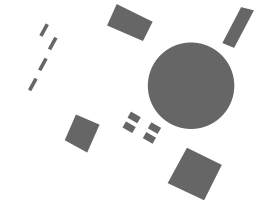
- An interpretative trail is added along the edge of the Coal Seam. At clearing points in the vegetation, this could provide space for terraces and lookout points.
- Additional vegetation is added to reinforce the coal seam edge and provides a natural trail

PROPOSAL

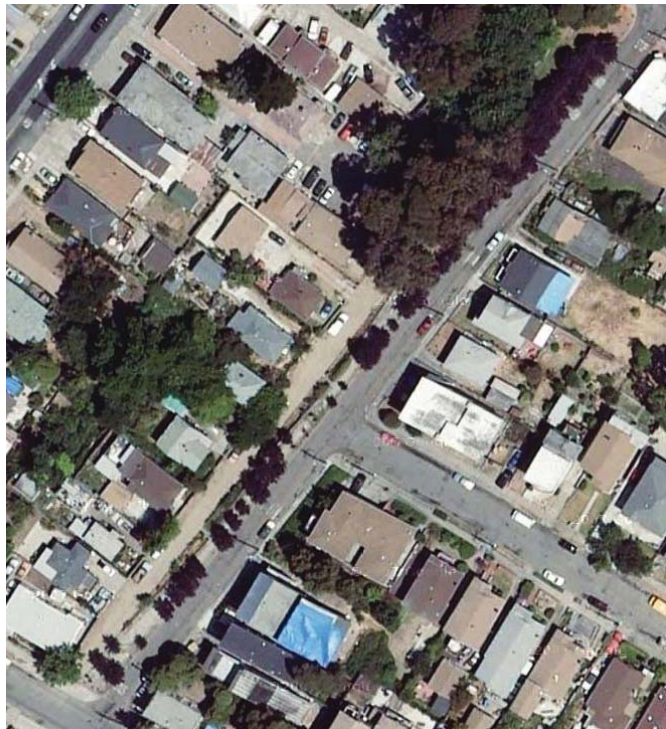
VILLAGE - PARKS - SAMPLING



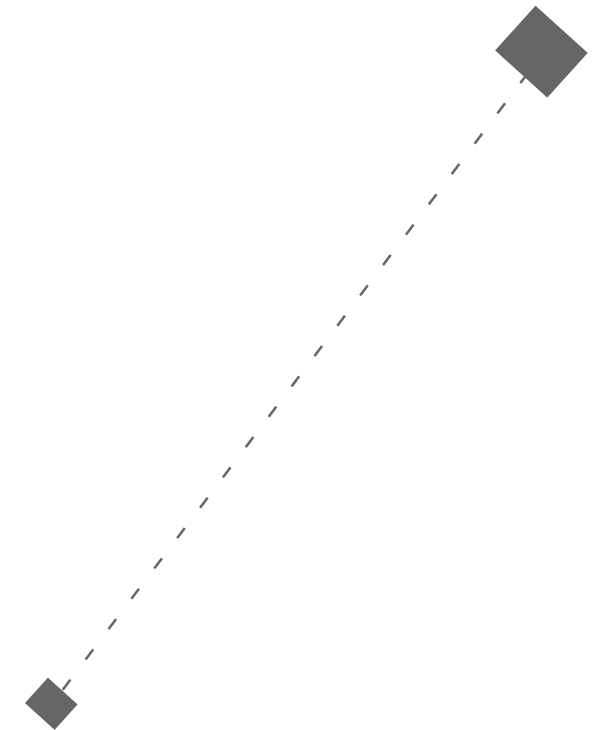
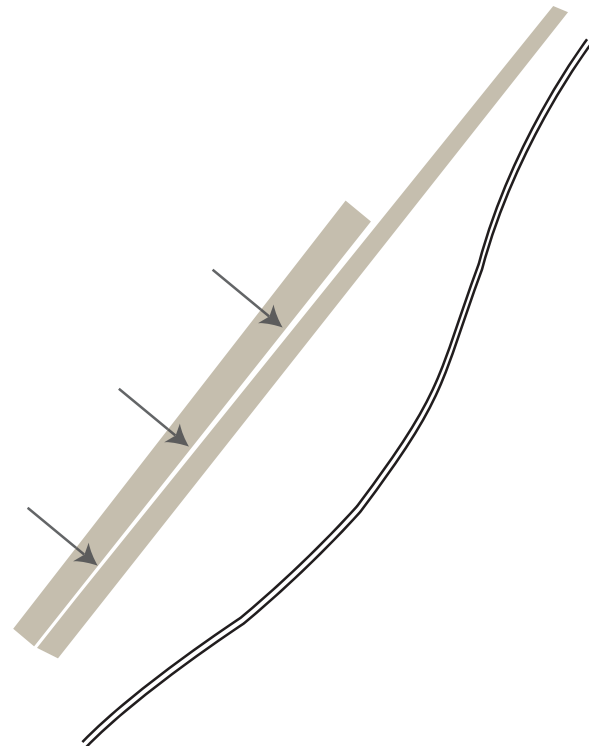
Lafayette Park, Oakland, California



Park edges are permeable, allowing users free, unrestricted access to the site. Streets encircle the park space with housing and commercial structures. Allee, bosque and clumping dot the park landscape and create a multitude of threshold and immersible conditions. Small- and large-scale programs including chess tables, storage sheds, and restrooms give the park its diversity and ability to adapt to different uses over time.



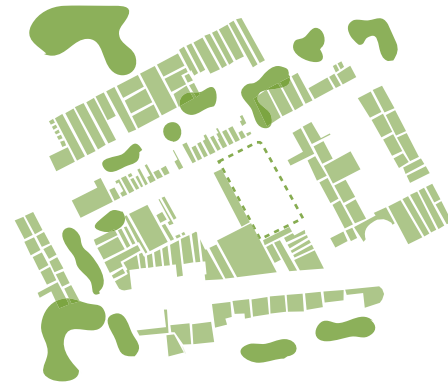
Courtland Creek, Oakland, California



A gathering space is placed next to the local creek. Access to the park is one-sided, giving residents full view. An allee of trees reinforces the street edge but also become a part of the contextual vegetated areas. Un-programmed gathering spaces at either end of the site give the park the ability to adapt to different uses over times.



Existing Aerial

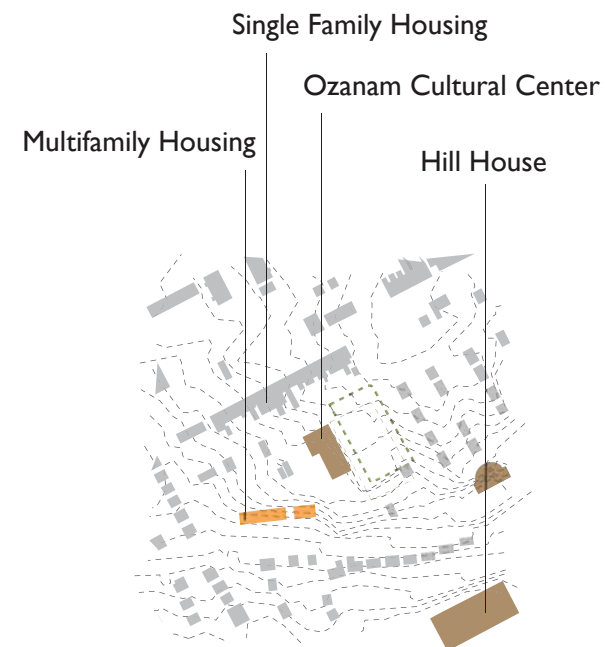


Park in Vegetation Context

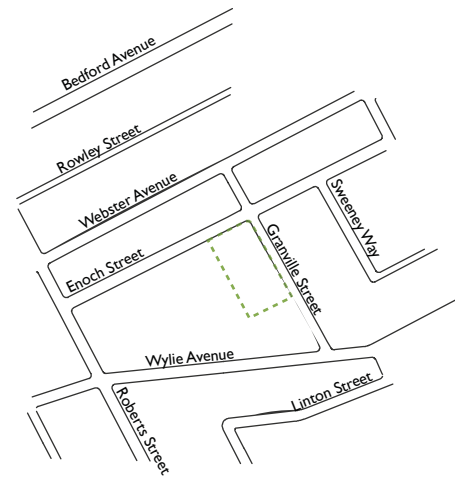


Park Interconnected

- Vegetation is added along street edges to connect to surrounding vegetation.
- Access to space opens on all four sides to take advantage of Ozanam Cultural Center proximity.
- A series of rain catchers and small green plots diversify the parklet's existing program.



Park in Building Context



Park in Street Context

PROPOSAL

VILLAGE - PARKS - ALBERT 'TURK' GRAHAM PARK



Existing Aerial

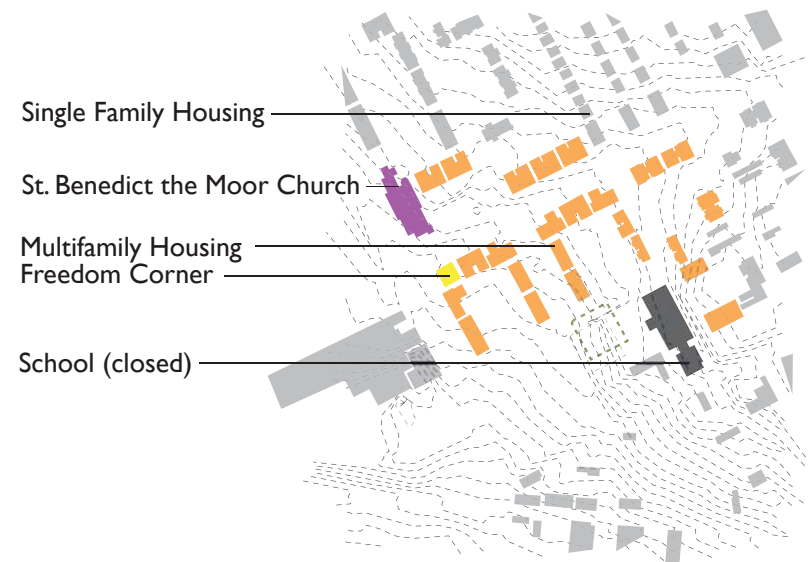


Park in Vegetation Context



Park Interconnected

- Vegetation is added along street edges to connect with and extend existing vegetation.
- Access to the park from Foreside Place and Vine Street becomes permeable.
- Addition of diverse programming.



Single Family Housing

St. Benedict the Moor Church

Multifamily Housing
Freedom Corner

School (closed)

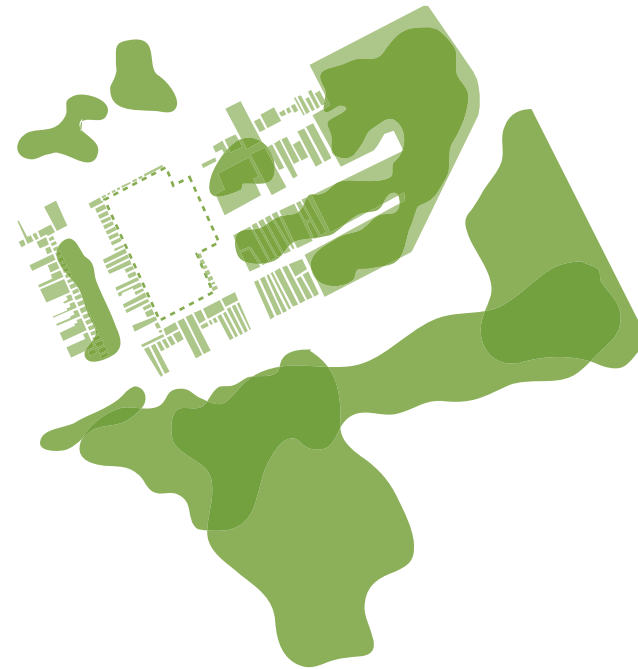
Park in Building Context



Park in Street Context



Existing Aerial



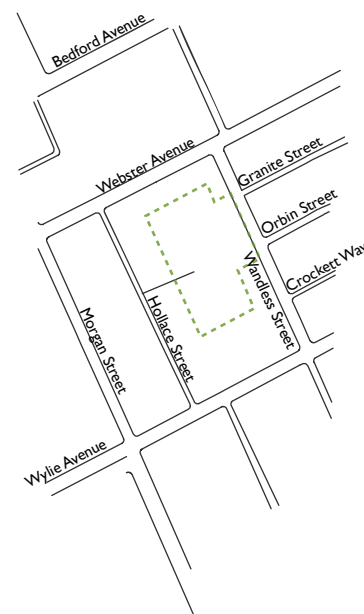
Park in Vegetation Context



Park Interconnected

- Vegetation is added along streets edges to connect with existing surrounding vegetat
- Access to park on Wandless Street becomes less permeable with tree allee.

Single Family Housing



PROPOSAL

VILLAGE - PARKS - HELDMAN LOT



Existing Aerial

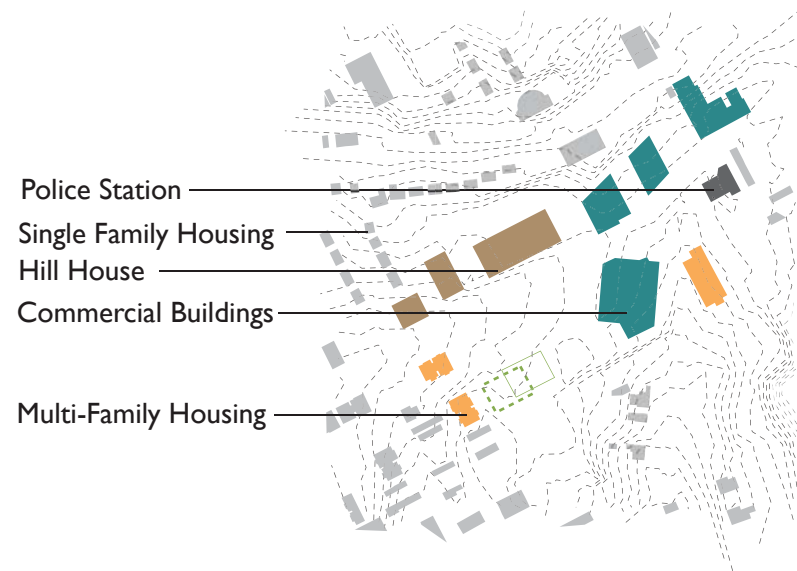


Park in vegetation context



Park Interconnected

- Vegetation is added along street edges to connect to existing surrounding vegetation.
- Access to park on Heldman Street is permeable.
- Chess tables, picnic tables and small green plots diversify existing program.



- Police Station
- Single Family Housing
- Hill House
- Commercial Buildings
- Multi-Family Housing

Park in Building Context



Park in Street Context



Existing Aerial



Park in Vegetation Context



Park in Building Context



Park in Street Context

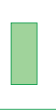


Park Interconnected

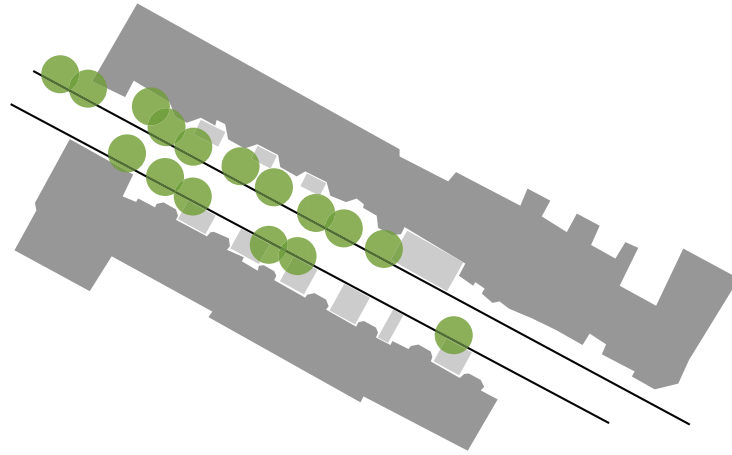
- Vegetation is added along street edges and through tot lot to connect to larger green.
- Park access opens to two sides, on Wooster Street and Elmore Street through surface changes.
- Picnic tables and benches are added to the program.

PROPOSAL

VILLAGE - HOUSING - SAMPLING



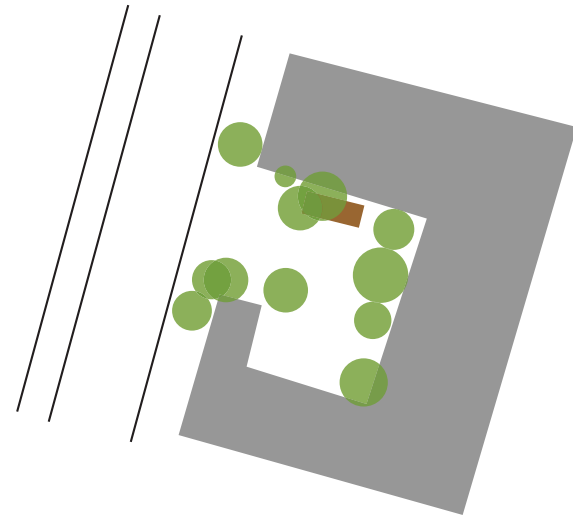
117th Street, Harlem, New York



Porches and sidewalks extend housing to street edge, creating a public, highly visible social space.



Filbert St., Oakland, California



Paved programmed space for the automobile creates large unprogrammed space that could be used for various activities. One-way access from the street to the courtyard creates a threshold condition.



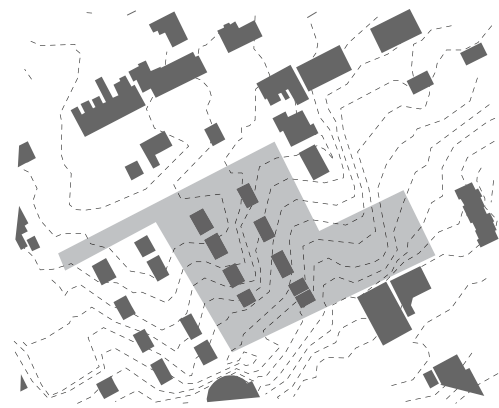
East Palace Avenue, Santa Fe, New Mexico



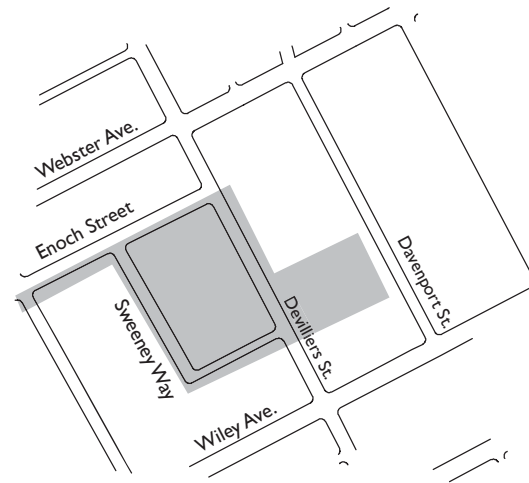
Interior courtyard spaces are completely separated from the street, with exclusive access from the surrounding buildings. This creates an enclosed condition.



Existing housing context



Site area and existing housing in topographic context



Site area and street context



Housing Enmeshed

- Street becomes greenway.
- Sidewalk widens for green.
- Vacant lots utilized for open green space.

PROPOSAL

VILLAGE-HOUSING-DAVENPORT AND WEBSTER STEET



Existing Aerial

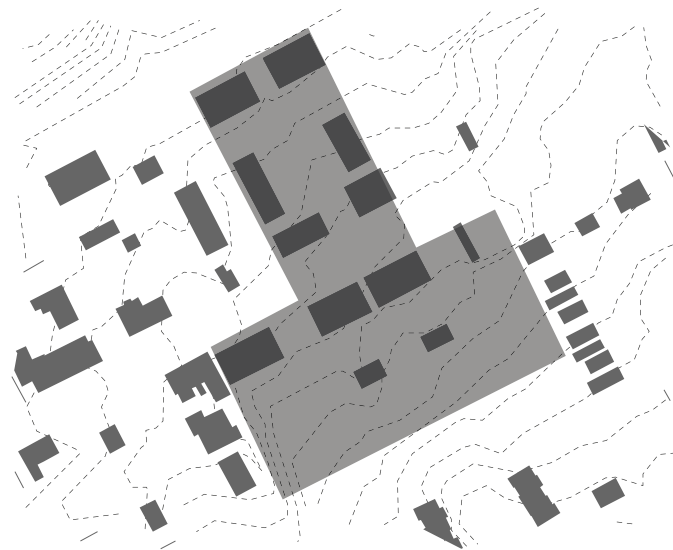


Existing Housing Context



Housing Enmeshed

- Courts are added in between multi-family units.
- Mixed-use parking is added.
- Civic ties are enhanced through connected courts



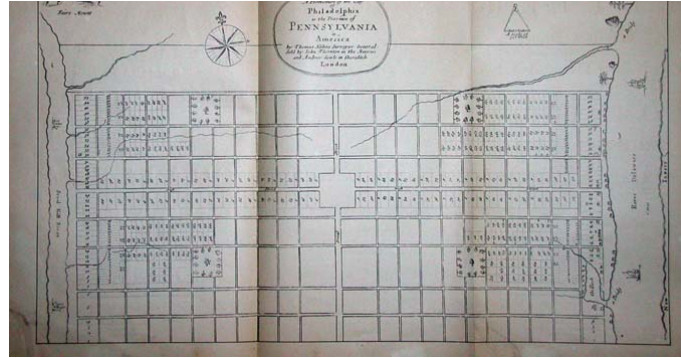
Site Area and Existing Housing in Topographic Context



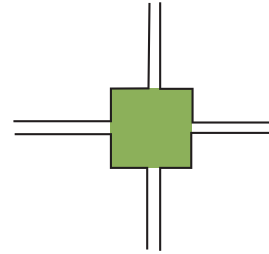
Site Area and Street Context

PROPOSAL

VILLAGE - CIRCULATION - SAMPLING



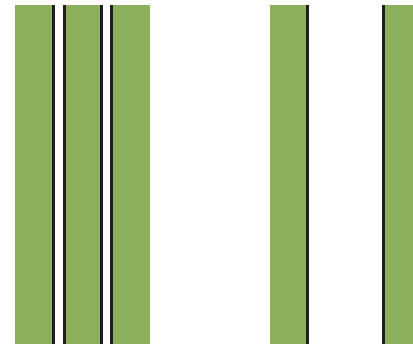
William Penn's Squares, Philadelphia, Pennsylvania



- Squares overlaid onto grid
- Streets run into civic space
- Five squares give a sense of dispersed civic connectedness



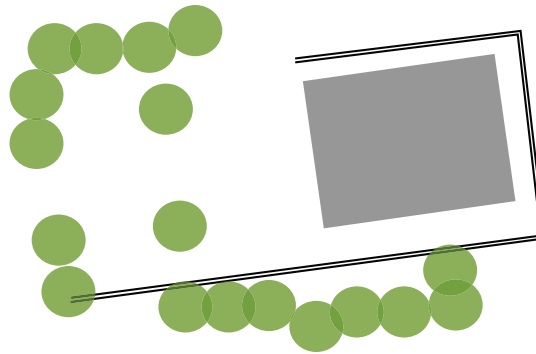
Alleyways and Green Driveways



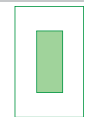
- Minimal paved surfaces - addition of green breaks up surfaces
- Permeable Paving
- Green provides sense of spatial enclosure



Freedom Trail, Boston, Massachusetts



- Paving details and informative plaques traverse and spatialize historical sites within the city of Boston
- Historical heritage contained within the geography of the city



Village Circulation



Existing Aerial



PROPOSAL

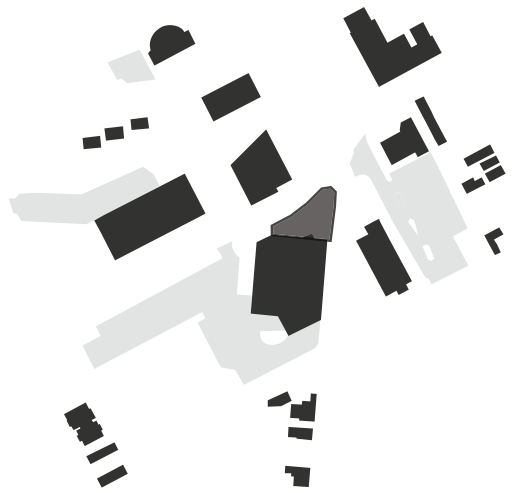
VILLAGE - CIRCULATION - CENTRE AVENUE PLAZA



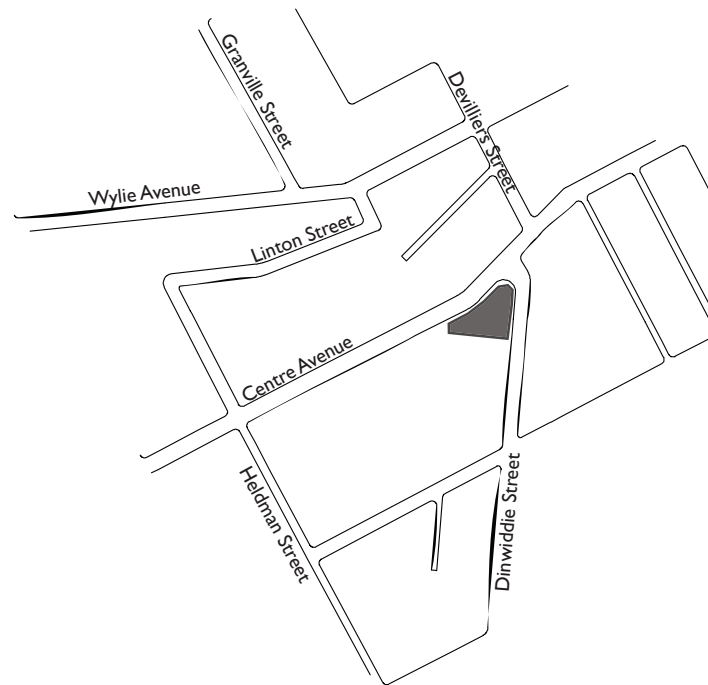
Existing Aerial



Plaza in Vegetation Context



Plaza in Building and Parking Lot Context

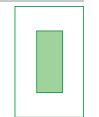


Plaza in Street Context



Plaza Enmeshed

- Plaza extends across Dinwiddie Street towards the police station.
- Vegetation is added to connect to existing street trees and green.



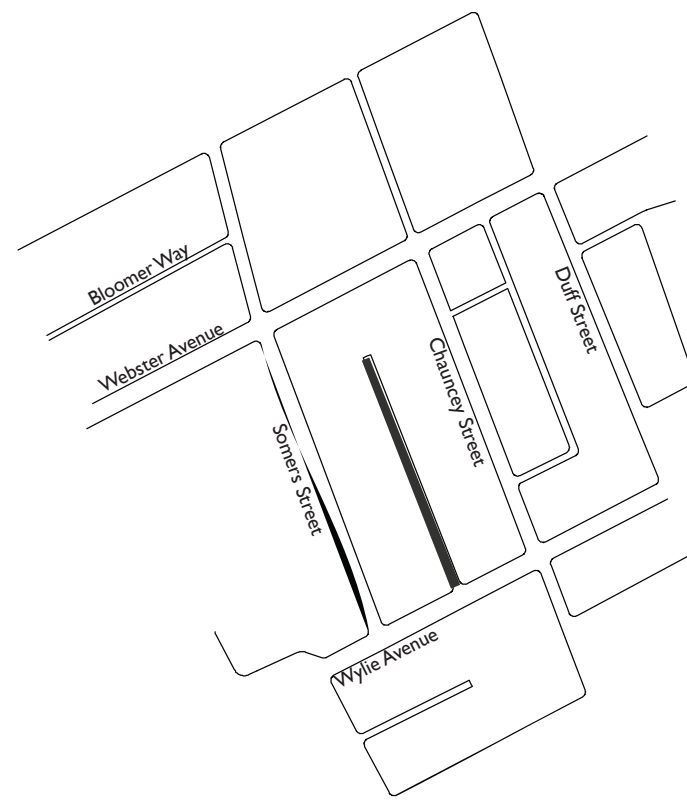
Existing Aerial



Alley in Vegetation Context



Alley in Building Context



Alley in Street Context



Alley Enmeshed

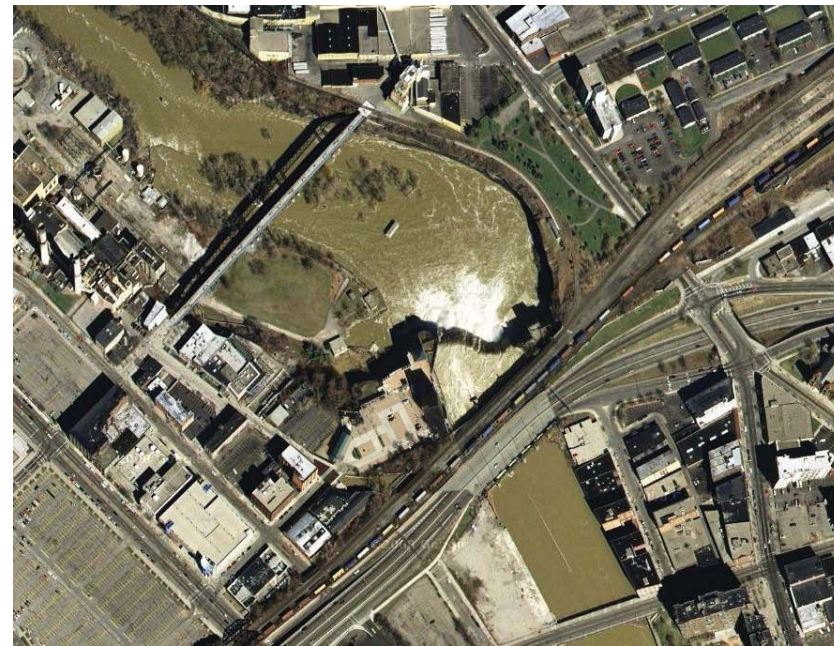
- Vegetation is added along alley edges to connect with existing vegetation.
- New surface material is introduced to distinguish from existing streets.
- A water channel is added to the alley edge.

PROPOSAL

CONVEYANCE - STREAMS/RUN - SAMPLING



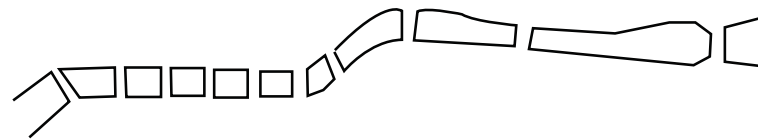
Chicago River



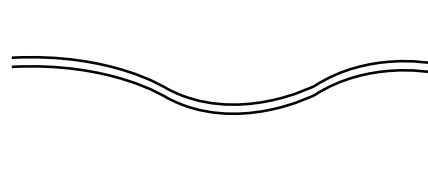
Rochester, New York



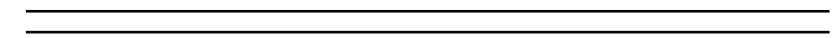
Erie Canal



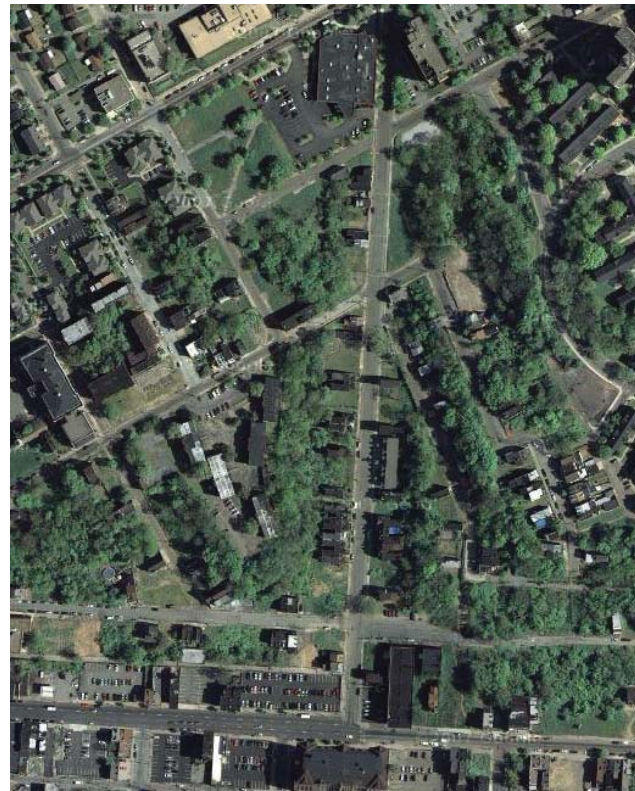
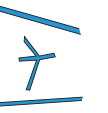
Water is broken down into smaller pieces by bridges as it moves through the city toward Lake Michigan. Traffic circulation is both parallel and perpendicular to flow and crosses the river at several points.



Water is dammed at the road edge then released down the river towards Lake Ontario. This threshold condition regulates stream flow and creates turbulence at its point. Traffic circulation is perpendicular to flow, crossing the river and creating an edge condition at the point of the waterfall.



Water flows unobstructed through a built canal. Traffic circulation is parallel to the water edge.



Existing Aerial

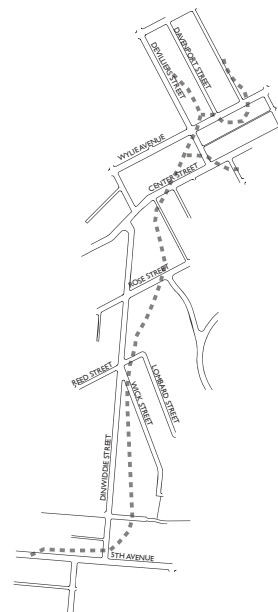


Conveyance in Vegetation Context



Conveyance Re-emerged

- Small retention ponds are added catch storm water and excess drainage.
- Vegetation is added along corridor.



Conveyance in Streets Context



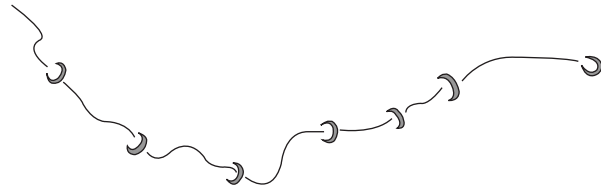
Conveyance in Building Context

PROPOSAL

CONVEYANCE - PONDS AND STREAMS - SAMPLING



Shop Creek Park, Denver Colorado



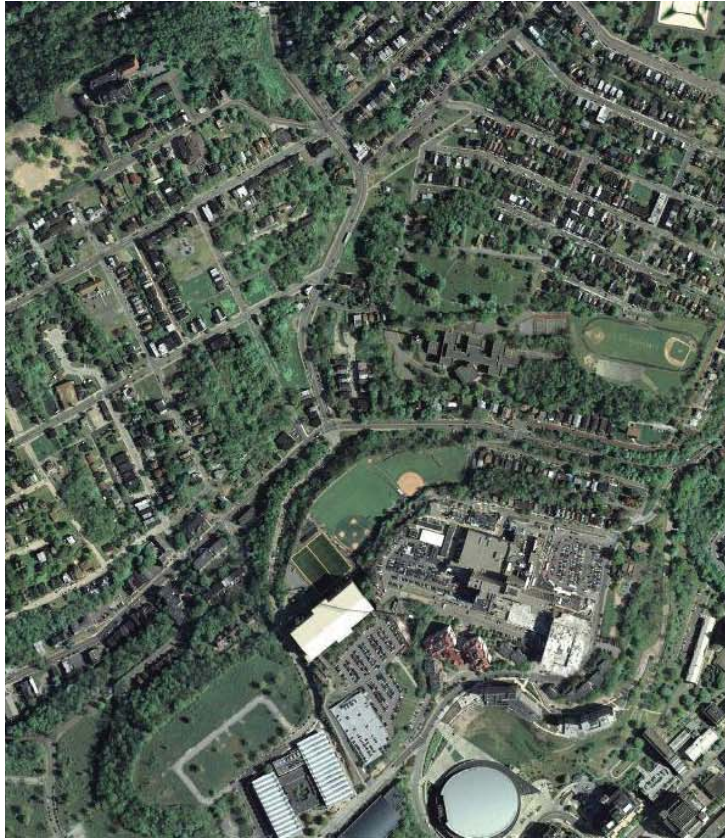
Water is captured and held at several points as it travels along the creek path. The creek becomes a transition zone of built versus unbuilt space between the vegetated landscape and housing developments.



Mill Creek Canyon Earthworks, Kent, Washington



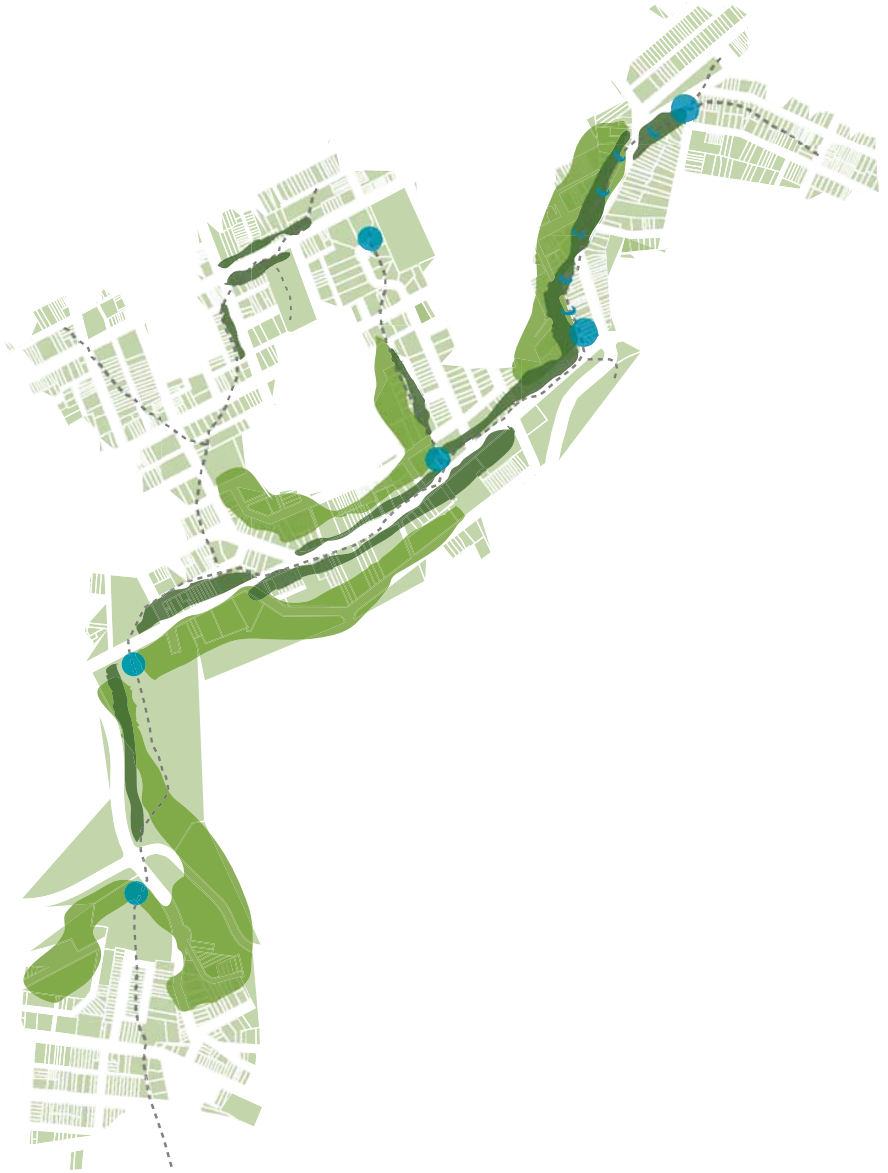
Water is held in the pool and released into a stream channel that runs the length of the park. Vegetation becomes an edge condition that buffers the creek from adjacent infrastructure and development.



Existing Aerial

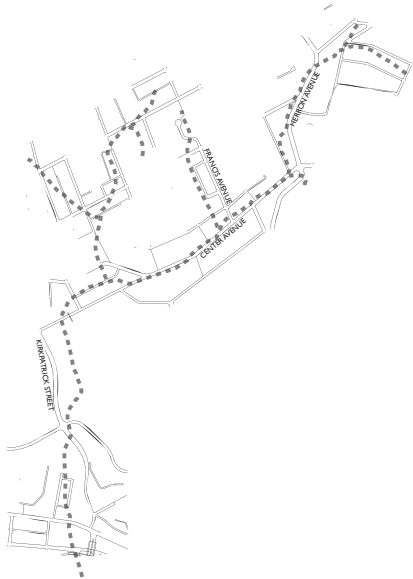


Conveyance in Vegetation Context



Conveyance Re-emerged

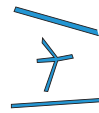
- Multiple ponds are proposed along the Cherokee - Ossipee Tributary, with one large retention pond at the low point of the Herron Avenue Corridor.
- Smaller catchments are proposed along Herron Avenue.
- Vegetation is added along corridor.



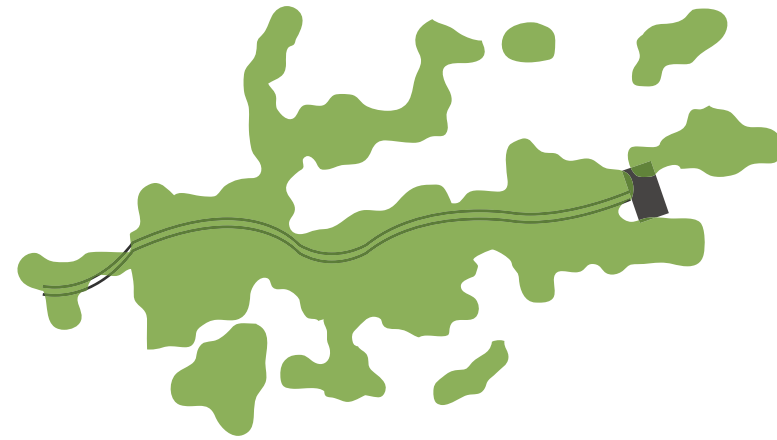
Conveyance in Streets Context



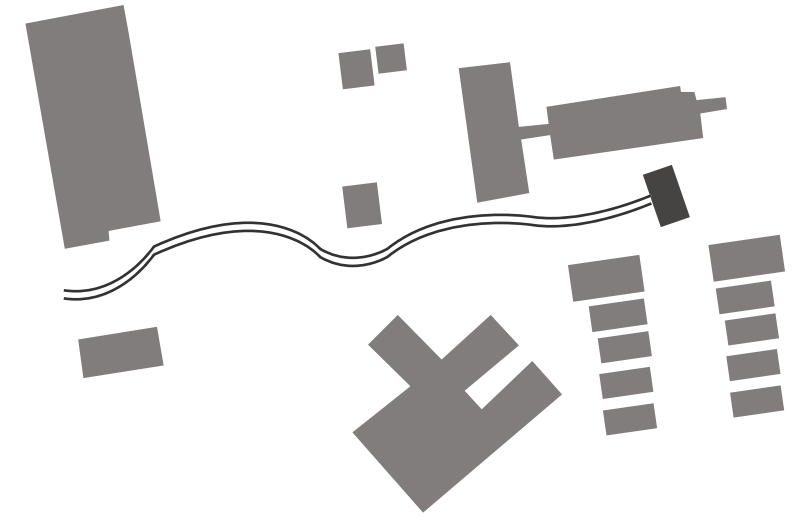
Conveyance in Building Context



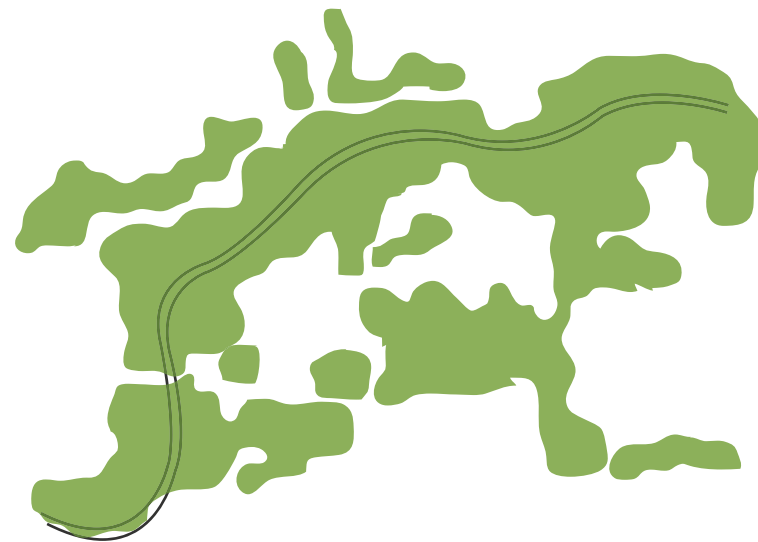
Strawberry Creek Park, Berkeley, California



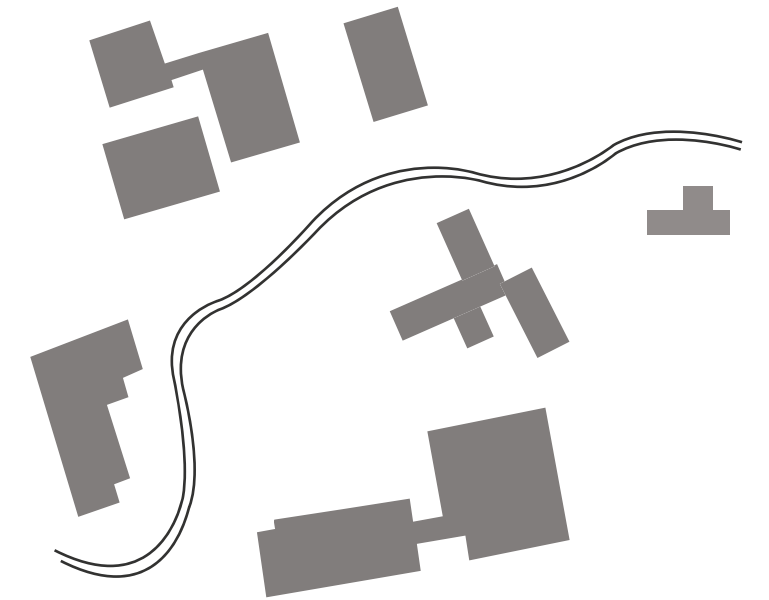
Water collects at a central point from upstream and flows downstream towards the San Francisco Bay. Vegetation is dense and irregular along the creek edges, introducing a patch ecology organized into clumps. Buildings face away from creek.

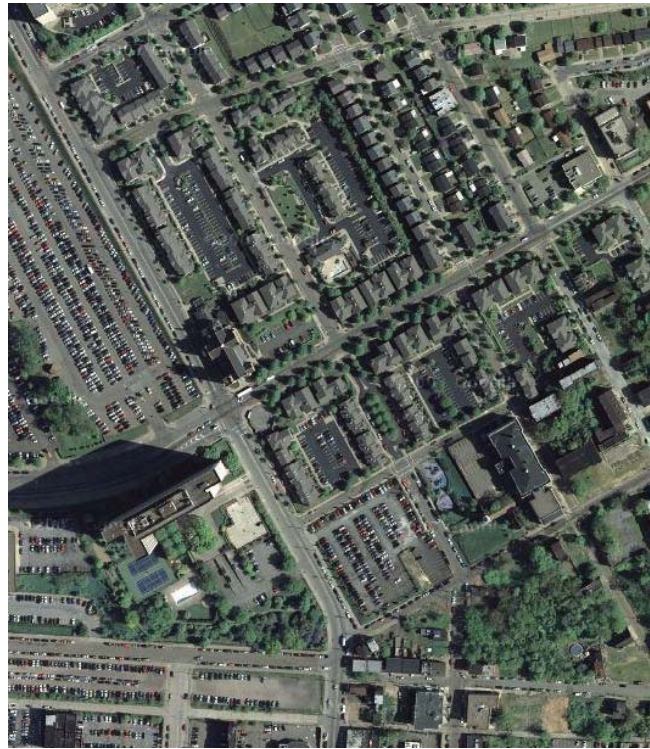


University of California Faculty Glade, Berkeley, California



Water travels from Strawberry canyon through the University of California campus, towards the San Francisco Bay. Vegetation is dense and irregular along the creek edges, introducing a clumping patch ecology organized into clumps. Buildings face toward the creek.





Existing Aerial



Conveyance in Vegetation Context



Conveyance Re-emerged

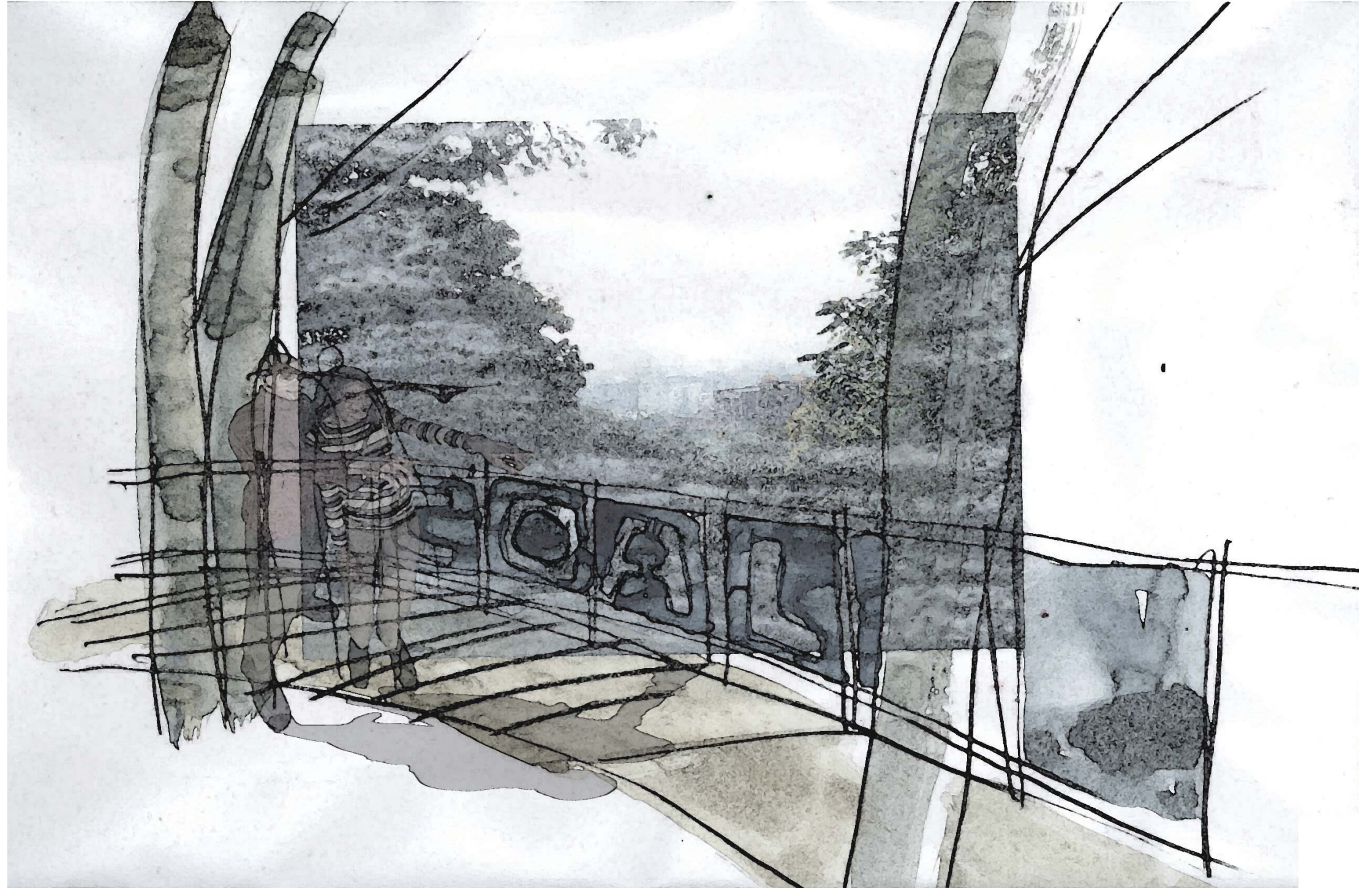
- A pond is proposed at the low point of the Herron Avenue Corridor at the Cherokee - Ossipee Tributary.
- Smaller catchments are proposed at low points.
- Vegetation is added along corridor.



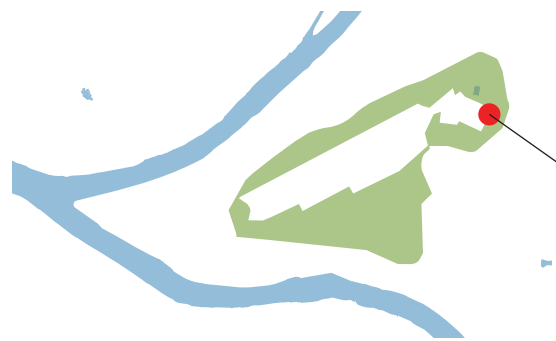
Conveyance in Streets Context



Conveyance in Building Context

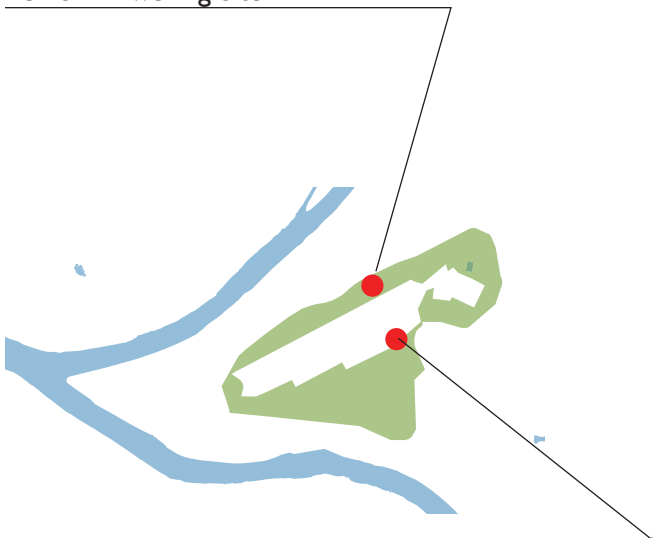


Dakota Street View

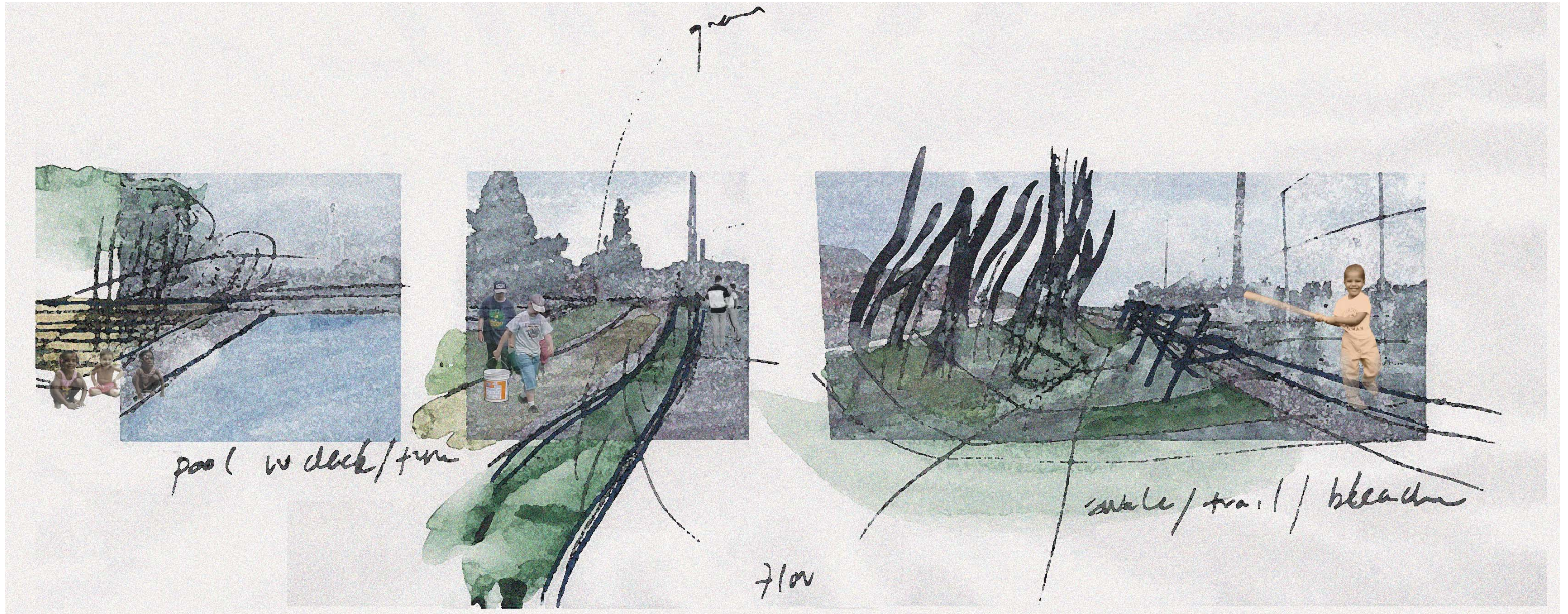




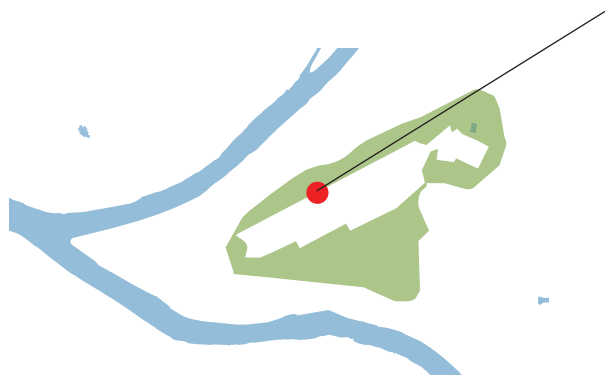
Bedford Dwelling Site

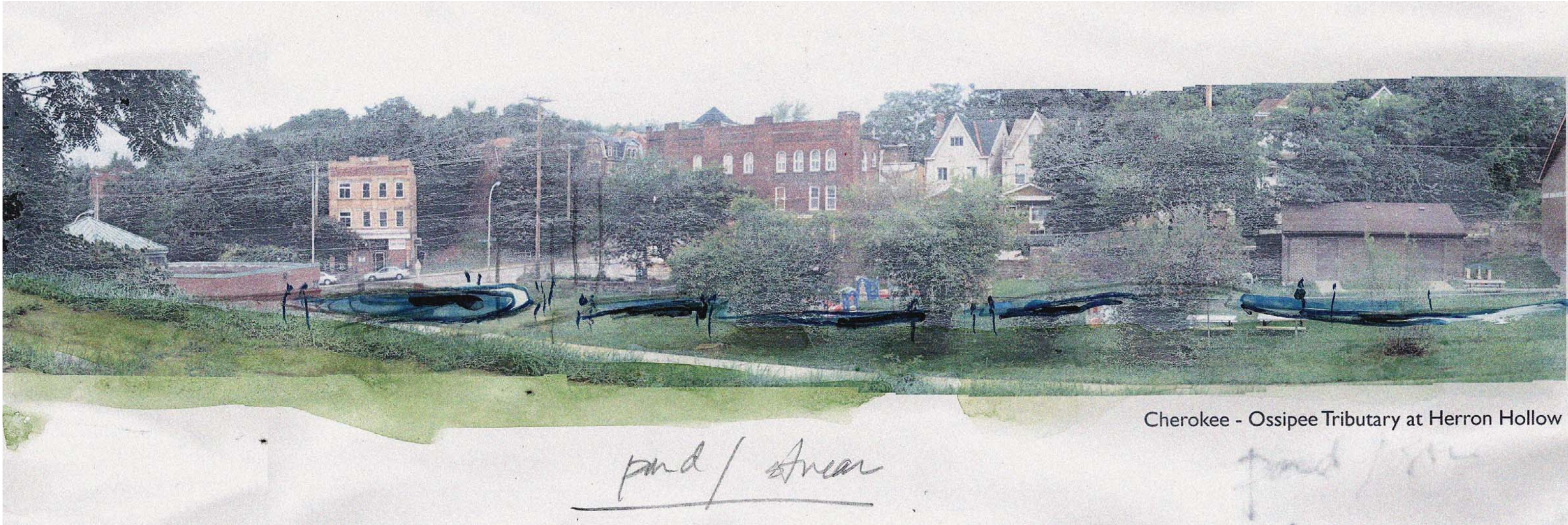


Chauncey Street Staircase

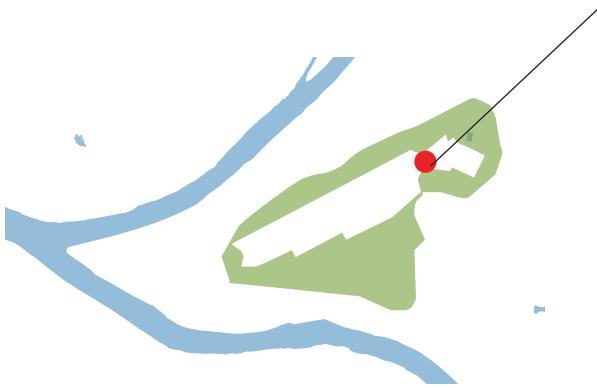


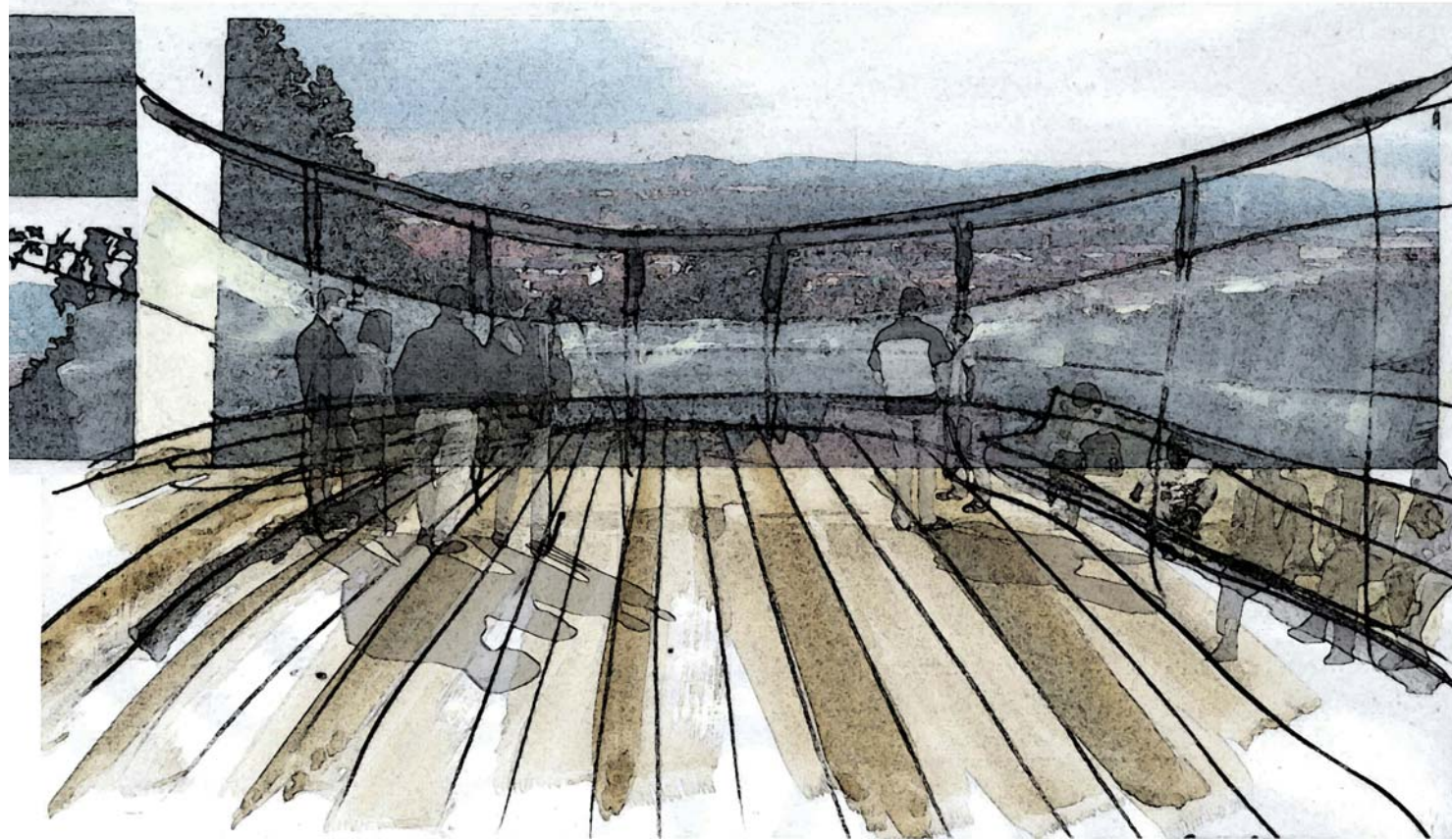
Bedford Hill Housing Development





Cherokee - Ossipee Tributary at Herron Hollow

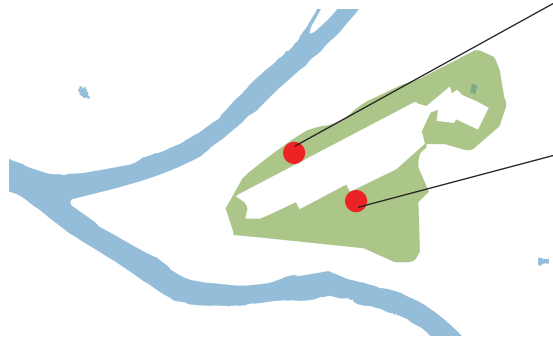




Frank Curto Park

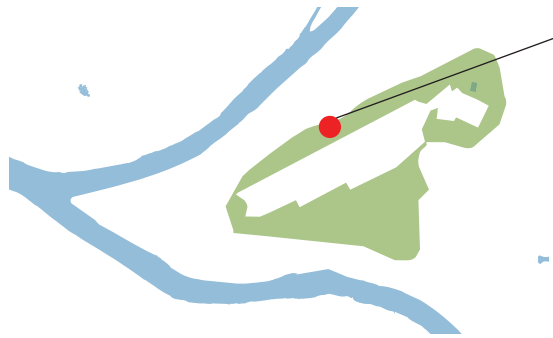


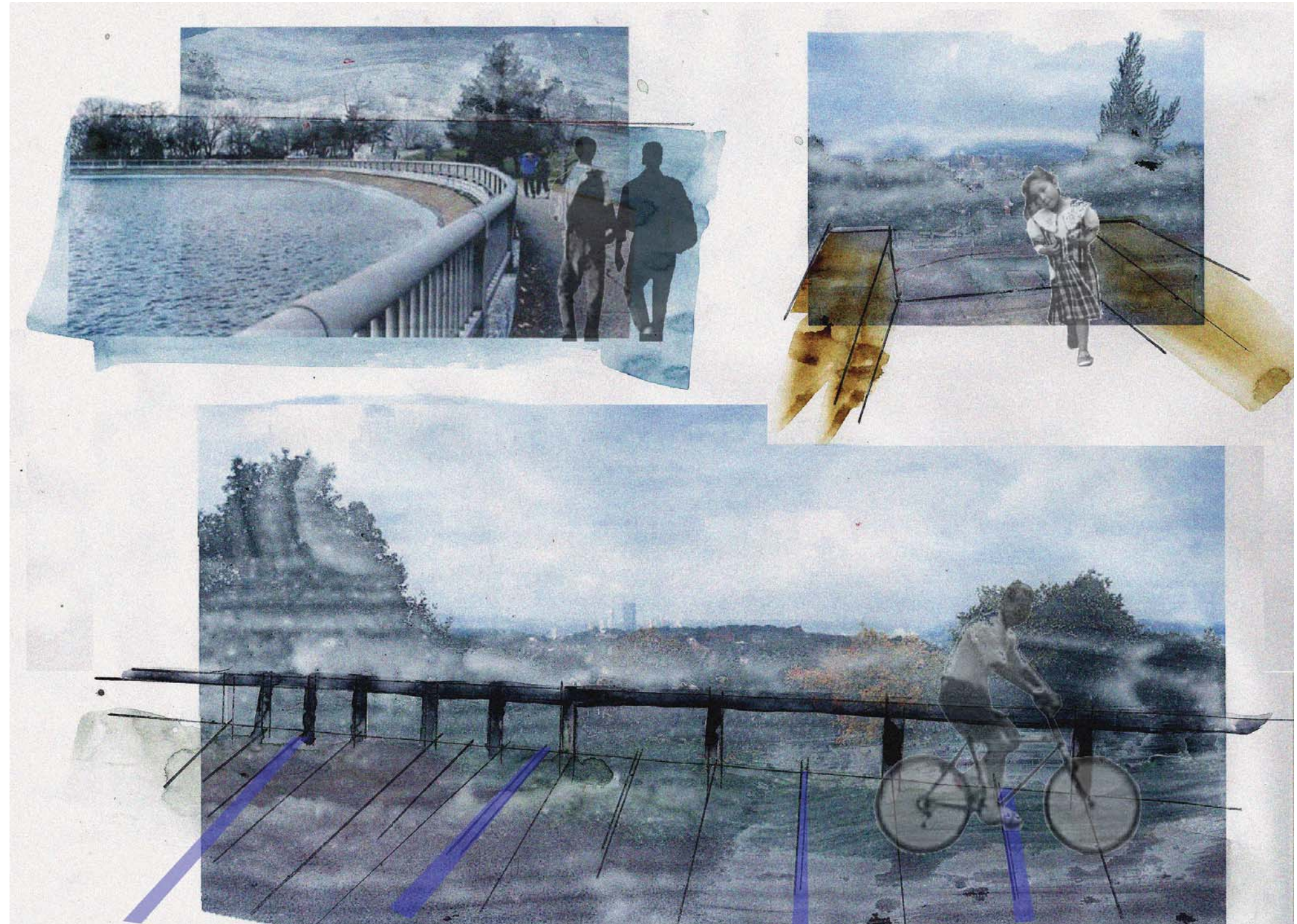
Kennard Field





Kirkpatrick Street Stairs and Termination Point below Memory Lane



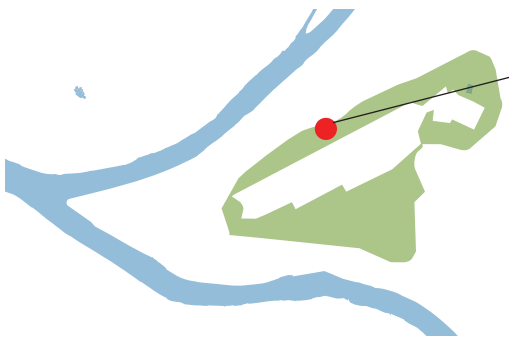


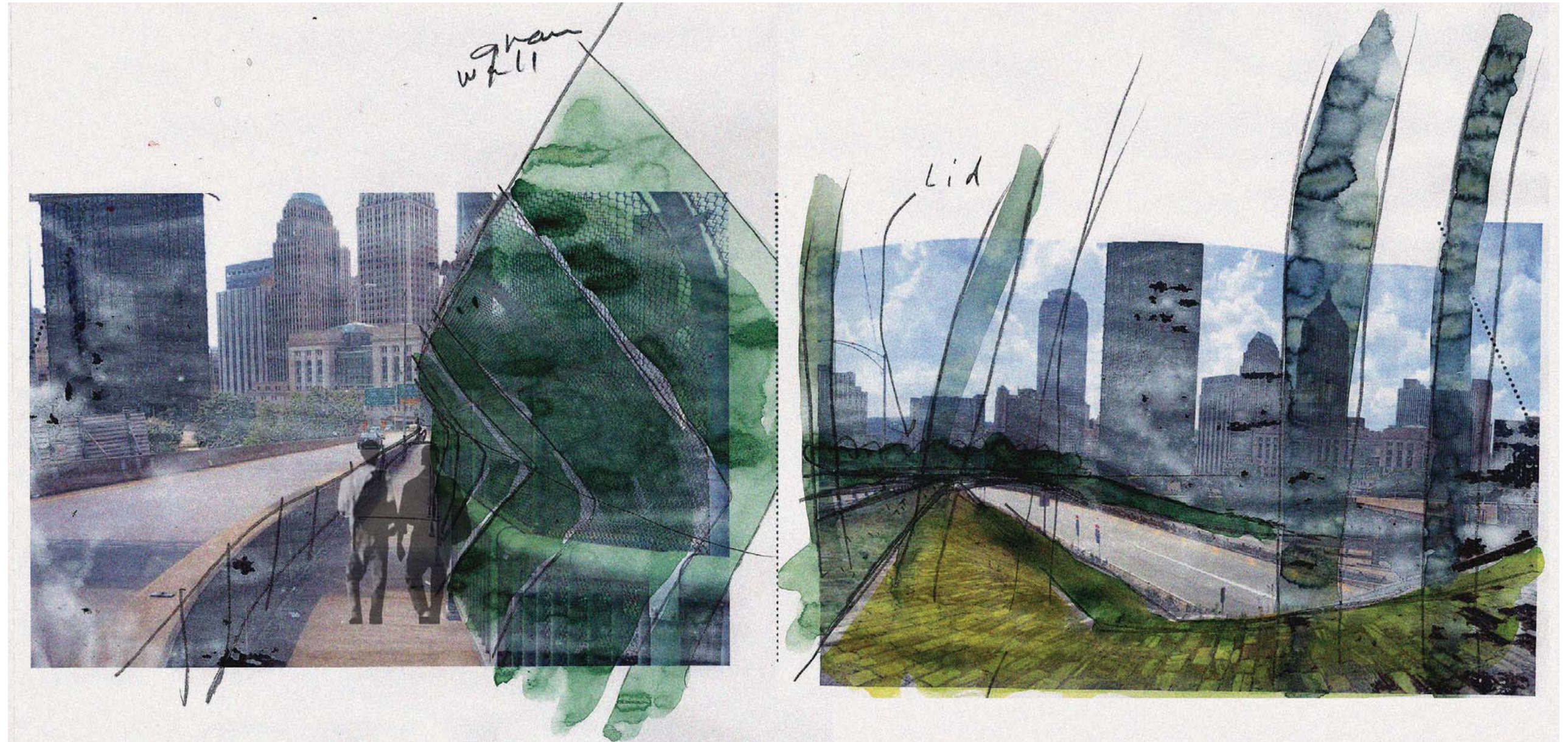
Herron Hill Reservoir



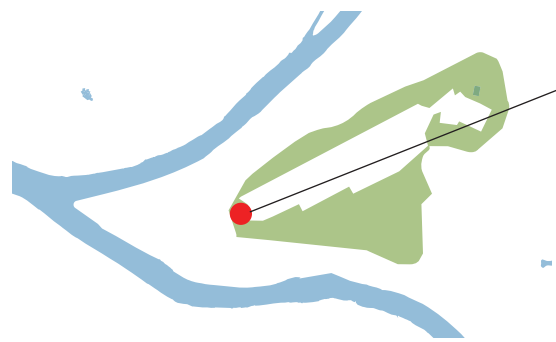


Bigelow Boulevard at Frank Curto Park. Center: Coal Seam Trail. Right: Rain Wall



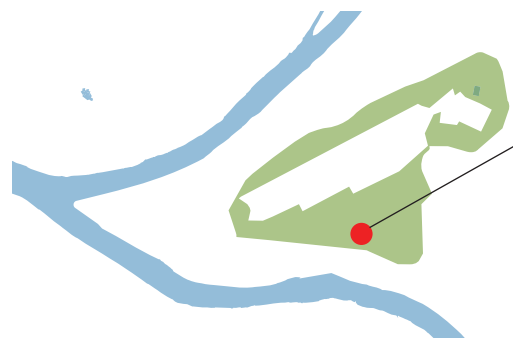


Connection to Downtown



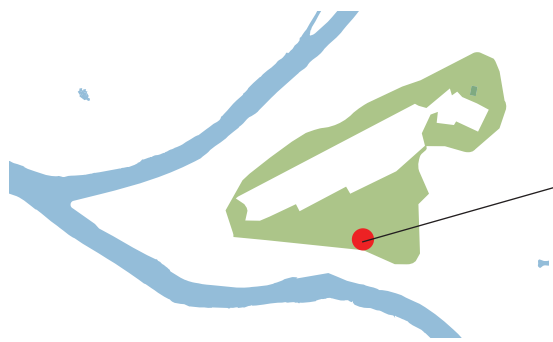


Lombard Stairs to Diaz Way to Colwell Street





Lombard Street Overgrown Stairs and Path to Terrace

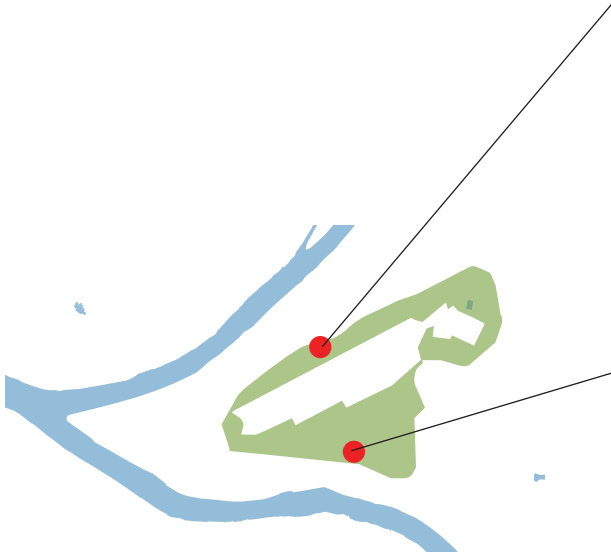




Overlook towards Memory Lane



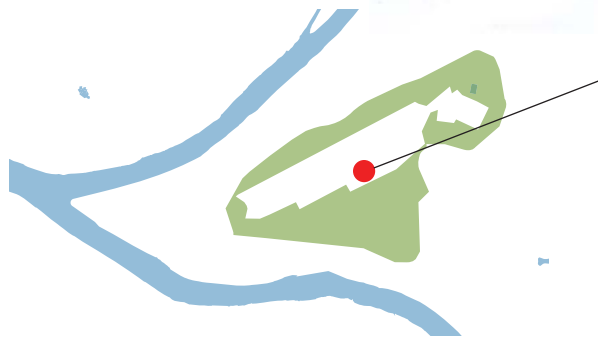
Lombard Street Overlook





Chauncey Street Staircase

Chauncey Street Staircase



Consultant's Progress Report on *Find the Rivers!* Greenprint

Submitted by Denys Candy

June 12th, 2009

Background

Find the Rivers! (FTR!) is a community-driven partnership to model environmentally sustainable smart growth principles at the neighborhood level, thereby demonstrating the potential to positively transform urban landscapes for the benefit of local residents and the city as a whole. Its target area is Pittsburgh's Hill District. Current core partners are Hill House Association, Community Partners Institute, Pittsburgh Parks Conservancy and the Hill District Consensus Group.

FTR! started as an exploratory project using strategies of community organizing to raise local awareness of the natural urban landscape and built environment. In particular, *FTR!* actively seeks strategies for simultaneously having a positive impact on various elements of community health in an urban area – its economic, physiological (and mental) and cultural health. *FTR!* produced a design vision for re-making visual and physical connections to surrounding areas and Pittsburgh's rivers, targeted and produced conceptual design plans for three strategic sectors (Corridors on Herron Avenue and Kirkpatrick Street and Bedford/Arcena area) and began planning a network of physical improvements in the Bedford/Arcena area. Over time, community leaders and organizations have embraced the importance of having a plan for the Hill's landscape, one that forms the framework for a comprehensive area master plan. Community leader Carl Redwood, for example, has cited *FTR!* as instrumental in expanding the thinking of community leaders so that they now view proper use of land and the environment as essential to the Hill's future.

FTR! Greenprint

The City of Pittsburgh, Urban Redevelopment Authority and community leaders will work with a team of consultants on a master plan for the Hill (targeted to begin in the Fall, 2009). To lay the groundwork for the master plan, *FTR!* developed a Greenprint process to produce a plan for the Hill's natural landscape. We believe the Greenprint can form an important foundation for the master plan. Following *FTR!* methodology, the Greenprint will reflect significant community input. The engagement strategy for the Greenprint will unfold in each of its two phases.

Phase One of the *Find the Rivers!* Greenprint involves assessing existing data on the natural landscape compiled from *FTR!* material and other sources followed by initial conceptualization of a network of connected green, public places – significant sites, parks, river overlooks etc. – that can act as resources for residents and stakeholders while identifying the Hill as a “paragon of urban beauty” (to quote the Greenprint RFP).

Community Partners Institute (CPI) scope of services.

CPI work in Phase One has involved working with *FTR!* team members on the following:

- Research into potential Greenprint strategies (including interviews in the local design/community development community),
- Definition of Greenprint goals and outcomes,
- Drafting language for the Greenprint RFP,
- Communication with the Hill Consensus Group and other Hill stakeholders,
- Ensuring linkage between the Greenprint and the Master Plan by acting as liaison with the Department of City Planning,
- Participating in consultant proposal reviews leading to the hiring of a Greenprint Design Team,
- Implementing input sessions for community stakeholders and compiling summaries of feedback for the *FTR!* team and the Greenprint design consultant,
- Commencing a review of stakeholder surveys conducted by Hill House.

This report is the first of three progress reports on the engagement process.

Research; Greenprint Goals and Outcomes; Drafting RFP language: East Liberty, through East Liberty Development Incorporated (ELDI), developed a green plan outlining goals and strategies for energy efficiency, expanded uses of green spaces, reduction of impermeable surfaces and the like. The *FTR!* team interviewed Nathan Wildfire of ELDI and Stephanie Danes of Perkins Eastman architects for input on the Hill Greenprint. In addition, CPI conducted research on greening strategies in low-income communities nationally. Sustainable South Bronx, for example, has become a national model for linking green strategies with issues of environmental justice. There are efforts also underway in Newark, Camden and Orange (NJ) that have elements in common with *FTR!* goals.

CPI's recommendation was that although these models and the East Liberty Plan offer important insights into the shaping of the Greenprint, the Hill process will need to be nimble and organic in nature with the ability to respond to emerging opportunities that are identified in the planning process. Whereas the East Liberty plan lists a range of objectives over twenty years, by contrast the Greenprint will need to identify priority opportunities and sites and move as expeditiously as possible in getting short and medium term projects rolling. CPI drafted language for the Greenprint RFP to reflect this approach.

Communication with stakeholders; liaison with City Planning: Community Partners Institute (CPI) provided regular Greenprint progress reports to the Hill District Consensus Group and other community stakeholders such as Ebony Development LLC.

A crucial element of Greenprint strategy was ensuring that the Greenprint would be seamlessly linked to and ultimately integrated into the Hill Master Plan. CPI coordinated communication with the Department of City Planning to ensure consistent messages were

being sent by the City to planning firms regarding the importance of the Greenprint to the Hill master plan. Denys Candy drafted language for the master plan RFP linking the *FTR!* Greenprint to the master plan. The City included this language in the Hill District master plan RFP.

Greenprint Design Team Selection: CPI, Hill House and PPC reviewed proposals, made a short list and conducted interviews. Interviewers also included the Department of City Planning (Assistant Director Joy Abbott), Urban Redevelopment Authority (Real Estate Director Kyra Strausmann), Hill District Consensus Group (Carl Redwood), One Hill Community Benefits Coalition (Brenda Tate) and an artist (Christine Bethea).

Hood Associates of Berkeley, CA, will head the Greenprint design team, supported by the Pittsburgh based Studio for Spatial Practice.

Input Sessions Initial Issue Summary: Using a modified version of CPI's Urban Beauty Index, meetings with three sets of key stakeholders were held on May 8th and May 14th 2009.

On May 8th, Denys Candy facilitated meetings with the Hill District Planning Forum (an offshoot of the Hill Consensus Group that will act as a key point of community input for the Hill Master Plan) and the Greenprint Advisory Group – a broadly representative group of Citywide and community stakeholders.

Hill Planning Forum: Thirty five people attended this meeting, the purpose of which was threefold, 1) to brief community stakeholders on the Greenprint process, 2) engage people in a visionary exercise to identify core qualities of beautiful public spaces and 3) identify sites in the Hill with the potential to embrace these core qualities and be transformed into beautiful public spaces that act as community assets on multiple levels.

Important qualities that participants want to see incorporated into future green public spaces include:

- Expansive views,
- Easy access from residences, including walk-ability and accessibility,
- Serenity and quiet,
- Water elements,
- Color and visually pleasing elements, including art,
- A diversity of trees, plants, flowers giving a sense of really being in nature while in the city,
- Pathways within sites and pleasing links between sites,
- Family and child friendly amenities, surprises and fun.

Sites or elements of particular importance were identified as follows:

- All strategic *FTR!* sites – Herron Avenue corridor (Williams Park, Minersville Cemetery, Bedford, Centre, Wylie, Webster from Herron to Kirkpatrick), Kirkpatrick Corridor, Bedford/Cliff/Arcena area,
- City steps throughout the Hill (E.g. Bentley Drive to Alequippa Street extension, connecting Centre/Wylie, multiple locations connecting Bedford to Bigelow Boulevard),
- Pedestrian links in the Middle Hill – linking Wylie, Webster and Bedford,
- Oak Hill,
- Uptown - Hillside North of Fifth Avenue,
- Kennard, Martin Luther King field and play/sports sites throughout the Hill,
- Housing Authority sites: Bedford; Addison Terrace; Reed Roberts.

The Greenprint was identified as important in identifying the following strategic opportunities:

- Additional opportunities for urban agriculture (involving Landslide Community Farm and other partners) and gardens – on existing publicly owned land, including Housing Authority sites (E.g. Bedford Avenue.)
- Storm water management that adds water elements to small public spaces,
- Expanding the number of trees in the Hill,
- Involving schools in growing produce,
- Linking the proposed Hill grocery store to neighborhood growing efforts,
- Local job creation and skill building.

Greenprint Advisory Group (see attached list): A broad group of twenty-five stakeholders attended this meeting the purpose of which was to 1) brief a Citywide constituency on the progress of *FTR!* overall, 2) introduce the Greenprint and outline the design team selection process and, 3) get input and data that will enhance the Greenprint process.

The Advisory Group will meet several times as the Greenprint progresses.

Issues raised by the Advisory Group were similar to those of the Planning Forum, with additional issues also raised. Highlights include:

- Potential for urban agriculture, community gardens and trees (a: proper planting and maintenance of street trees and, b: assessing potential for a tree farm),
- Opportunity to catalyze a marketplace on Centre for green products and locally produced crafts,
- Significance of hillsides – having a strategy to maintain, reduce invasive species and run trails where feasible,
- Energy – opportunities for reducing carbon footprints and geo-thermal and other forms of local energy production,

- Need for special attention on connections between the Hill, Oakland, Polish Hill and Downtown,
- Importance of communicating the existing successes of *FTR!* to a broader audience of planners, designers, community developers and public officials.

Hill District Surveys: To add multiple points of input for community members, surveys based on the key questions used in facilitated meetings have been administered through Hill House Association. The surveys are being collected at various sites throughout the Hill and also being administered at block club and other meetings. This will be ongoing into July 2009. Survey data and additional community input sought in collaboration with the Greenprint Design Team will be incorporated into the mid-July report.

To date 106 surveys have been collected as follows:

Date:	Number:	Location:
May 21, 2009	27	Hill House
May 22, 2009	5	Hill House
May 22, 2009	6	Freedom Unlimited
May 26, 2009	5	Hill House
May 30, 2009	32	Event: POP UP Uptown
June 10, 2009	31	Hill House/ Youth Services

Consultant's Second Progress Report on *Find the Rivers!* Greenprint

Submitted by Denys Candy

July 13th, 2009

This is the second of three reports covering community engagement activities to gather feedback from stakeholders for the *FTR!* Greenprint. This report covers surveys with a series of open-ended questions requesting visual depictions of respondents' perceptions of beautiful spaces in general and beloved places within the Hill District. One hundred and six surveys were administered to children and adults on May 21st, 22nd, 26th and June 6th, 2009. Survey sites included Hill House, Freedom Unlimited, Cliffside Park and an event called Pop-Up Pittsburgh, co-sponsored by Uptown Partners and a local leadership group.

During the latter part of July, an additional survey will be administered, targeted to Hill District leaders and opinion makers as well as the *FTR!* Greenprint advisory committee. The design team of Walter Hood and Associates will also meet directly with stakeholders on July 21st and 22nd. The survey of community leaders and opinion makers will be summarized in the third and final report.

Hill District Resources

In the surveys under review, while familiar places of significance to children and adults alike cropped up, more intimate street scale spaces – such as community gardens – were also identified by a number of people as important to them.

The following places were identified as significant existing resources in the community:

- All strategic *FTR!* sites,
- Herron Avenue corridor – in addition to sites identified in the Herron Avenue corridor report, Sugartop as a whole and the Herron/Bigelow intersection,
- Bedford Avenue – from Connolly School all the way to Herron Avenue, including St. Joseph's property, Cliff/Arcena/ Ledlie, Josh Gibson field and Ammon Recreation Center – emphasis on views,
- Kirkpatrick Corridor: Kennard field, MLK field and Landslide Farm,
- Small spaces – E.g. Francis Court; Chauncey Drive, Dinwiddie Street Playground,
- Centre Avenue: New Grenada, Hill House campus and Freedom Corner,
- Uptown/Bluff: North of Fifth Avenue between Kirkpatrick and Dinwiddie – plenty of Hillside greenery with good views to the Monongahela (this land also features in the recent Uptown design plan) NB: this area is below a significant Housing Authority site (Addison Terrace),
- Fifth / Forbes corridor: Fifth Avenue High School, Gist street area (adjacent to artist's residence and poetry venue),
- Schenley Heights,
- All over: potential for flowers and gardens.

Qualities that people want to see and experience.

- Playgrounds – “all fun things” – soccer, football, basketball, baseball,
- Park – fountain, benches, children's play areas, slides; Kennywood- like (amusement park) qualities; “Kids running through a fountain,”
- Water elements consistently mentioned,
- Quality of a beach,
- A Park beside the Credit Union (Centre Ave.),
- Community gardens; beautiful neighbor's yards,
- Creative gardens,
- Big garden at the heart of the Hill,
- Farm, greenhouse – more places to get food,
- Reduce cars; increase bikes,
- Quality of a lake – nature, trees, walking, water,
- Quality of botanic gardens,
- Arts- music/bleachers; murals; art walks and art tours,
- “Little spots all over:” mini parks (E.g. Centre/Reynolds)
- Gathering places,
- Peaceful places,
- A new Incline,
- Nature is available now – E.g. hawks hover over Arcena/Ledlie/Cliff streets.

Discussion

The latest round of surveys expanded on earlier feedback gleaned through the ongoing work of *Find the Rivers!* and group meetings of the Hill Planning Forum and the Greenprint Advisory Committee. In this round, additional emphasis was placed on gathering feedback from Uptown and the Fifth/ Forbes corridor. As a result, spaces in that part of the Hill show up more prominently than in the earlier surveys.

The Greenprint should be bold:

A set of tangible images, emotions and experiences are coming through that are suggestive of possible design and action strategies for the Greenprint. While many places and qualities of experience are named, I would suggest that what is implied is a want, perhaps even a craving for, a bold plan that includes a large dramatic and beautiful place (or places) - “a big garden in the heart of the Hill,” along with “little spots all over,” for people to gather, touch art and nature, play, and grow food and flowers. It may not literally be “a big garden” but I believe there is a dramatic design statement being invited, one that is very much grounded in the Hill's history and landscape.

Both in the surveys and in recent meetings, I have been struck by the fact that many residents are suggesting community gardens and gathering places at the street or block level. The pioneers among them are asking for the skills, tools and supports to make this

happen and they see these spaces as having multiple functions – gardens, art spaces, gathering spots and so on. This is a shift in thinking from a few short years ago. As *Find the Rivers!* matured, a national focus on the “green collar” economy emerged and, because of perceptions and awareness expanded through *FTR!*, there is a potent curiosity about what it might mean for the Hill to become manifestly “green.” Hence, we see the many references to nature, water, gardens, food and the like. There are many neighborhoods around the country pursuing greening strategies. However, I think it is imperative that what emerges from the Greenprint is not just a greening strategy for the Hill but an actionable vision for local people, homeowners and renters alike, to re-occupy their own land as their awareness of its value grows and as the real estate market increases speculation. During a visit to Pittsburgh, Walter Hood referred to a community that was asking for murals. What they wanted, he said, was a bigger project expressed as a desire for murals. I believe we have similar conditions in the Hill – the Greenprint can satisfy an emerging need for a grand project – green, but beyond conventional community greening strategies that are starting to sound a little ho-hum, even before many of them get fully off the ground.

For example we might consider the Greenprint to be a be a guiding force for people and community institutions to “*Take back the Hill!*” In this scenario, the Greenprint would map out a bold proposal and options for stewardship whereby people, rather than “sitting in” or “squatting” as in the past would have practical day-to day control over a lot of land that is now in public hands and the landscape would host activities reflecting a re-energizing marketplace and social and cultural economy.

Additional points of attention:

In addition to *FTR!* target sites, the surveys suggest additional attention to Sugar top and Schenley Heights (the Upper Hill) as a whole, with the reservoir as a kind of beacon for the Hill at its Eastern Edge. This area also suggests attention to connections with Oakland. Williams Park also offers opportunities for internal views. One example is the perspective from the reservoir down one hill and up another (along Webster and Wylie).

The survey calls our attention to Fifth/Forbes corridor (or portions of its Eastern edge near Kirkpatrick) – along Fifth and Forbes (each of which generates a huge amount of “pass-through” traffic, for which the Uptown report is short on strategies).

Numerous landmarks along Centre Avenue are mentioned – offering the opportunity to propose a Centre Avenue strategy as part of the wider Greenprint. For example, significant land and building owners include numerous churches, the Williams building, Hill House, the Dollar store, the CDC, Credit Union, Weil School, Legacy Building (McCormack Baron/ Housing Authority), the Carnegie Library and new YMCA along with small business owners – all of whom might be connected onto a stewardship plan for the corridor that moves on recommendations emerging in the Greenprint.

Large Landowners:

The City, Urban Redevelopment Authority (URA) and Housing Authority of the City of Pittsburgh (HACP) own many of the sites that people want to see transformed.

I pose these questions for the core *FTR!* team and the Greenprint design team:

- What is the opportunity to have the Greenprint define a new role for publicly owned land – lots, parcels of land, public housing and so on? Getting on to unused HACP land (on Bedford Avenue) has been a bureaucratic hassle and apparently there are plans on the drawing board for Addison Terrace (overlooking the Monongahela).
- How can we best include this land in the Greenprint and challenge these entities to work with emerging Greenprint projects?

**Third and Final Progress Report on
Find the Rivers! Greenprint Community Engagement**

Submitted by Denys Candy
August 14th, 2009

Background

Find the Rivers! (FTR!) – www.findtherivers.net -- is a community-driven partnership to model environmentally sustainable smart growth principles at the neighborhood level, thereby demonstrating the potential to positively transform urban landscapes for the benefit of local residents and the city as a whole. Its target area is Pittsburgh's Hill District.

I would define our core question as, "How do we work with the landscapes of a place in order to re-invigorate a community?" My view is that it is important as much for our planet as for localities to revive relationships between people, place and ecology. Paying attention to physical landscape gives us an additional opportunity to purposefully draw out social and cultural landscapes- histories and stories that continue to evolve a place and its people. For *FTR!* we do this strategically as a community organizing strategy to simultaneously renew all aspects of a community's health -- economic, social, physiological, mental and cultural.

FTR! plans and projects emerged from multiple engagements and relationships nurtured over time and so they carry the fingerprints of many. Such methods are more likely to capture the essence of a place – what I call a community's DNA -- so that developments have an authentic flavor and identity that people love. Therefore, they are more likely to succeed on the community's terms.

Innovative initiatives like *FTR!* must,

- a) Build on, certainly, but crucially **add new or significant elements** to existing or previous work in a community,
- b) Ground themselves in a credible local organization (s),
- c) Model tenacity in a multi-year commitment and,
- d) Make multiple loops through Vision, Strategy, and Action in each phase of the work.

Conceptualized in 2002, *FTR!* began direct work in the Hill in 2003. Since then *FTR!* has involved hundreds of people in Community Conversations, Visioning and Conceptual Development, Design Planning, and Re-making Places.

FTR! produced a design vision for re-making visual and physical connections to surrounding areas and Pittsburgh's rivers, targeted and produced conceptual design plans for three strategic sectors (Corridors on Herron Avenue and Kirkpatrick Street, and the Bedford/Arcena area) and has begun physical improvements in the Bedford/Arcena area.

Community Partners Institute

Final Progress Report

Greenprint

FTR! partners and the Hood Associates design team have been working on the *FTR!* Greenprint, Phase One. We envision the Greenprint as a container into which the Hill Master Plan will fit – an affirmative vision, opportunities for regeneration and, in Phase Two, a series of specific initiatives that will draw on the assets of the Hill's natural landscape. The goal of the Greenprint is to build on the existing body of *FTR!* work to create immediate possibilities for making the Hill a paragon of urban beauty.

Engagement

Following the established *FTR!* model, a broad group of stakeholders has been involved in expressing their aspirations for the Hill's natural landscape and identifying places of importance for a network of actively connected green public spaces throughout the length and breadth of the neighborhood. Views and stories were collected in the following way:

Hill District Consensus Group: On May 8th, a briefing on the Greenprint was delivered to the Consensus Group, a coalition of residents and organizations. At the same meeting, a facilitated discussion was used to solicit initial input, using the questionnaire (see below) as a guide. Forty people attended. On August 14th, the Hood Design team presented an update to the Consensus Group and gathered additional input.

Visual Surveys: One hundred and twenty visual surveys were collected at different locations throughout the Hill, mainly involving children and families. Respondents drew pictures and wrote of their ideas and aspirations for different parts of the Hill. A summary of key issues was given to the Hood Design Team.

Community Cookout: On July 21st, *FTR!* hosted an outdoor "Community Cookout and Conversation" at St. Joseph's House of Hospitality on Bedford Avenue, featuring a talk by our lead designer Walter Hood. Seventy-five people attended, of whom we estimate 50-60 were residents. They were joined by representatives of citywide bodies. Attendees mixed informally with *FTR!* and design team members.

Greenprint Advisory Group: On July 22nd and August 13th, the Greenprint Advisory Group engaged in working sessions with the *FTR!* and Hood Design team. Twenty-five attended in July and 20 in August. The Advisory Group is comprised of neighborhood leaders and citywide agencies and organizations, including City Planning, Urban Redevelopment Authority, Community Design Center, Tree-Vitalize, Friends of the Urban Forest, Green Innovators, Venture Outdoors, and Grow Pittsburgh.

Questionnaire: Supplemental surveys were sent to Advisory Group members who were unable to attend the July 22nd and August 13th sessions. The questionnaire was also used in interviews with community leaders. Further questionnaires may be administered as part of Greenprint, Phase Two. (A copy of the questionnaire can be found in Appendix Two).

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Issues

This report incorporates ideas and concepts emerging from activities during the period July 14th – August 14th, and incorporates key themes from the May – July 14th period. A review of companion Greenprint Progress Reports One (June 12th) and Two (July 13th) is recommended.

A Bold Initiative

“We might consider the Greenprint to be a guiding force for people and community institutions to “Take back the Hill!” In this scenario, the Greenprint would map out a bold proposal and options for stewardship whereby people, rather than “sitting in” or “squatting” as in the past, would have practical day-to-day control over a lot of land that is now in public hands, and the landscape would host activities reflecting a re-energized marketplace and social and cultural economies. (Second Progress Report, July 13th, 2009.)

It is clear from many conversations that stakeholders are ready for a bold proposal – one that renders the Hill’s landscape visible again and that captures imaginations to the degree that people begin to energize new activities that revive their relationship to their home place in new ways. (Articulated by one stakeholder as “a big garden in the heart of the Hill.”) The overarching concept/ idea/proposal will need to be clear and compelling.

Clues emerged during the Advisory Group working sessions. On July 22nd, formal typologies – Edges, Hills and Tributaries -- were used to draw out data and ideas. For example, the idea of a green corridor surrounding the entire Hill, perhaps with entrance gardens, connections to places inside and outside the neighborhood and visually stunning elements (“a huge vine overflowing down to Bigelow Boulevard”) drew energetic participation. Other compelling ideas included dramatic water elements, such as rendering streams newly visible (an idea with its origins in the *FTR!* Kirkpatrick Park plan), and altering roads to make way for gardens or farms. (For example, vehicle traffic appears very light on Webster and Wylie from Kirkpatrick to Herron. How people use these and other key public rights of way could be a point of study for Greenprint Phase Two).

Render the Landscape of the Hill Newly Visible

The Greenprint should identify a series of projects that can start us quickly on the path of doing. For example, at the Consensus Group meeting on August 14th (as reported by a team member), people were intrigued by the value placed in identifying how people have made their own way around the Hill over the years (and by extension how they might be invited to do so in the future). At the Community Cookout, Arcena Street resident Mrs. Ketchum represented many voices we have heard when she talked energetically about the sets of city steps she used at one time to get from A to B within the Hill. These internal pathways still exist and some continue to be used (such as the steps from Bentley Drive to Alequippa Street extension, near Landslide Farm). The idea of “little spots all over,” is compelling in the context of the emerging bigger picture. Phase One should set the stage for identifying target projects in Phase Two.

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Final Progress Report

The “**Hills District**”: The Hill is comprised of multiple hills and valleys. New perspectives on these various landscapes would be useful. For example, from the Upper Hill (bounded by Herron, Centre, and Bigelow), there are multiple perspectives over hills and valleys, several natural opportunities (identified in the *FTR!* Herron Avenue report), and potential connections to Oakland (Pennsylvania’s third most economically active district). The identity of different hills and valleys can be re-energized in the Greenprint.

Template for the Master Plan

The Consensus Group sessions underlined the importance of the Greenprint’s potential to frame the Hill District Master Plan. Many master plans have a green “chapter,” a general commitment to sustainable action. As an alternative, we want to use the Greenprint to frame **relationship with the Hill’s landscape as the guiding element that shapes the Hill Master Plan.**

Because the Master Plan will be a work in progress six months from now in February 2010 when the Pittsburgh Penguins’ development rights on the 28-acre Mellon Arena site kick in, we also want the Greenprint to offer the community options and perspectives on the Lower Hill. This includes both the Arena site itself and ways to re-knit the physical fabric of the Hill back to Downtown, while retaining the lower Hill’s distinctive character and identity.

Identify Specific Projects for Phase Two

As noted above, multiple opportunities exist for specific signature projects. One outcome of Phase One should be identification of these opportunities (key sites and connections, trails, walking, gardening, farming, water, views, trees/forest etc.)

As a community organizer, I hold that all places must be laboratories for how we can live in sustainable ways on the planet. (This view is consistent with a comment Walter Hood made to people at the Community Cookout). Therefore, I suggest that our project headings include the following two – Energy Security and Food Security.

Bio-fuel crops are being grown in Pittsburgh today. *FTR!* partners have an interest in looking at the feasibility of a bio-fuels or other “growing” project that might have significant scale. One site that suggests itself is on Housing Authority land on Bedford Avenue. Identifying others would be useful. With a supermarket coming to the Hill and the presence of the pioneering Landslide Farm, there may be opportunities to take steps toward having gardening and farming reach significant scale over time, thereby energizing new relationships between local people and land. The Greenprint should contain insights on where this might happen and how related activities might be connected? (E.g. growing, education, market places). Lots of people talked of gardens being important to them and there are many precedents in the Hill’s history.

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Continue to Draw on History

Following the model in previous *FTR!* reports, the design team is compiling maps (since 1815) that give insights into how the land has been used in the past. An emerging picture of landscape, ecology, and hydrology is emerging that will influence the proposals emerging from the Greenprint. For example, large changes have occurred in the Kirkpatrick Valley, where the landscape was modified “probably to flatten the hill to build public housing,” according to Jonathan Kline and Christine Brill, Studio for Spatial Practice.

Similarly, the lower Hill was connected to, but very different from, Downtown socially and culturally. It was a real-time melting pot of migrants and immigrants, among public places with strong cultural significance (many of which were documented in the photography of Charles “Teenie” Harris.)

There are many abandoned mines below the surface of the Hill. It seems apt to say that we want to make sure to drill below surface views of the landscape. The Greenprint will draw on clues that allow us to authentically reflect the rich stories and experiences that are part and parcel of the Hill’s identity – old maps, images, memories and the like.

Public Land

The public sector (City, Urban Redevelopment Authority, and Housing Authority) has had a large impact on the landscape in the Hill. These public bodies continue to own significant amounts of land. The Greenprint can offer proposals for the future use of public land that accelerates improvements in the community’s health.

Key Areas

See Appendix One for a list of key sites identified or re-emphasized.

Communicate Clearly and Embed New Relationships

As Phase One comes to a close, the *FTR!* and Hood Design team will collaborate to ensure that key ideas, concepts, and projects in the Greenprint are not only clear but also presented to inspire and energize people so they will initiate actions that transform relationships to their neighbors and their landscape. With that goal in mind, we will consider re-naming the project and its documents in a more inspiring way than simply Greenprint.

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Final Progress Report

APPENDIX ONE

Key Greenprint Sites

- **All strategic *FTR!* sites** – Herron Avenue corridor (Williams Park, Minersville Cemetery, Bedford, Centre, Wylie, Webster from Herron to Kirkpatrick), Kirkpatrick Corridor, Bedford/Cliff/Arcena area
- **Herron Avenue corridor** – in addition to sites identified in the Herron Avenue corridor report, Sugartop as a whole and the Herron/Bigelow intersection
- **Bedford Avenue** – from Connolly School all the way to Herron Avenue, including St. Joseph’s property, Cliff/Arcena/ Ledlie, Josh Gibson field and Ammon Recreation Center – emphasis on views
- **Kirkpatrick Corridor** -- Kennard field, MLK field and Landslide Farm
- **Lower Hill and Mellon Arena**
- **Small spaces** – E.g. Francis Court, Chauncey Drive, Dinwiddie Street Playground, Finland street, Schenley Field, Wadsworth Hall, Whiteside Road, Francis Street, former Whiteside road (Memory Lane)
- **Centre Avenue** -- New Grenada, Hill House campus and Freedom Corner
- **Uptown/Bluff** -- North of Fifth Avenue between Kirkpatrick and Dinwiddie – plenty of Hillside greenery with good views to the Monongahela (this land also features in the recent Uptown design plan and is below Addison Terrace, a significant Housing Authority site)
- **Fifth / Forbes corridor** -- Fifth Avenue High School, Gist street area (adjacent to artist’s residence and poetry venue)
- **Schenley Heights**
- **City steps** throughout the Hill (E.g. Bentley Drive to Alequippa Street extension, connecting Centre/Wylie, multiple locations connecting Bedford to Bigelow Boulevard)
- **Pedestrian links** in the Middle Hill – linking Wylie, Webster and Bedford
- **Oak Hill**
- **Play/sports sites throughout the Hill** -- Kennard, Martin Luther King field
- **Housing Authority sites** -- Bedford, Addison Terrace, Reed Roberts
- **Washington Plaza and Connolly School parking lot**

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- **Washington Plaza and Connolly School parking lot**

Find the Rivers! Greenprint

Find the Rivers! Greenprint Survey

Find the Rivers! (FTR!) has engaged Walter Hood and Associates of Berkeley, California, as lead designer for the *FTR!* Greenprint, a visionary project action plan for key places in the Hill District landscape. Community Partners Institute is coordinating community input for the design team. Please take a few minutes to respond to this brief survey and return it to us by XXXX-- or sooner! Your responses will help shape Phase One of the Greenprint, which will roll out in September. MANY THANKS!!!

- 1) When you think of beautiful urban places – what places come to mind?

- 2) What qualities of those places you named in number (1) make them beautiful, in your eyes?

- 3) What are your favorite places in the Hill District, including “hidden gems” – buildings and small spaces ?

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Find the Rivers! Greenprint

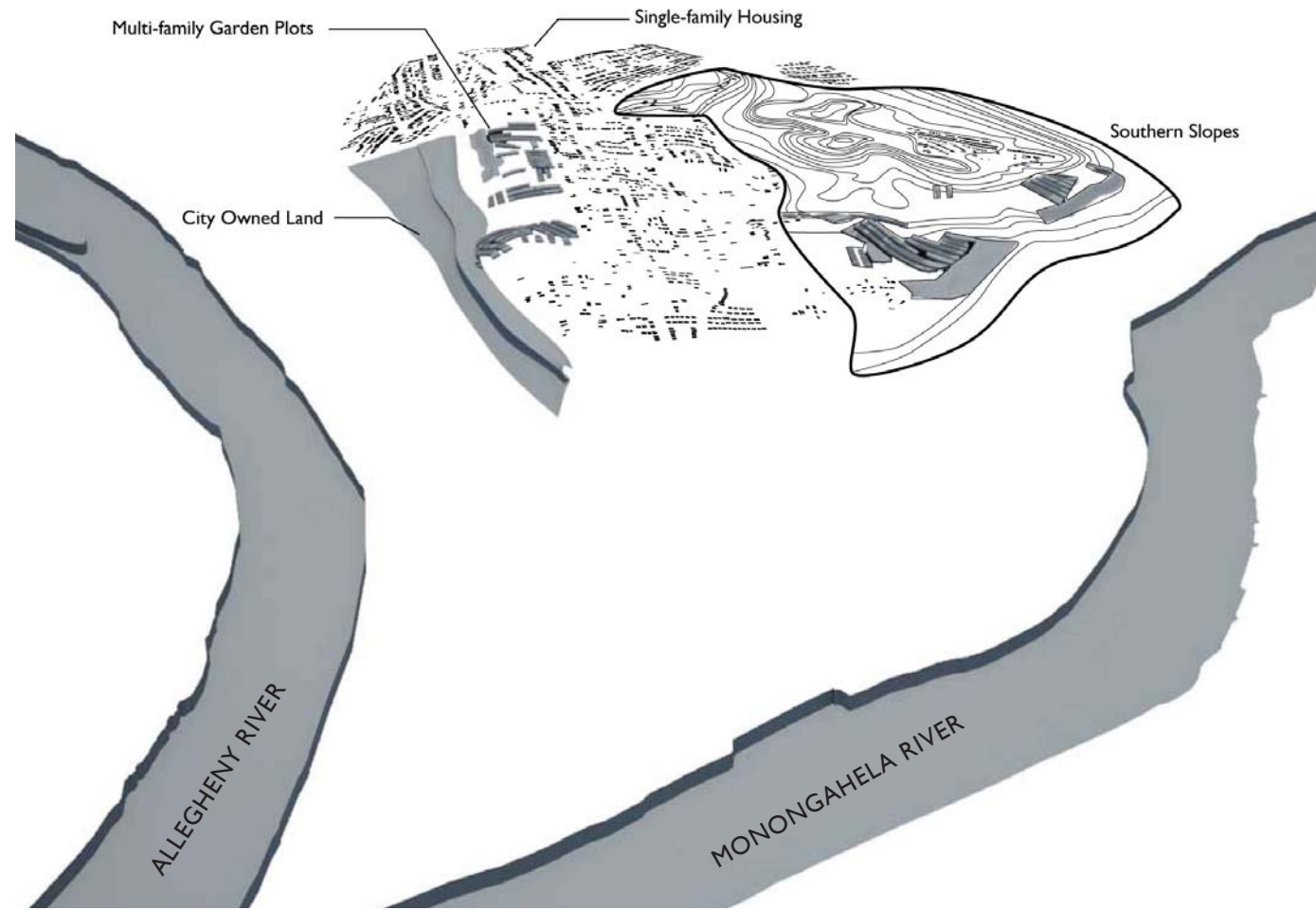
- 4) What existing green or open spaces should be connected to create a network of beautiful and useful sites around the Hill?

- 5) What land and places should the Greenprint focus on first?

- 6) Imagine ten years from today: what important transformation in the Hill’s landscape do you want to see?

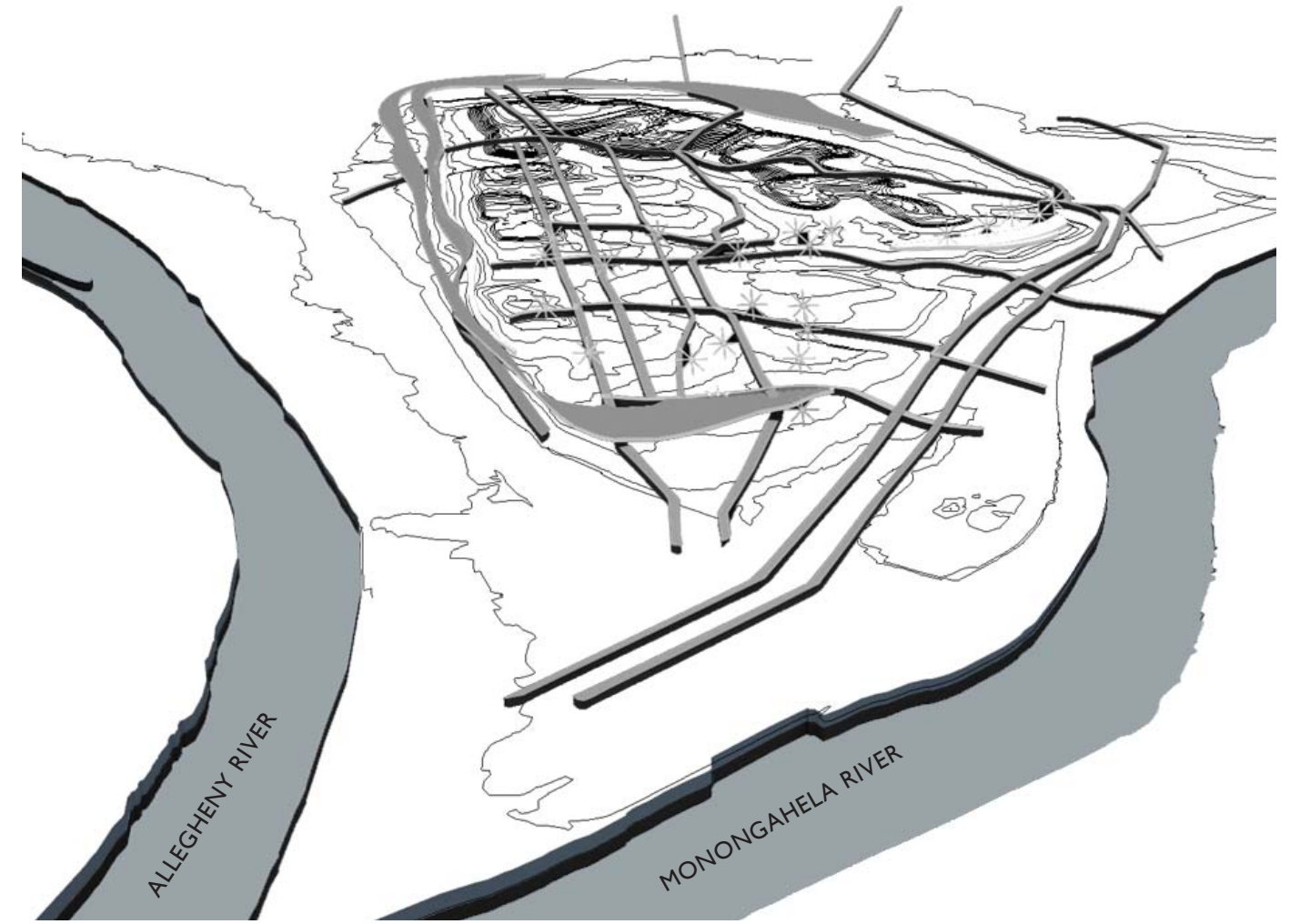
- 7) Any other comments or advice?

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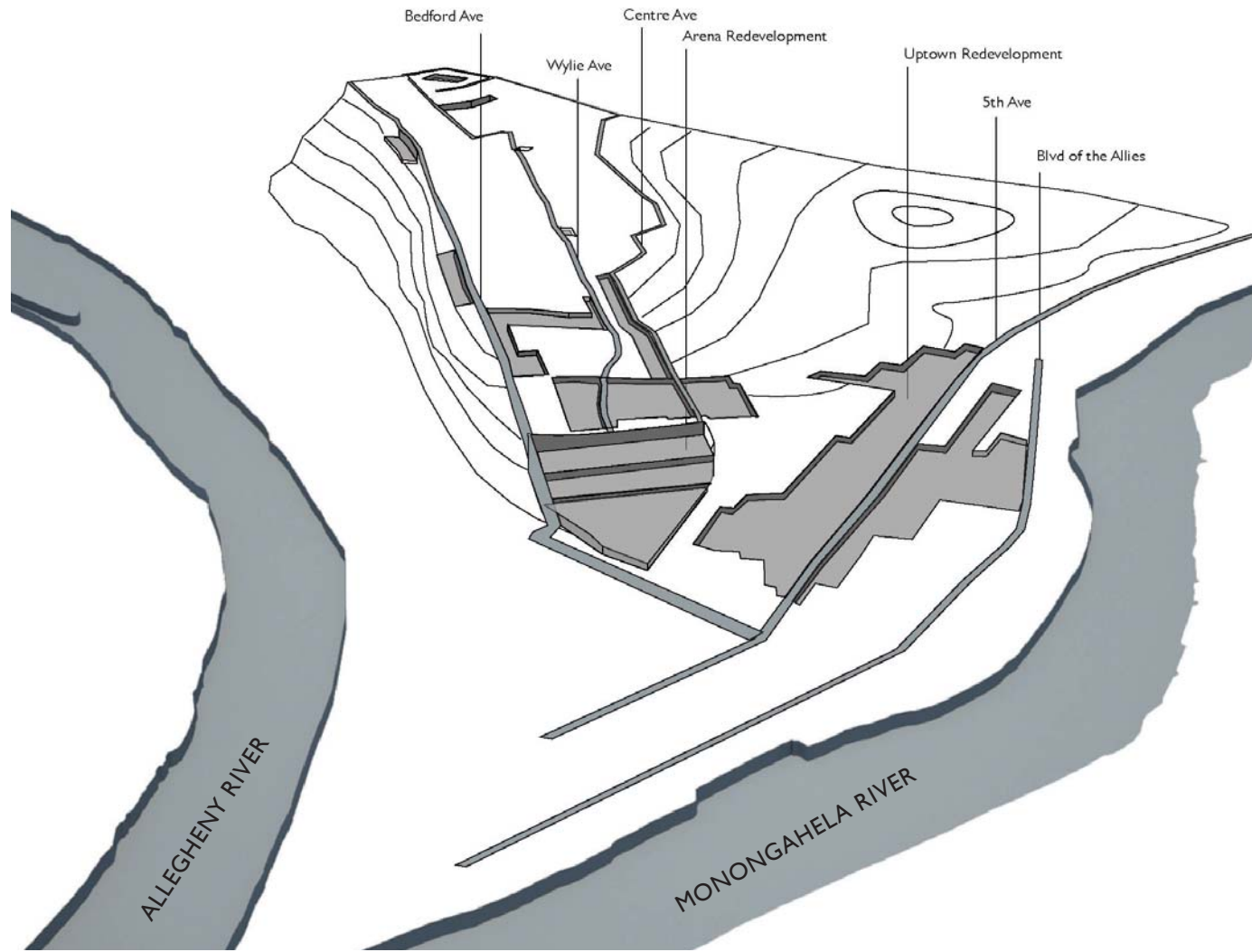
AGRICULTURE

Existing conditions of the Landslide Farm include vacant land, bluff zones, and southern slopes and provide a prototype for determining potential agricultural sites. Locations for agricultural development include the bluff zones and southern slopes where terraces would receive the most daylight, on city-owned land, and in the courtyard spaces of Multi-Family and Planned Unit Developments. Single-family housing agriculture could take the form of backyard garden plots.



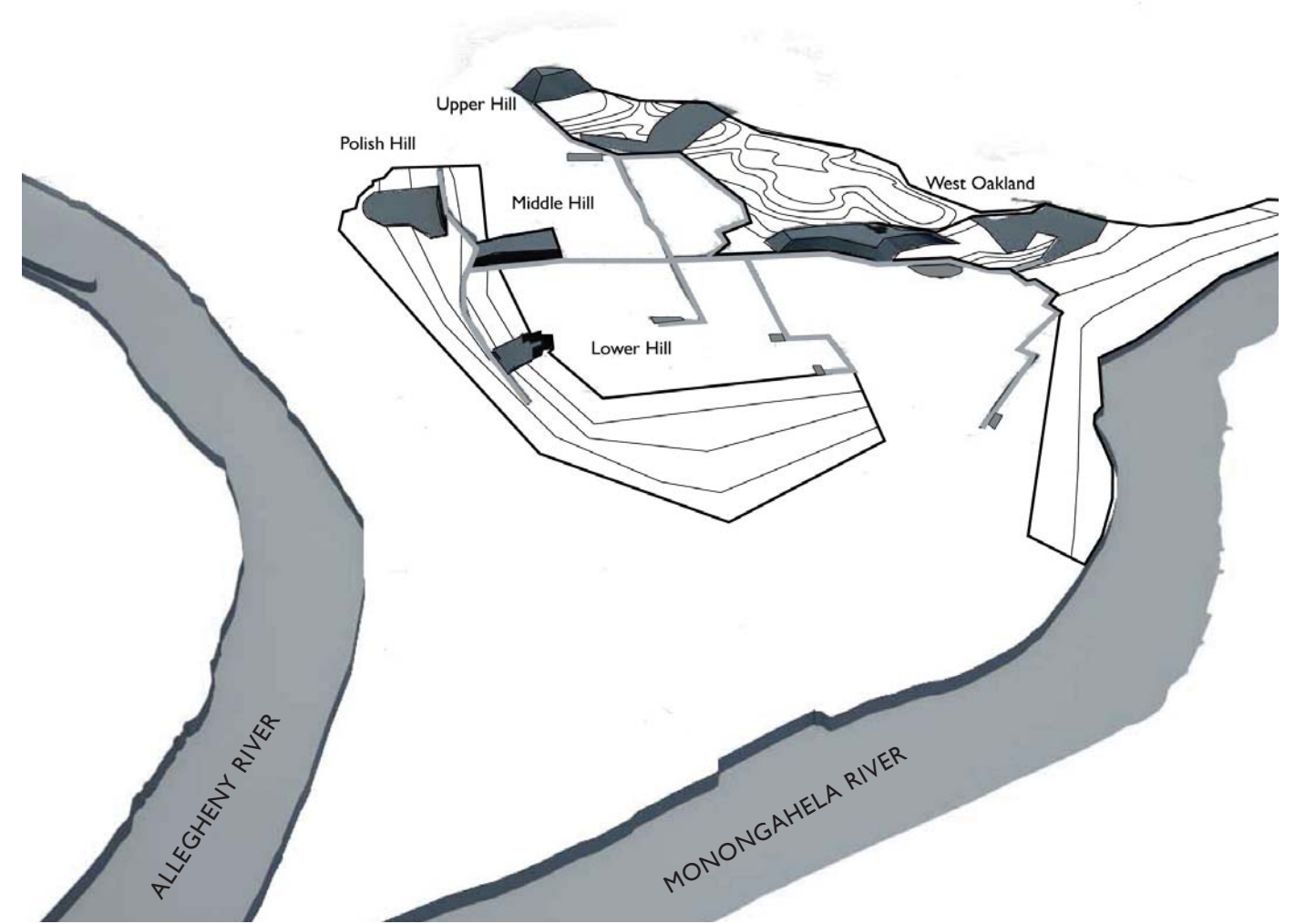
ART

The inclusion of art in the Hill could help to revitalize street and corridor edges, in addition to highlighting specific art-worthy locations. This could be realized through surface material changes and connections to identified historic markers, such as August Wilson's childhood home. Bluffs and slope edges could be additional places for large-scale art interventions.

























STRUCTURES

Development in the Hill modifies the topography in relation to its location in the landscape. The slope of the landscape around the new arena and bluffs forces terraced development and raises issues of soil/foundation stability. Development in the Uptown neighborhood and along Centre and Wylie Avenues suggests a more conventional construction method.




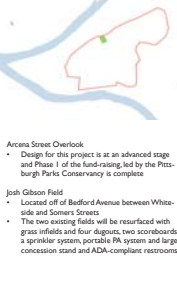

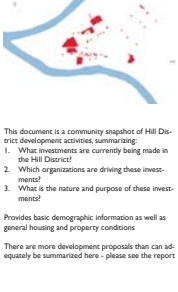

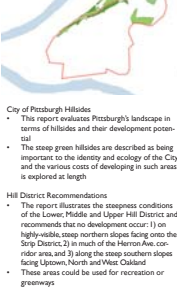
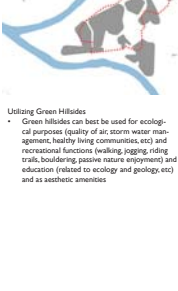

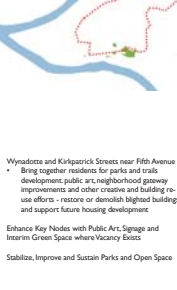

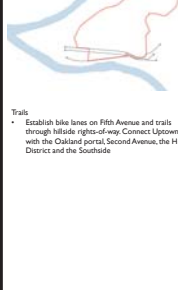
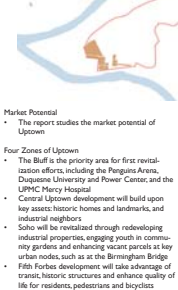


GREENSPACES

Greenspaces in the Hill are sized in proportion to their geographic location. Larger parks and recreation areas are primarily on the edges, hill tops and bluffs, while smaller spaces are towards the center of the Hill. Their respective locations offer the potential of green corridors that link the parks, creating a larger “green” landscape, while making it easier to navigate to them.

REPORTS	GREENSPACE PARKLETS, ROW, PLAY SITES	AGRICULTURE URBAN GARDENING, FARMING	STRUCTURES BUILDINGS FOR RESIDENTIAL, COMMERCIAL, INSTITUTIONAL USES	TRANSPORT ROADS, STREETS, PUBLIC TRAN- SIT, AUTOS, WALKING, BIKING	INFRASTRUCTURE WATER, SEWER, UTILITIES, IM- PERMEABLE SURFACES	HISTORY PRESERVATION OF ORAL, PHYSI- CAL LINKS TO THE PAST	ARTS JAZZ, VISUAL ARTS, LITERARY CUL- TURES	CULTURE ART MARKETS, CHURCH LIFE, SOCIAL PROGRAMS, ETC.	EVOLUTION PREVIOUS URBAN RENEWAL EFFORTS, COMMUNITY-BASED REDEVELOPMENT, CURRENT MELLON ARENA PROPOSALS
<p>1. Arcena Connections Planning Concepts</p> <p>Client: Find the Rivers! (2008) By Klavon Design Associates</p> 	 <p>Cliff and Arcena Street Green Space</p> <ul style="list-style-type: none"> Several City-owned lots, with added landscaping elements, can act both as a quiet green space for residents and connect to Arcena St. and Allegheny River views <p>Upgrading the Cliff Street Playground</p> <ul style="list-style-type: none"> Above Bigelow Boulevard and overlooking the Hill Street Bridge Upgrade the surrounding area and add a direct connection to Arcena Street via steps <p>Proposed Arcena Overlook</p> <ul style="list-style-type: none"> Downriver and upriver views Publicly-owned land - opportunity Potential to be a significant and regular stop for walkers and neighborhood gatherings Former Incline/Boundary foundations are an opportunity to celebrate the City's industrial history 			 <p>Ridgeway Trail (Arcena St. Connection)</p> <ul style="list-style-type: none"> (Former) Ridgeway Street pathway over the Allegheny River could be opened up to recede a pedestrian route between Arcena Street and new rental housing Connect sites, institutions, public art and historic artifacts through marked and mapped walking trails Renovate city steps - create a connection to Bigelow Boulevard; reestablishing a public bus transit stop option (to / from Downtown) for Hill District residents 		 <p>City of Pittsburgh Historic Hill District Sites</p> <ul style="list-style-type: none"> Cliff Arcena Freedom Corner St. Benedict the Moor R.C. Church Hill House Penn Incline Site New Grenada Theater Crawford Grill 2 NAACP Building "Circles of the World" John Wesley A.M.E. Zion Church Martin Luther King Jr. Reading Room Merrillville Cemetery Williams Park <p>Note: See map provided in the report</p>	 <p>Significant Hill District Jazz Sites</p> <ul style="list-style-type: none"> Site of the original Crawford Grill Site of the Hill Hotel Site of the Pythian Temple (New Grenada Theater) Crawford Grill 2 <p>The Wylie / Fullerton intersection was known as "The Crossroads of the World"</p> <p>Art</p> <ul style="list-style-type: none"> "The Spiritual Form" (Carlos F. Patterson) "The Family" (Dr. Selma Burke) "Phoenix" (Thaddeus Holley) Mural at Centre and Cowley Way (Unknown Artist) "The Mountaineer" (Thaddeus Holley) World War I Memorial <p>Note: See maps provided in the report</p>		
<p>2. Herron Corridor Coalition Planning Concepts</p> <p>Client: Find the Rivers! (2008) By Klavon Design Associates</p> 	 <p>Williams Park / Herron Hill Reservoir</p> <ul style="list-style-type: none"> Re-design and beautify the park Use public art to mitigate the dull reservoir cover Create a short 360° walking tour of Pittsburgh history / remove the park for passive and active recreation for people of all ages Scheme 1: Create viewing platforms to direct pedestrians toward prominent city sites. Create a walking pool to bring water down to the lower level of the park Scheme 2: Enhance the landscape with an arboretum. Create new overlooks around the rim of the reservoir along an undulating path <p>New Landscaped Common Area</p> <ul style="list-style-type: none"> Link the John Wesley A.M.E. Zion Church and the Martin Luther King Jr. Reading Center 			 <p>New Bedford Avenue Hillside Trail</p> <ul style="list-style-type: none"> Connect the Hill District to Polish Hill and the Strip District via a hillside greenway along both sides of Bigelow Boulevard Create a trail along the hillside behind Bedford Avenue and link it to the five points intersection at Herron/Merrillville Link to the Kirkpatrick Street and Arcena Street areas adjacent to Bedford Avenue Link to community institutions such as the Macedonia Church, the Annon Recreation Center, the Christopher Smith Center and the St. Joseph's House of Hospitality 	 <p>New Planted Island on Herron Avenue between Bedford and Bigelow Boulevard</p> <ul style="list-style-type: none"> Narrow the vehicular corridors approaching Herron / Bedford intersection to help slow traffic and give pedestrians a place to rest when crossing on the wide street Plant street trees along Herron Avenue <p>Connections to Polish Hill and the Strip District</p> <ul style="list-style-type: none"> Improve connections to adjacent neighborhoods Improve existing City stairs 			 <p>John Wesley A.M.E. Zion Church and Martin Luther King Reading Center</p> <ul style="list-style-type: none"> Provides community leadership in the effort to expand economic and social life in the Herron Avenue Corridor The church is in the vanguard of new approaches to sustainable energy using a geothermal heating and cooling unit powered by under-ground flowing mine water 	
<p>3. Kirkpatrick Park Project</p> <p>Client: Find the Rivers! (2005) By Klavon Design Associates</p> 	 <p>New Allegheny Street Overlook</p> <ul style="list-style-type: none"> Visual connections to the Monongahela River and to the South Side Amphitheater seating ADA accessible trail connection to the Oakland neighborhood <p>Kirkpatrick Street Improvements</p> <ul style="list-style-type: none"> Flowering trees along Kirkpatrick Street corridor <p>Kennard Field Improvements</p> <ul style="list-style-type: none"> Redesign/relocate playground Add parking Relocate Reed St. entry away from the Kirkpatrick St. intersection <p>New Passive/Active Park on Kirkpatrick Street between Reed and Rose Streets</p> <p>New History Park on Perry St. between Webster and Bedford Avenues</p>	 <p>New Community Gardens at the Fifth Avenue Gateway</p>		 <p>New Incline or "Moving Walkway"</p> <ul style="list-style-type: none"> Connecting the Hill District, or near Kirkpatrick Street, to the Strip District below Would utilize cutting edge technology An artistic, visual "regeneration icon" for the Hill District Would be a tourist draw (like the Duquesne Incline in Piquette/Washington) along with the proposed Arcena / Cliff Street Overlook <p>Develop an ADA accessible Trail Connection to Oakland</p> <ul style="list-style-type: none"> Connect to the proposed Allegheny Street Overlook <p>New Lighting and Street Trees along Kirkpatrick Street</p>	 <p>New Lighting and Street Trees along Kirkpatrick Street</p> <ul style="list-style-type: none"> Relate to Birmingham Bridge lighting <p>Expose Stormwater at Location of Historic Scream</p> <ul style="list-style-type: none"> Where possible in less-developed areas See historic 1872 map included in the report for screen location <p>New Water and Art Channel</p> <ul style="list-style-type: none"> Along southern part of Kirkpatrick Street 	 <p>Historic and Present-Day Images</p> <ul style="list-style-type: none"> Included in the report regarding Kirkpatrick Street and the Lower Hill District redevelopment (urban renewal) <p>New History Park on Perry St. between Webster and Bedford Avenues</p>	 <p>Marking the Historic Scream Location</p> <ul style="list-style-type: none"> Using dense bulb plantings Near Kennard Field A community event to plant the bulbs <p>Proposed New Incline as an Art Object</p>	 <p>New Hill District Library / Museum Complex</p> <ul style="list-style-type: none"> On Kirkpatrick Street between Bedford and Webster Avenues Note: the Hill District Carnegie Library on Center Ave. was recently completed; there is also the MLK Jr. Reading Room on Herron Ave. 	
<p>4. River Opportunity Report</p> <p>Client: Find the Rivers! (2005) By Denys Candy</p> 	 <p>The Kirkpatrick Park</p> <ul style="list-style-type: none"> A green area stretching between the Hill's southern and northern boundaries Starting at Fifth Avenue across from the Monongahela River and the Birmingham Bridge, the park would follow a green "Tie" along Kirkpatrick Street up to Centre Avenue in the heart of the Hill connecting them to the other side of Centre Avenue along Kirkpatrick Street up to Bedford Avenue at a viewpoint overlooking the Allegheny At the southern end, near Fifth Avenue, it would be linked to a hillside park and Monongahela River Overlook 			 <p>Hill Allegheny River Trail</p> <ul style="list-style-type: none"> Possibly in the form of a boardwalk that would be lit at night Overlooking the river and running parallel to a present trail that follows the south bank of the Allegheny <p>Re-Establish a Physical Connection from the Hill District to the Strip District Below Bedford Avenue</p> <ul style="list-style-type: none"> Use dramatic modern design and futuristic technology that would also benefit the city by drawing attention to a work of contemporary art 				 <p>This document gives a thorough summary of the Find the Rivers! process, goals, outcomes, partners and vision for a physically, socially, culturally and economically healthy and connected Hill District.</p>	

LEGEND

	New Parks		Recent Development
	New Trails + Stairs		Current Development
	Existing Parks		Proposed Development
	Existing Trails + Stairs		River Valley Hillside
	Vistas		Neighborhood Hillside

REPORTS	GREENSPACE PARKLETS, ROW, PLAY SITES	AGRICULTURE URBAN GARDENING, FARMING	STRUCTURES BUILDINGS FOR RESIDENTIAL, COMMERCIAL, INSTITUTIONAL USES	TRANSPORT ROADS, STREETS, PUBLIC TRAN- SIT, AUTOS, WALKING, BIKING	INFRASTRUCTURE WATER, SEWER, UTILITIES, IM- PERMEABLE SURFACES	HISTORY PRESERVATION OF ORAL, PHYSI- CAL LINKS TO THE PAST	ARTS JAZZ, VISUAL ARTS, LITERARY CUL- TURES	CULTURE ART MARKETS, CHURCH LIFE, SOCIAL PROGRAMS, ETC.	EVOLUTION PREVIOUS URBAN RENEWAL EFFORTS, COMMUNITY-BASED REDEVELOPMENT, CURRENT MELLON ARENA PROPOSALS
<p>5. Development and the Hill District</p> <p>Client: The Looking Glass Institute (2008) By: Dewey & Kaye and Three Rivers Connect</p> 	 <p>Arena Street Overlook</p> <ul style="list-style-type: none"> Design for this project is at an advanced stage and Phase 1 of the land-raising led by the Pittsburgh Parks Conservancy is complete. <p>Josh Gibson Field</p> <ul style="list-style-type: none"> Located off of Bedford Avenue between White-side and Sowers Street. The two existing fields will be re-surfaced with grass infill and four dugouts, two scoreboards, a sprinkler system, portable PA system and large concession stand and ADA-compliant restrooms. 		 <p>Middle Hill Housing Revitalization Plan</p> <ul style="list-style-type: none"> The first stage of Macdonald Development Corporation's "Middle Hill Housing Revitalization Plan" includes a 22-unit, five-phase housing development. The master plan is to build infill housing from White to Chaucery toward Herron Avenue, including the construction of 650 new units of for-sale, mixed income and affordable housing across 10 phases of development. <p>Mellon Arena and 28 Acre Site</p> <ul style="list-style-type: none"> Once the new Penguins arena is constructed, development activity will move to the vacated Mellon Arena and the 28 acres of land below the Crawford-Roberts neighborhood. The Penguins were granted development rights to the entire 28-acre to be used toward that development. 						 <p>This document is a community snapshot of Hill District development activities, summarizing:</p> <ol style="list-style-type: none"> What investments are currently being made in the Hill District? Which organizations are driving these investments? What is the nature and purpose of these investments? <p>Provides basic demographic information as well as general housing and property conditions.</p> <p>There are more development proposals than can adequately be summarized here - please see the report.</p>
<p>6. The Hillside Study</p> <p>Client: Pittsburgh Hillside Committee By: 3 River 2nd Nature, Steven Farber, Perkins Eastman, Cyril Fox and The Allegheny Land Trust</p> 	 <p>City of Pittsburgh Hillside</p> <ul style="list-style-type: none"> This report evaluates Pittsburgh's landscape in terms of hillsides and their development potential. The steep green hillsides are described as being important to the identity and ecology of the City and the various costs of developing in such areas is explored at length. <p>Hill District Recommendations</p> <ul style="list-style-type: none"> The report illustrates the steepness conditions of the Lower, Middle and Upper Hill District and recommends that no development occur: 1) on highly erodible, steep northern slopes facing onto the Strip District, 2) in much of the Herron Ave corridor area, and 3) along the steep southern slopes facing Uptown, North and West Oakland. These areas could be used for recreation or greenways. 							 <p>Utilizing Green Hillside</p> <ul style="list-style-type: none"> Green hillsides can be used for ecological purposes (quality of air, storm water management, healthy living communities, etc.) and recreational functions (walking, jogging, riding trails, birding, passive nature enjoyment) and education (related to ecology and geology, etc.) and as aesthetic amenities. 	
<p>7. Uptown Community Vision Planning</p> <p>Client: The URA of Pittsburgh, PPND and SAL Williams Real Estate (2004) By: Rothschild Dyma Collaborative, GSP & Metropolis Development</p> 	 <p>Wyndome and Kirkpatrick Streets near Fifth Avenue</p> <ul style="list-style-type: none"> Bring together residents for parks and trails development; public art; neighborhood gateway improvements and other creative and building reuse efforts - restore or demolish lighted buildings and support future housing development. <p>Enhance Key Nodes with Public Art, Signage and Interim Green Space where Vacancy Exists</p> <p>Stabilize, Improve and Sustain Parks and Open Space</p>		 <p>Locust Street Development</p> <ul style="list-style-type: none"> Pursue collaborative development in concert with Hospital expansion. Include new and restored homes, professional offices, neighborhood retail and services, pocket parks, adequate parking, new street trees and lighting and transformed and improved industrial properties. <p>Future Transit-Oriented Development</p> <ul style="list-style-type: none"> At the Birmingham Bridge node. <p>Create Development Guidelines</p> <ul style="list-style-type: none"> To improve predictability for private development and investment. <p>Develop a Long-Term Housing Strategy</p> <ul style="list-style-type: none"> Promote long-term community investment and residential growth. 	 <p>Trails</p> <ul style="list-style-type: none"> Establish bike lanes on Fifth Avenue and trails through hillside rights-of-way. Connect Uptown with the Oakland portal, Second Avenue, the Hill District and the Southside. 					 <p>Market Potential</p> <ul style="list-style-type: none"> The report studies the market potential of Uptown. <p>Four Zones of Uptown</p> <ul style="list-style-type: none"> The Bull is the priority area for first revitalization efforts, including the Penguins Arena, Duquesne University and Power Center, and the UPMC Merry Hospital. Central Uptown development will build upon key assets: historic homes and landmarks and industrial neighbors. Sites will be reactivated through redeveloping industrial properties, engaging youth in community gardens and enhancing vacant parcels at key urban nodes, such as at the Birmingham Bridge. Fifth Forbes development will take advantage of transit, historic structures and enhance quality of life for residents, pedestrians and bicyclists.
<p>8. City of Pittsburgh Athletic Fields Analysis</p> <p>Client: Department of City Planning By: Pashek Associates with John J. Clark and Associates</p> 	 <p>An evaluation of athletic field condition, access, use and permitting for the city of Pittsburgh.</p> <p>The Hill District has 4 multiuse fields, 1 football/soccer field and 4 baseball/softball fields.</p> <p>There is also a baseball and multiuse field in Polish Hill just below the study area on the North slope.</p> <p>No new field opportunities in the Hill were identified.</p>								

LEGEND

- New Parks
- New Trails + Stairs
- Existing Parks
- Existing Trails + Stairs
- Vistas
- Recent Development
- Current Development
- Proposed Development
- River Valley Hillside
- Neighborhood Hillside

**Phase I Review of Greenprint
In-Progress Report
July 14, 2009**

Hood Design, Arup, Studio for Spatial Practice

I. Review of Arcena Connections Planning Concepts

Hood Design Review:

Find the Rivers! design vision includes using History, Landscape, Art, Water, and other design elements to:

- Re-make visual and physical connections along the Hill's northern edge overlooking the Allegheny River, including view-sheds down river (downtown and the Ohio River) and upriver
- Re-make visual and physical connections overlooking the Monongahela River along sections of the Hill's southern boundary;
- Identify, re-imagine and connect strategic Green sites viewed as key to the Hill's future health (economic, physical, mental and socio-cultural).

Goals of the Arcena Connections Project:

- To illustrate the rich historic, cultural and physical fabric of the Hill District.
- To identify sites of opportunity for green public spaces and new destinations.
- To propose connections between existing community institutions and future green public spaces.
- To outline potential uses for and connections between new green destinations (e.g., walking routes to/from businesses, social and community services, churches, etc.)

As a result, the following sites of opportunity for green public spaces and new destinations were identified:

- August Wilson's birthplace: 1727 Bedford Ave. (near Cassatt);
- Cliff Street Playground, overlooking the 16th Street Bridge;
- Vacant lots connecting Cliff and Arcena Streets;
- Arcena Street Overlook – several plots of publicly owned land with magnificent views;
- A potential trail on an overgrown City Street
- (Ridgeway Street) from Arcena to the new rental housing site of the Housing Authority and McCormack Baron developers;
- Walking routes connecting these places with other destinations in the area bounded by the Bedford
- Avenue/ Kirkpatrick Street/ Centre Avenue/ Crawford Streets.

Recommendations:

The *Find the Rivers!* team recommends further development in the target area in two phases:

Phase One: Renovate the Cliff Street playground; produce a site design, including landscaping and beautification, for the Arcena Overlook and upgrade connecting lots between Cliff and Arcena Streets. Design an overlook on the HACP site.

Phase Two: Restore access to and build an overlook trail with view points between Arcena Street and the Housing Authority (HACP)/ McCormack Baron site at Bedford/ Kirkpatrick; restore steps to Bigelow Boulevard. In both phases, we recommend assessing opportunities for public art and historic artifacts along newly marked walking routes.

ARUP Review:

- Greenspace - Site overlaps site of Herron Corridor Concept Plan. Both include linear park with overlooks.
- Agriculture - None mentioned, but seems there may be an appropriate site (like Herron) since it is peripheral.
- Transport - Mentions bus stop.
- Infrastructure - Storm water management and erosion prevention to be considered carefully.
- History - August Wilson house is included, but maybe could be better integrated.

2. Review of Herron Corridor Coalition Design Group

Hood Design Review:

Three strategic areas

- Bedford Avenue Connection - A link to a proposed green trail running along the northern side of the Hill District.
- Williams Park Reservoir - Built in 1886 as the Herron Hill Reservoir (a sister project to the Highland Park Reservoir) on the site of Fort Herron, which was key in the defense of Pittsburgh during the Civil War.
- Geothermal Corridor - Running from Center Avenue to Bedford along Herron Avenue, numerous projects have been, or are in the process of being implemented to reclaim trapped mine water for our use.
- Site 1 – Bedford Avenue Hillside Trail
 - Create a trail along the hillside behind Bedford Avenue and link it to the five points intersection at Herron/Milwaukee
 - Scheme 1
 - Using more modern materials, the Broom Factory site is transformed into a café with outdoor seating for residents and those beginning or ending their hillside journeys
 - Scheme 2
 - New development along the western side of Herron Avenue brings both businesses and residences back to the corridor. The former Broom Factory site is reconstructed to allow for a coffee/ice cream shop at the entrance to the Bedford Avenue trail, and a restaurant with private courtyard below for outdoor dining.
- Site 2 – Williams Park/ Herron Hill Reservoir
 - The goal of this project was to re-design and beautify this park, and once again make it a place that is highly valued by the community and the city of Pittsburgh as a whole.
 - Scheme 1
 - Modern materials and landforms transform the hill around the reservoir into viewing platforms that direct pedestrians toward prominent sites in the city. A wading pool brings water down the lower level of the park and makes it accessible
 - Scheme 2
 - Treats the existing landscape as the basis for an arboretum of sorts – small flowering trees and medium sized shade trees are added to the existing grand trees to create a more intimate and pedestrian scale landscape. New overlooks are created around the rim of the reservoir along an undulating path
- Site 3 – Geothermal Corridor
 - Create a framework for expanded green economic development options for the Herron Corridor area
 - Scheme 1

- New gathering spaces allow John Wesley AME Zion Church and the Martin Luther King Reading Center to have independent gatherings, yet a central “stage” joins their two spaces together to create a unified community space. Non-traditional angles and materials create a more modern feel.
- Scheme 2
 - A more traditional “business park” model is implemented to connect the Church and the Reading Room. A central axis defines the front façade of new building footprints, allowing for these two major community resources to remain dominant to the site

Conclusion

- The strategic site identified can be linked to each other and additional sites throughout the Hill by creating an identity through the use of consistent signage, route maps and PR materials.
- Additional work is suggested on connections between the Hill District and Polish Hill, at the Northern boundary at Herron Avenue and the Hill District
- Research is needed on traffic calming, foot-bridges and other strategies for re-using existing frayed infrastructure so that pedestrians and bikers can be re-introduced to an area that would re-make boundaries in Pittsburgh by re-connecting the Hill District to Polish Hill and the Strip District
- Connect upper campus of University of Pittsburgh to southern end of Herron Avenue
- Slow the 9,200 cars that drive through daily

ARUP Review: Herron Corridor Coalition Planning Concepts

- Greenspace – Bedford Ave. Trail – Strong large linear park, maybe not accessible, Geothermal Corridor – can be the experience/quality be more linked to the geothermal and mines? Consider use of mine water for surface water “feature”, Williams Park – Good to enhance existing greenspace. Removal of fence and use of space on top of cap seems key. Could water be introduced on top? If not, green roof? Skate park? What is load capacity?
- Agriculture – Not currently included. Larger fields could be appropriate along Bedford Avenue Trail, community plots/raised beds could occupy a portion of geothermal and/or Williams Park
- Transport – Bedford Avenue – Great biking/walking trail, but probably too peripheral to displace much traffic. Perhaps additional entry points would help. Median for easier crossing in opt 2 is good (how about extending sidewalks), Geothermal Corridor – Scheme 2 enhances the street/pedestrian experience more. Williams Park – street trees, All – transit routes/maps Parking? Secure bike storage?
- Infrastructure – Bedford Avenue – storm water management erosion prevention, lighting. Mine water? Consider large PV/wind installation, Geothermal Corridor – heat/cooling available from mine water. Consider also electricity generation from flow (micro hydro) and use as a nonpotable water source. Williams Park – Energy generation on top of reservoir
- History – Bedford Avenue – Both schemes are strong in restoring Broom factory
- Arts – Bedford Avenue – art along trail? In café? Geothermal Corridor – Good potential site for crafts fair, etc. and public sculpture. Option 1 has performance stage. Williams Park – public art proposed on reservoir cap
- Culture – Bedford Avenue – Entrance point provides good special node. Geothermal – Space linking two major cultural hubs. Williams Park – accessibility is probably key to having this work as a social site
- Evolution – Williams Park – Could make use of shared ownership/maintenance?

3. Review of Kirkpatrick Park Project

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94608
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510.595 1486 fax

Hood Design Deview:

Guiding Design Principles

- Connect to the rivers
- Connect to history and cultural riches
- Connect to existing and new development
- Connect to existing roadways
- Preserve the hillsides
- Preserve existing ecology
- Preserve existing buildings
- Preserve recreation
- Engage the entire community
- Create a gateway to the Hill District

Scheme A – Light

- Bring Light to Kirkpatrick Street – Scheme A proposes the use of light to knit the different sections of Kirkpatrick Street together
- Use the “light rooms” available along the length of Kirkpatrick as an opportunity to commission and exhibit new works of art

Scheme B – History

- Honor the History of the Hill District – Show the history of the Hill along the length of Kirkpatrick Street by embedding words, markings, maps and artwork into the ground
- Use Historic Streets and Buildings to Organize the Design – use subtle markings in the neighborhood around Kirkpatrick Street to acknowledge the significant streets and buildings lost to urban renewal projects

Final Design – combination of schemes A and B

- Art, Light, History, Water, Landscape
 - Fifth Avenue Gateway
 - The Overlook (Fifth Avenue and Oakland)
 - Kennard Field
 - Passive Water Park
 - Urban Corridor
 - Hill District Library/ Museum complex
 - Incline (replace)

Arup Review:

- Greenspace – Diversity of public greenspace types and physical conditions.
- Agriculture – Community gardens at 5th ave gateway.
- Structures – Urban corridor proposes to uplift existing buildings to transform image of street.
- Transport – Kennard renovation adds parking, reworks dangerous corner.
- Infrastructure – Light proposed as a unifying element. ADA Accessibility for all trails. Could any of streams be daylight? Does it still exist? Grasscrete parking at Kennard reduces storm-water runoff. New incline connects Hill to Strip.
- History – Timeline of area included, with links to occurrences in larger City. Penn Incline 1884 - 1953. Stairs to river until? Historic stream marked with light or bulb flowers.
- Arts – Art nodes proposed, integrated with light rooms (urban corridor, other sections). Light and water play key roles.
- Culture – “Bowl” gathering space Kennard field renovation improves rec opportunities. Community bulb planting day at Lily Baptist. Museum complex.
- Evolution – Treetop walk

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4. Review of River Opportunity Report

Hood Design Review:

Immediate focus is on Hill District and the economic and social prospects of its geographic location – several hills and overlooks the Monongahela and Allegheny Rivers.

Impact:

- Support and expand existing economic development efforts
- Build a dynamic two-way traffic of people by enhancing the Hill's images and attracting visitors
- Renewal of community social and cultural life

Objectives:

- Pursue a more detailed feasibility analysis: Kirkpatrick Park
- Engage residents in researching potential network and view of trails related to rivers

Three core elements for an initial Find the Rivers! Design vision:

- The Kirkpatrick Park
- A Hill Allegheny River Trail
- Re-establishment of a physical connection from the Hill to the Strip District

Four Core Principles of Find the Rivers!

- Resident-driven planning and action
- Dreaming big
- Peripheral vision
- Organic partnering

Design ideas:

- Emphasize light and water
- Make Kirkpatrick Park and Hill Allegheny Trail – brighter and safer
- Future park space possibilities – Monongahela river bounded by Fifth Avenue, Kirkpatrick, Bentley and Burroughs streets, Oak Hill, Bedford Street
- Funicular connection

Arup Review:

- Greenspace - The Kirkpatrick Park greenlink * turning as many places as possible into scenic overlooks
- Agriculture - *this paper does not really touch on this subject matter. However, it would be interesting to consider a community garden in one of the green spaces (such as Kirkland Park).
- Structures - *this paper does not really touch on this subject matter
- Transport - Find the Rivers would like to improve and enhance the two-way traffic to attract visitors (how are the current roads? Will it be difficult to create a path?) Bike paths as part of the connections?
 - * a Hill Allegheny Trail
 - * a reestablishment of a connection to the Strip district (are there pedestrian bridges across the rivers?)
- Infrastructure - * emphasis on lighting, particularly for Kirkpatrick park, and Hill Allegheny River Trail
- History - *touches on the “energy of community life” in the Hill district from 1950s * this sounds like something that can be replicated
- Arts - *one of the green spaces leading along the Kirkpatrick (leading to the Monongahela) has a natural amphitheater and an existing set of pedestrian steps
- Culture - *this is a resident driven plan

5. Review of Development and the Hill District: Research Findings and Analysis

Hood Design Review:

Executive Summary

Hill District:

- Loss of population
- High unemployment
- Lower educational attainment and considerably more vacant homes than the City of Pittsburgh as a whole.

Opportunities

- First grocer
- Most notably, the addition of a new multi-purpose arena and eventual redevelopment of the Mell on Arena site in the Lower Hill
- Over two dozen significant projects in the areas of community centers, economic development, education, housing, recreation and religious & cultural institutions - Centre Avenue and Fifth and Forbes Avenue corridors
- Development more balanced in areas of recreation, community centers, transportation and religious and cultural centers

Community Centers

- Thelma Lovette Center – YMCA

Economic Development

- Parking Garage – Pittsburgh Penguins
- First Source Employment Center – Hill House Association
- Grocery Store
- Landslide Community Farm
- Parking Lots- Sal Williams Real Estate Investments
- Storefront Renovation - Ebony Development
- Geothermal Energy – Wesley A.M.E. Charities

Education

- Campus Expansion – University of Pittsburgh
- University Prep School
- Hill District Branch Carnegie Library of Pittsburgh

Housing

- Bedford Hill – McCormack Baron Salazar
- Oak Hill – Beacon / Corcoran Jennison
- Various Housing Developments - Pittsburgh Housing Development Corporation
- Wylie Homes - Macedonia Development Corporation
- Various Housing Developments - Oakland Planning and Development Corporation
- Historic YMCA Rehabilitation – YMCA

Recreation

- Josh Gibson Field – Josh Gibson Foundation
- Arcena Street Overlook

Religious and Cultural

- Church Rectory - Epiphany Catholic Church

- Synagogue Renovation - Beth Hamedrash Hagadol-Beth Jacob
- Kaufmann Auditorium – Hill House Association

Potential Development Activities

Economic Development

- Mellon Arena and 28 Acre Site – Pittsburgh Penguins
- Penguins Hotel
- Oakland Portal – FWG Realty Inc.

Education

- Forbes Expansion - Duquesne University

Health

- UPMC Mercy – UPMC

Housing

- Wylie Homes - Macedonia Development Corporation & Jaxon Development

Recreation

- Find the Rivers! Projects

Religious and Cultural

- August Wilson House – Paul Ellis
- New Granada Theatre – Hill Community Development Corporation

Transportation

- Light Rail

Analysis

- First, housing was the primary focus of recent development and continues to be one of the primary development areas today. However, the proportion of development devoted to housing has steadily declined over time.
- Secondly, the focus on economic development has stayed relatively constant over time.
- Finally, economic development looks to occupy the highest percentage of development
- Workforce Development Overlap – 2 workforce development initiative works with the same population
- Development Corridors - Development generally has taken place along 'corridors' in the past, rather than taking place in a scattered fashion.
- Generally, URA ownership of large parcels of land may indicate a higher likelihood for future development.
- Private Developers - These include Jaxon Development, Ebony Development, Williams Real Estate, McCormack Baron Salazar and Beacon / Corcoran Jennison and TREK Development of Oakland.
- URA Housing Strategy
 - First, the creation of green space adds value to all the surrounding properties, create another asset for the community and provides environmental benefits. This approach is also lower-cost because it requires fewer homes to be built overall.

ARUP Review:

- Greenspace – *Josh Gibson Field (Little leagues as well as Adult rec leagues?)
- Agriculture – * the Landslide Community Farm (this could be a local model/example to locate another community farm at the Hill)

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- Structures - *(knowing about the housing demographics in the area will allow for a better understanding of the types of structures that should be placed in the neighborhood)
*the Thelma Lovette Center - YMCA
*A grocery store proposal on the corner of Centre Avenue and Heldman street
- Transport – (crime is mentioned in this paper. Roads, accessibility, lighting, should all be carried out with safety as a priority)

6. Review of The Hillside Study

Hood Design Review:

This investigation of the ecological and physical environments of Pittsburgh's hillsides, with economic and legal support, is intended to assist the City of Pittsburgh Hillside Committee with its deliberations and recommendations regarding the future of Pittsburgh's hillsides.

- Based Cyril Fox's study of authority jurisprudence of land-use controls.
- Seeking an analytical methodology that would "identify potential danger from landslide and other development problems"
- Examine the cities current stock of "adequate public services and infrastructure"

Goals/Values:

- One of the goals of this project has been to provide an informed framework for establishing coherent public policy.
- First, the topographic relief provided by Pittsburgh hillsides is a major landscape defining feature that is distinctive and provides a unique identity to the Pittsburgh region.
- A second value of the unique topographic relief is its role in defining neighborhoods and communities. A third value is a more estimable economic value; the economic value of the topographic and associated land cover landscape amenities.
- Finally, a very important and estimable set of economic values of the land cover associated with the typical topographic relief in Pittsburgh is attributable to the natural system services of those ecosystems.
- Tools for Democratic Discourse
- Contextual analysis at the watershed scale.
- Open space needs analysis at the neighborhood scale
- Decisions analysis at the parcel scale.
- Field studies to inform land use guidelines.

7. Uptown Community Vision Planning

Hood Design Review

Executive Summary

Challenge:

- Uptown's population has eroded to just over 700
- Diminished value of buildings, vacancy
- History has resulted in neighborhood spaces that feel unsafe and a deterioration of trust amongst the very people who can make things better

Opportunity

- In ten years, Uptown will be a popular and diverse Pittsburgh neighborhood

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Recommendations

8. The City of Pittsburgh Athletic Fields Analysis

Hood Design Review

- Goal; Enable the City of Pittsburgh to meet the increases demand for athletic fields in the City and thus improve the quality of life for City residents by providing the recreational opportunities they desire

Recommendations

- Permitting
 - Purchase and use a computerized field scheduling program.
 - Include a web-based listing of field usage and availability (actual field permitting would remain with the City.
 - Hire a field monitor to assure compliance with permitting and field use regulations.
 - Hold all groups, regardless of age, influence, or financial contributions to a field; accountable to permitting and field use regulations by adopting sanctions for violations.
- Maintenance
 - Adopt a plan to rehabilitate all City fields according to specified design standards over the next 10-15 years. Utilize the fields inventory to prioritize this process.
 - Provide staff with training in athletic field maintenance and operations.
 - City revise their standard specifications for athletic fields to be more comprehensive and provide for more accountability.
 - Include proper under-drainage, irrigation, appropriate soil mixes and site amenities.
 - •Improve communication between DPW and user groups.
- Demand
 - Address need for 15-20 new rectangular fields through new field construction or retrofitting existing multipurpose fields.
 - Convert 5-10 multi-use (baseball/soccer) fields to soccer only in order to improve field conditions.
 - Track the growth of rugby, field hockey, and sports that use rectangular fields and, as fields are needed, consider converting up to five football fields for use by these sports.
 - Convert two fields per year for five years from baseball to softball.
 - Enlarge up to eight existing baseball fields for use by older teams/leagues.

Arup Review

- Greenspace – Hill has no multi-use or football/soccer fields and has baseball fields only in the upper section. However, access to fields does not appear significantly different from the Coty average. Gibson/Ammon field is not specifically mentioned in the report.
- Structures – addition of concessions and/or seating structures could be considered
- Transport – not mentioned in report. Important to consider pedestrian safety around fields and access by transit
- Infrastructure – Field irrigation and drainage are significant concern. Nonpotable water sources should be sought, perhaps good application if mine water is develop as a source. Solar power for field lighting?
- History - Opportunity to acknowledge famous players from each neighborhood and/or Pittsburgh as a whole. Pittsburgh Crawfords team not mentioned (photo in Kirkpatrick Document)
- Art – Public art adjacent to fields could be appropriate. Performance uses could be possible, though may be considered inappropriate use.
- Culture - More field time for adults is desired citywide.

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- Evolution – Field policy change is proposed to lessen problematic bureaucracy. No potential new field sites on the Hill are identified. Closest is Mazeroski field, for which there is limited potential. (Was anyone from the Hill interviewed?) Computerized permitting system proposed. Renovation of all existing fields and siting of new ones in next 10-15 years.

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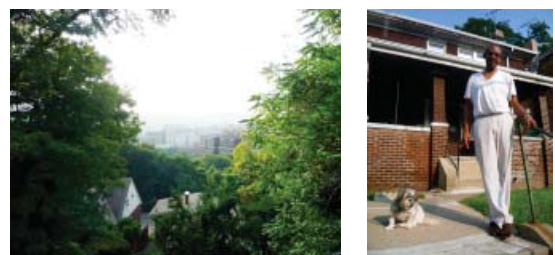


Memory Lane View from Bedford Hill

The Park District - Edges and Views



Herron Hill Reservoir



Dakota Street - View toward Southeast



Bedford Dwelling Site



Cherokee - Ossipee Tributary at Herron Hollow



Bedford Hill Housing Development



Chauncey Street Staircase



Kennard Field



Frank Curto Park View



Addison Terrace



Cliffside Park Interior



Bedford Avenue Path to Downtown



Proposed Park Connection to Downtown



Proposed Lombard Street Overlook

APPENDIX
KEYED PHOTO MONTAGE



Turkey Family at Frank Curto Park



Crossing Bigelow Boulevard to Access Kirkpatrick Street Stairs



Cherokee - Ossipee Tributary at Herron Hollow



Kirkpatrick Street Stairs and Termination Point below Memory Lane



Granville Street Playground



Lombard Street: Overgrown Stairs and Path to Addison Terrace



Tributaries and Internal Views



View towards Herron Hill Reservoir



Cobblestone Streets



Humbert Way Demolition



Junilla Street Horseshoe Game and Stairs to Centre Avenue



Lombard Street Mural and Garden



Chauncey Street Staircase



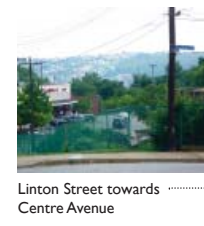
Chauncey Street Staircase



Lombard Street toward Dinwiddie Street



Emma Shelton w/ Cactus Plants



Linton Street towards Centre Avenue



Chauncey Street Staircase



Chauncey Street Staircase



Lombard Stairs to Diaz Way to Colwell Street (to Dinwiddie Street and Fifth Avenue)



Gazzam Street Rooftop View



View from Allequippa Street Stairs



Landslide Garden

To	Kirsten Weekes	Reference number
		209922/TWB
cc		File reference
From	Tom Berry x 27227 (San Francisco) Frank Greguras	Date
		August 26, 2009
Subject	Pittsburgh - Preliminary Engineering Geological Investigations	

1 Introduction

1.1 Scope of Memorandum

Arup have been asked to describe the physical characteristics of the Hill District in Pittsburgh Pennsylvania to develop a scheme called a 'greenspace planning exercise' to rejuvenation the neighborhood. The description of the physical characteristics of the neighborhood includes issues and opportunities related to aspects of ecology, geomorphology and geology.

This memorandum makes a remote assessment of and discusses high level issues specifically related to the topography, geomorphology and ground conditions of the Hill District. The preliminary findings of the memorandum are presented below and divided into the following sections:

- Topography – Section 2
- Geology – Section 3
- Hydrology – Section 4
- Coal Mining – Section 5
- Geoecology – Section 6
- Contamination – Section 7

It should be noted that this memorandum is for information only and should not be used for design.

1.2 Available Information

This memorandum has been written using the following publically available information from the following sources:

- The Pittsburgh Geological Society.
- The Commonwealth of Pennsylvania Department of Conservation and Natural Resources Bureau of Topographic and Geologic Survey.
- Chatham University

2 Topography

2.1 Regional Topography

The regional topography of the state of Pennsylvania is dominated by the Appalachian Mountains to the east, Pittsburgh itself sits within the Pittsburgh Low Plateau physiographic province. The Department of Conservation and Natural Resources (DCNR, Ref 1) describes the Pittsburgh Low Plateau as a having "low to moderate relief" with elevation between topographic high land forms and lows land forms typically between 101 ft and 600 ft (no datum stated).

The current topography was formed by the fluvial erosion of a broad plain (similar to present Mid-western USA) over the last 5 million years (after Prellwitz and Kyshakevych, Ref 2) leading to smooth undular high ground (around 1400 ft in the Pittsburgh area) incised by relatively shallow fluvial valleys (at an elevation of 700 ft in the Pittsburgh area).

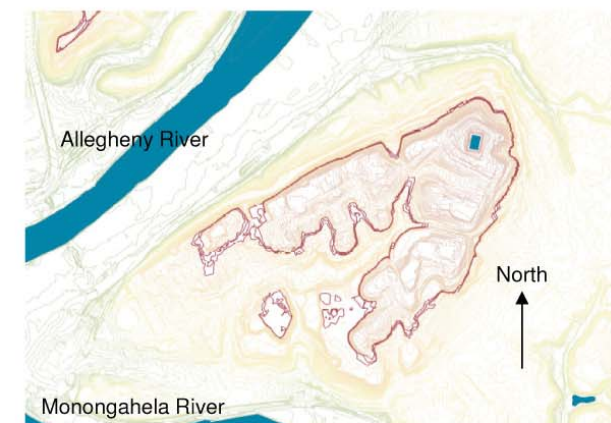
2.2 The Hill District

The topography of the Hill District is thus dominated by these regional topographical features but never the less maintains a unique identity being the prominent local topographic high. The Hill District comprises a wedge shaped topographical high at the confluence of the Allegheny and Monongahela Rivers and the start of the Ohio River.

The Hill District rises from around 900 ft in the river valleys in the north-west and south to over 1,200 ft at its highest and most northerly extent. The morphology of the Hill District follows the course of rivers and is steep sided to the west on the Allegheny valley and steep sided at the northern tip. The topography of the Hill District on the east becomes progressively less steep as one traverses south until on the southern boundary with the Monongahela River the slopes up to the Hill District are relatively shallow.

The Hill District has itself been incised, albeit on a smaller scale, by the tributaries of the Allegheny and Monongahela Rivers and these features can be seen as low relief valleys running off the higher ground toward the main valleys. Figure 1 below shows the main topographical features of the Hill District.

Figure 1: Topography of The Hill District



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3 Geology

3.1 Regional Topography

The geology of Pittsburg and indeed western Pennsylvania is dominated by Carboniferous Period rocks of Pennsylvanian Age, formed between 290 and 323 Million years ago, (after DCNR Ref 1) when Pittsburg was lay almost at the equator.

These rocks comprise a cyclic sequence of sandstones mudstones and coals called cyclothems. The change in the rock type is associated with a change in the depositional environment and suggests a low-lying afforested coastal plain that was periodically inundated by the sea resulting in a repeated rhythmic cycles of marine, deltaic, fluvial sedimentation.

The following cyclical depositional environments have be identified in the rocks of the Pennsylvanian Period:

- 1) Marine conditions – limestone and mudstone marine deposits.
- 2) Sea level drops / land rises leading to deltaic sedimentation – sandstone and mudstone were deposited at or near sea level.
- 3) Sea level continues to drop / land continues to rise leading to land fluvial sedimentation – sandstone and mudstone deposits.
- 4) Land conditions including luxuriant forest growth and swamps - coal and seat earths

The above sequence is repeated regularly but necessarily Figure 2 Below shows a schematic idealized geological stratigraphic section of Pennsylvanian cyclic sequences.

Figure 2: Idealized Geological Section of Pennsylvanian Rocks, (From PDEP Ref 4).

LITHOLOGY	SEQUENCE	DEPOSITIONAL ENVIRONMENT	PHASE
shale		swamp and marsh	DELTA PLAIN
coal		overbank and levee silts and muds	
underclay			PROXIMAL
argillaceous limestone		alluvial plain sheet sands	
sandy shale		distributary and barrier sands	
sandstone and siltstone		channel sands	PROGRADING
gray fossiliferous shale		delta slope and prodelta muds and silts	DELTA
fossiliferous limestone		marine platform limestones and muds	DISTAL
black fossiliferous shale			MARINE
limestone			SUBSIDENCE COMPACTION TRANSRESSIVE
gray shale pyritic concretions		destructional phase muds and silts	
coal			
underclay			

(adapted from Pryor & Sable, 1974)

After the deposition of these sedimentary rocks they underwent a period of uplift and folding as North America and Africa collided in an event that is called the Alleghenian orogeny. This coming

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together of two great plates occurred around 290 and 220 million years ago and formed the Appalachian mountains, (after Chatham University, Ref 3).

3.2 The Hill District

The Hill District is underlain by Pittsburgh Formation rocks of the Monongahela Group rocks that are in turn underlain by Casselman Formation rocks of the Conemaugh Group. These rocks comprise predominately sandstone units with subordinate units of mudstones, limestones and coals. The boundary of the upper Monongahela Group and lower Conemaugh Group rocks is the Pittsburgh Coal and this located at an elevation of between 1055 ft and 1063 ft in the Hill District.

Figure 3 below presents an extract of the geology of the Hill District, showing the main geological features of the area.

Figure 3: Geology of the Hill District

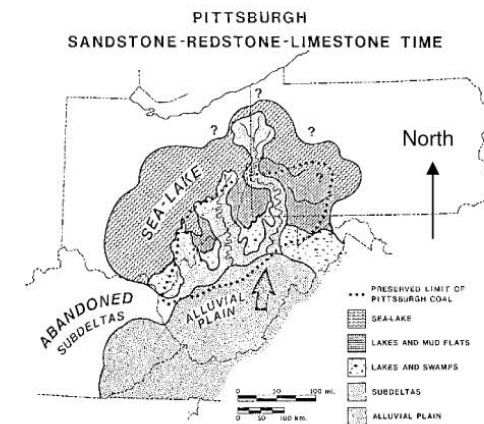
3.2.1 Casselman Formation

The thickness of the Casselman Formation is in the range of 230 feet (70 m) to 485 feet (148 m) and is composed predominately of fresh water sandstone, siltstone and mudstone with subordinate units of "marine shales above the Ames limestone, and the Skelly horizon, which occurs about 30 to 60 ft (9 to 18 m) above the Ames marine zone" PDEP Ref 4.

3.2.2 Pittsburgh Formation

The Pittsburgh Formation is composed predominately of sandstone, limestone and coal. The organic debris that would eventually become the Pittsburgh Coal was deposited and further material was deposited burying the organic materials including sandstones deposited in river channels running through the southwestern corner of Pennsylvania and limestone or shale deposited in the lakes and on the mud flats, (after PDEP, Ref 4). Figure 4 is a reconstruction of paleodepositional environments during the time of deposition after the deposition of the Pittsburgh coal.

Figure 4: Paleodepositional Environments After the Pittsburgh Coal. (From PDEP, Ref 4)



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4 Hydrology & Hydrogeology

4.1 Hydrology Around the Hill District

As discussed in Section 2.1 above the current topography was formed by fluvial erosion of a broad plain that has created a mature dendritic drainage pattern. Dendritic drainage is typically associated with branching drainage patterns coalescing into a single major river, this pattern is often seen on maps as drainage pattern that looks like a tree.

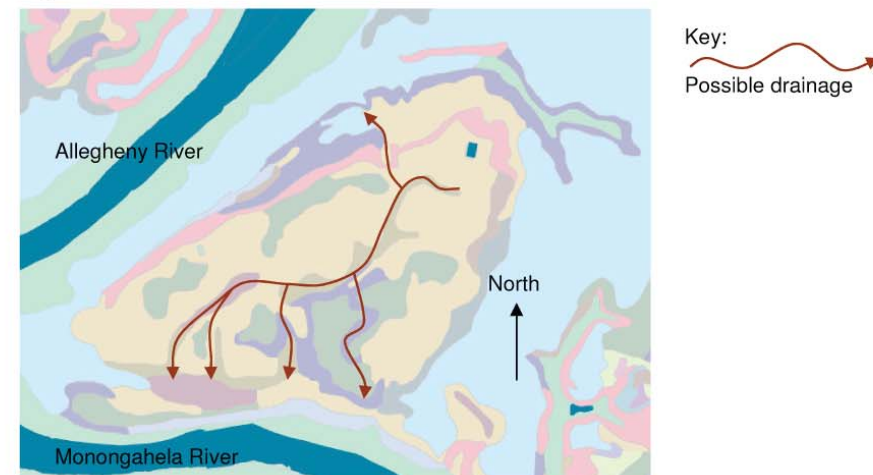
The Allegheny and Monongahela Rivers that exist now have occupied a similar course for many thousands of years, generally flowing steadily but occasionally rapidly eroding the valleys in response to glacial and tectonic uplift forces and frequently changing course. As the rivers cut down the plains to form the topography we see today, the flows slowed and was able to deposit fluvio-glacial sands and gravels. The meandering long profile of the Allegheny and Monongahela Rivers suggest they are 'mature' rivers having developed there course over many generations.

4.2 Hydrology of the Hill District

Although the Hill District is relatively small geographically, it still has the potential to have its own drainage system. The topography will influence any drainage superimposed on to the area and as such any indicators of drainage (particularly pre-settlement) will run perpendicular to the contours down the steepest slopes and into the regional drainage system. As discussed above drainage systems cause erosion that manifests itself as small erosion channels eventually becoming valleys so topographic maps can be used to tentatively identify landforms associated with fluvial systems. In addition, fluvial systems can deposit indicator soils types that can be used to locate current and historic fluvial courses.

Figures 1 above and 5 below can be used to suggest locations of current and historical drainage in the Hill District although due to recent developments the natural drainage could have been culverted in their natural channels.

Figure 5: Soils of the Hill District



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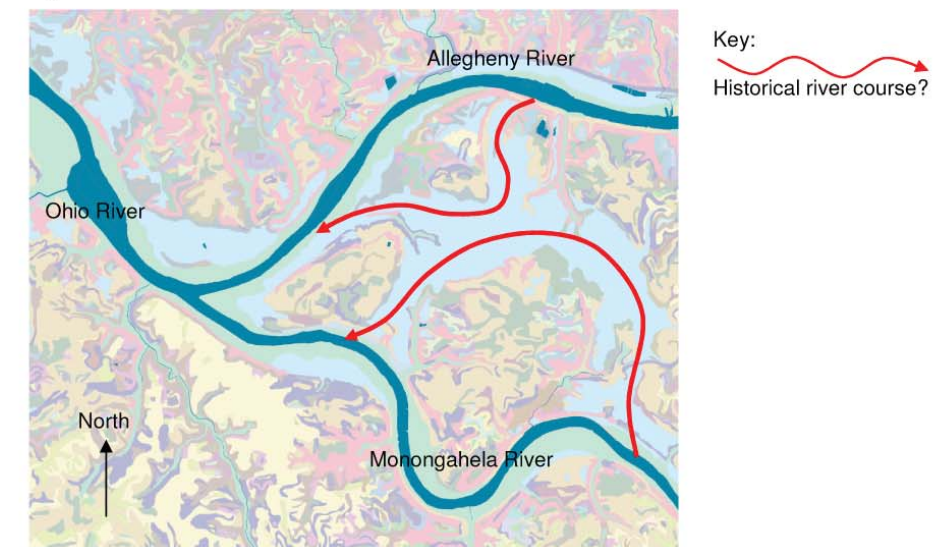
4.3 Historic Course of River Monongahela River

The current course of the Allegheny and Monongahela Rivers was determined by the Illinoian glaciations around 770,000 years ago when ice advanced south and cut off the north flowing Allegheny and Monongahela Rivers causing a large lake called Lake Monongahela to form. Eventually the lake got so deep it over topped local watersheds and flowed south. Eventually the rivers courses settled into their current positions draining south and west towards the Mississippi River.

As the glaciers melted the great quantities of water were released which combined with the isostatic uplift, caused by the weight of the ice being removed, led to erosion and relatively minor changes in the course of the rivers. The rapid erosion and changes in river courses led to remnants of the old river valley floors 200 to 250 feet above the present river level.

An example of the old course of the Allegheny River can be seen as the low lying area to the north of the Hill District and an example of the old course of the Monongahela River can be seen as the low lying areas to the north-east of the Hill District, (after Chatham University, Ref 3). Figure 6 below indicates the possible previous courses of the Allegheny and Monongahela Rivers.

Figure 6: Possible Historic Course of Rivers



4.4 Hydrogeology

Groundwater flow is either through the spaces between rock grains (pore water flow) or the rock fractures (fissure flow), the permeability being determined by the density of the grains and connectivity of the pore spaces or dimensions and connectivity of fractures. Clearly the flow through fractures is the dominant flow mechanism for fluid flow through rock. It can be seen from the above that the importance of connectivity and fractures has a large influence on the hydrogeology.

The interconnectivity of the rocks are on all scales is very important, Poth (1963) suggests hills constitute "hydrologic islands" that are not connected to the wider hydrogeological network. As such a discrete groundwater system may operate in the Hill District separated from adjacent islands but

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connected to the rivers through discharges to local streams, and, to some extent, springs above stream level, (after PDEP, Ref 4)

Underground mine working can act as large open fractures in the rock intercepting and transmitting the groundwater and percolating surface water. When mine openings are constructed below the water table the abandoned voids draw groundwater from the surrounding saturated rock resulting in dewatering.

5 Coal Mining

5.1 A Historical Perspective

Coal mining in the Hill District was first carried out around the early to mid 1800's and is recognized as some of the earliest coal mining in Pennsylvania. The most mined of these beds was the formation called the Pittsburgh Coal, which fueled the future industries of the area and is present below the Hill District. While the location of Pittsburgh was initially determined by the confluence of three rivers, it was coal that drove its subsequent development, (after PDEP, Ref 4).

5.2 The Pittsburgh Seam

There are little if any mineable coals in the Conemaugh Group as such the only mineable coal in the near surface rocks in the Hill District is in the Pittsburgh Formation and is the Pittsburgh Seam. "The largest production of underground coal in Pennsylvania is from the Pittsburgh coal seam" ^{PDEP, Ref 4}.

"The Pittsburgh Coal is unusually continuous, covering thousands of square miles (km²), and is unusually thick (5 to 10 ft or 1.5 to 3 m) for a coal of western Pennsylvania", ^{PDEP Ref 4}. The other major coals in the Pittsburgh Formation that have been deep mined in the past are the Redstone and Sewickley, however, these are not thought to be present beneath the Hill District as they are located higher up in the stratigraphic column and are thought to have been eroded out of the geological sequence in the Hill District, (after PDEP, Ref 4).

It is likely that the full thickness of the seam has been removed.

5.3 Mining Induced Subsidence

Subsidence is the sinking of the ground surface above an underground void and can be caused by the collapse of an underground mine or cave. If the subsidence occurs beneath or directly adjacent to a man-made object, the result can be very costly and dangerous. Western Pennsylvanian is prone to coal mining induced subsidence and foundation subsidence problems due to its long and often uncontrolled mining history, (after PGS, Ref 7).

Mining operations are generally carried out in two ways firstly open cast or strip mining where shallow coal is extracted from the surface and secondly deep mining where shafts or adits are sunk or dug into the coal seam and the coal removed. It is generally the latter that causes subsidence issues.

Historically room and pillar mining has been the preferred method for extracting coal. Room and pillar techniques comprise extracting around 50% of the coal in either a square or irregular pattern and leaving behind pillars of coal to support the roof. It is not uncommon for modern mines to remove pillars left by previous generations of miners. This method was clearly inefficient and modern coal mining practice is to completely remove the seam using what is called long wall extraction, (after PGS, Ref 7).

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A likely cause of future subsidence in the Hills District could come from the collapse of previously mined seams or the collapse of a (poorly backfilled) mine shaft. Subsidence associated with long wall mining has usually stopped within a few years of the completion of mining unless circumstances change when reactivation of settlement can occur.

5.4 Ground Gas

Naturally occurring ground gas is produced in several ways including a thermogenic origin from organic materials under relatively high temperatures and pressures deep in the earth, microbial breakdown of near surface organic material (e.g. in bogs and landfill sites) and from coal beds. Coal bed gas comprises two principal odorless and tasteless gases; explosive methane and carbon dioxide that is an asphyxiant.

Natural gas when it can be economically collected and distributed is a valuable resource but when uncontrolled can become a major geologic hazard. If the conditions are right naturally occurring ground gas can migrate from the reservoir rock along fractures in the bedrock (and mine shafts / adits), up to the surface where if it comes into contact with structures can collect in basements or other enclosed structures with poor ventilation, potentially causing explosion or asphyxiation.

5.5 Mine water

"Groundwater reflects the chemical character of the rock units through which it flows. For example, groundwater that has come in contact with sandstone and shale containing pyrite remains 'soft'. Water in limestone or calcareous aquifers usually is a calcium magnesium bicarbonate type and is sometimes 'hard'", (DPEP, Ref 4).

It should be noted that groundwater drawn from coal mining areas is likely to be of poor water quality both with concentrations of dissolved elements such as metals above recommended levels and with acidity above 'normal' levels. In addition the ground water drawn from coal mining areas is often discolored and prone to 'frothing'.

"Well yields vary over the area with a reported median yield of about 1 gpm for Washington County (Newport, 1973) and a reported median yield of 8 gpm for the upper section (Uniontown Formation) of the Group (Stoner, 1987) in Greene County", (DPEP, Ref 4).

6 Geocology

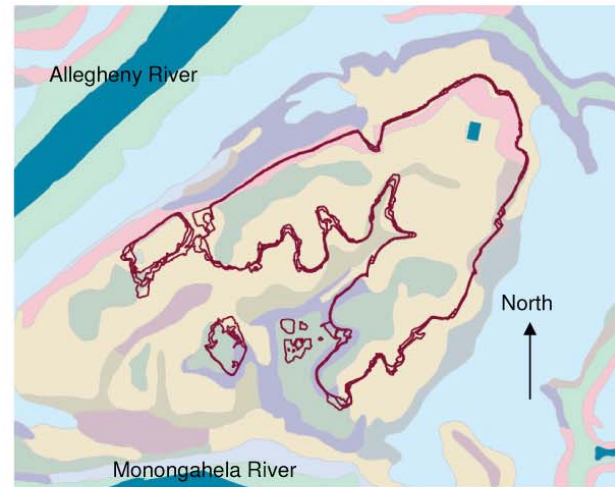
6.1 Soils

Figure 7 below shows the soil and the 1055 – 1065 ft Pittsburgh Coal contours indicating the suggested influence of the underlying geology (particularly the coal) on the soil type.

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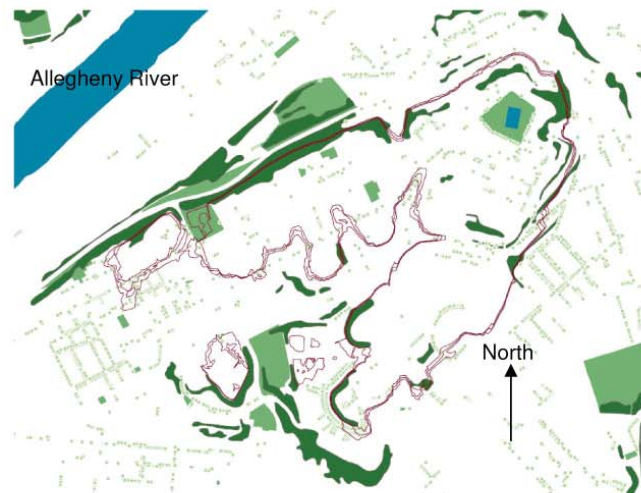
Figure 7: Level of the Pittsburgh Coal on the Soil Map



6.2 Vegetation

Figure 8 below shows the vegetation and the 1055 – 1065 ft Pittsburgh Coal contours indicating the suggested influence of the underlying geology (particularly the coal) on the vegetation type.

Figure 8: Level of the Pittsburgh Coal on the Vegetation Map



7 Contaminants Associated with Historical Land use

Based on the historical land uses at the site the following contaminants are likely to be present:

- Coal Mining – Gases (CH₄ and CO₂), oils, greases and heavy metals;

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- Mining Spoil – Heavy metals and arsenic; and
- Mine water – Acid groundwater, discolored groundwater, metals.

8 References

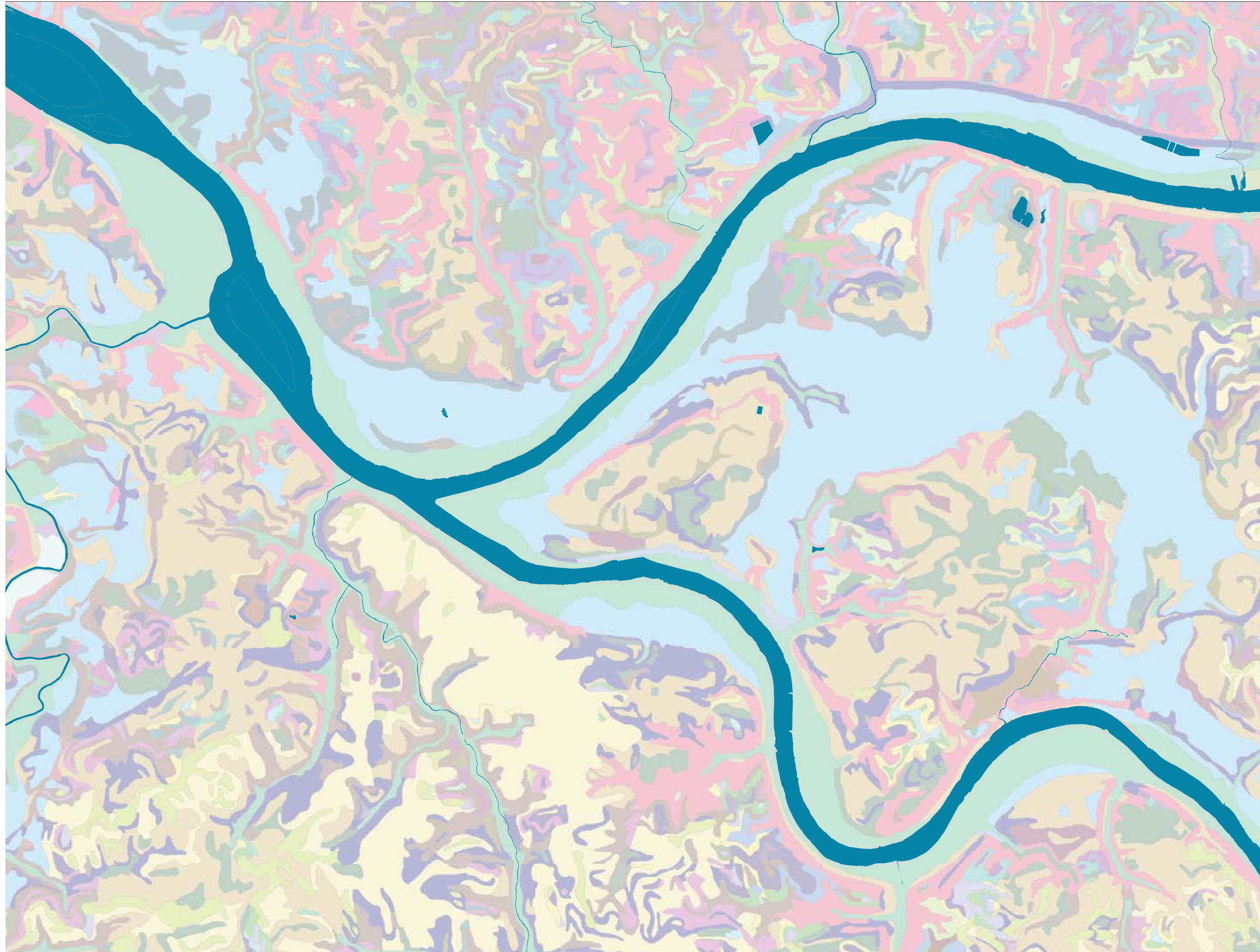
- 1) Department of Conservation and Natural Resources
- 2) Prellwitz, H.S., and Kyshekevych, R.G., Ohio River Pools 1, 2 & 3. Riverbank Geology, Conditions and Access Reports,
- 3) Chatham University - http://www.chatham.edu/PTI/Everyday%20Science/Real_02.htm
- 4) Pennsylvania Department of Environmental Protection - <http://www.dep.state.pa.us/dep/deputate/minres/bmr/act54/sec7.htm>
- 5) Sevon, W. D., Fleeger, G. M., and Shepps, V. C., (1999), Pennsylvania and the Ice Age (2nd ed.): Pennsylvania Geological Survey, 4th ser., Educational Series 6, 30 p.
- 6) Pennsylvania Department of Environmental Protection - <http://www.dep.state.pa.us/MSI/WhatIsMS.html>
- 7) Durant, W., Land Subsidence in Western Pennsylvania, The Pittsburgh Geological Society.
- 8) Department of Environment Industry Profiles
- 9) Durant, W., Natural Gas Migration Problems in Western Pennsylvania, The Pittsburgh Geological Society.
- 10) Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Soil Series Classification Database - <http://soils.usda.gov/soils/technical/classification/scfile/index.html>

APPENDIX

GIS MAPS AND DATA

This map shows the major surface water features in and around the Hill. These are the Allegheny and Monongahela Rivers, the Ohio River at their confluence, and the reservoir, which is now capped. The coloring around the rivers indicates flood zones of progressively lower flood likelihood. The + symbols dotting the riverbanks show where the combined storm and sewer system overflows when high stormwater runoff overwhelms the system. These CSO events compromise water quality in the rivers because they cause sewage that is not fully treated to run into them. Stormwater retention and infiltration in the Hill can benefit water quality in the three rivers by reducing the instances of CSO.



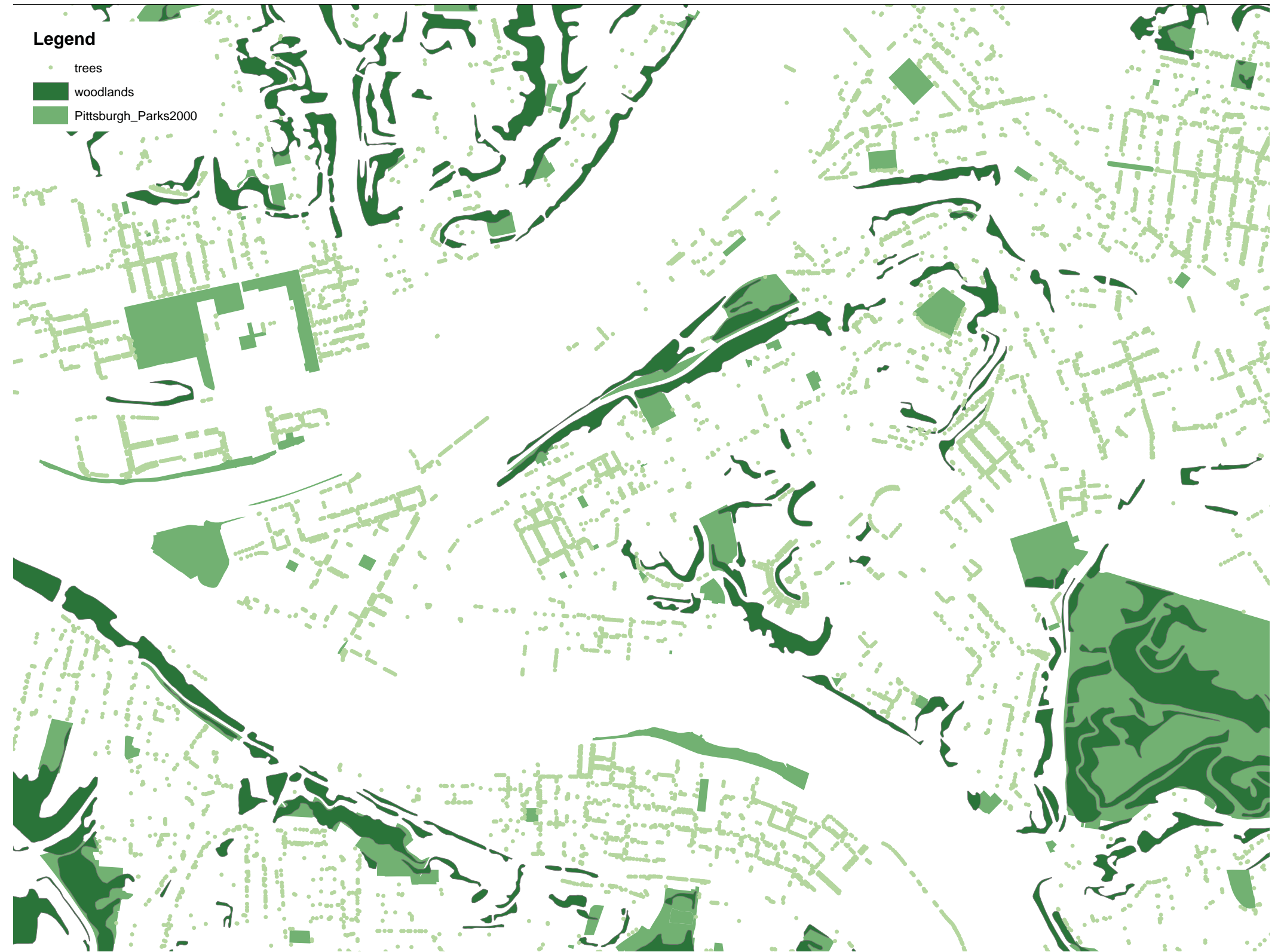


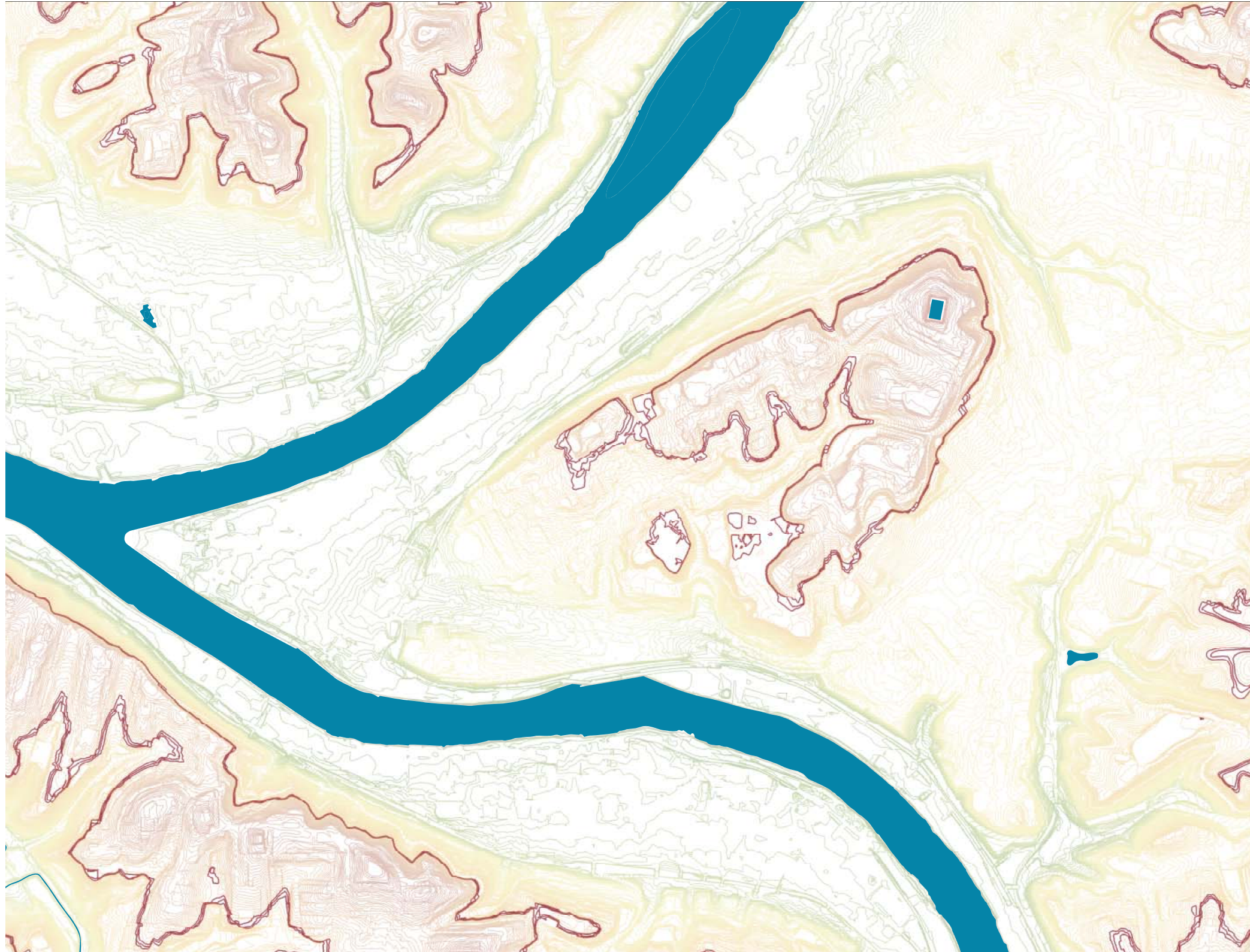
This map shows the soil types in the Hill and surrounding area. The surrounding area is included because the soils map illustrates potential historic paths of the Allegheny and Monongahela Rivers (light blue). This suggests that the steep edge slopes of the Hill were carved out by the two rivers. The varying soil types also indicate paths of creek flows within the Hill and the coal seam edge (see map in this Appendix), among other features.

APPENDIX

GIS MAPS AND DATA

This map shows existing local public vegetation in and around the Hill. Each small green circle represents an urban street tree planted and maintained within the city limits. The lighter green areas show local parks and green spaces, while the darker green areas represent large woodland patches as designated by Allegheny County.



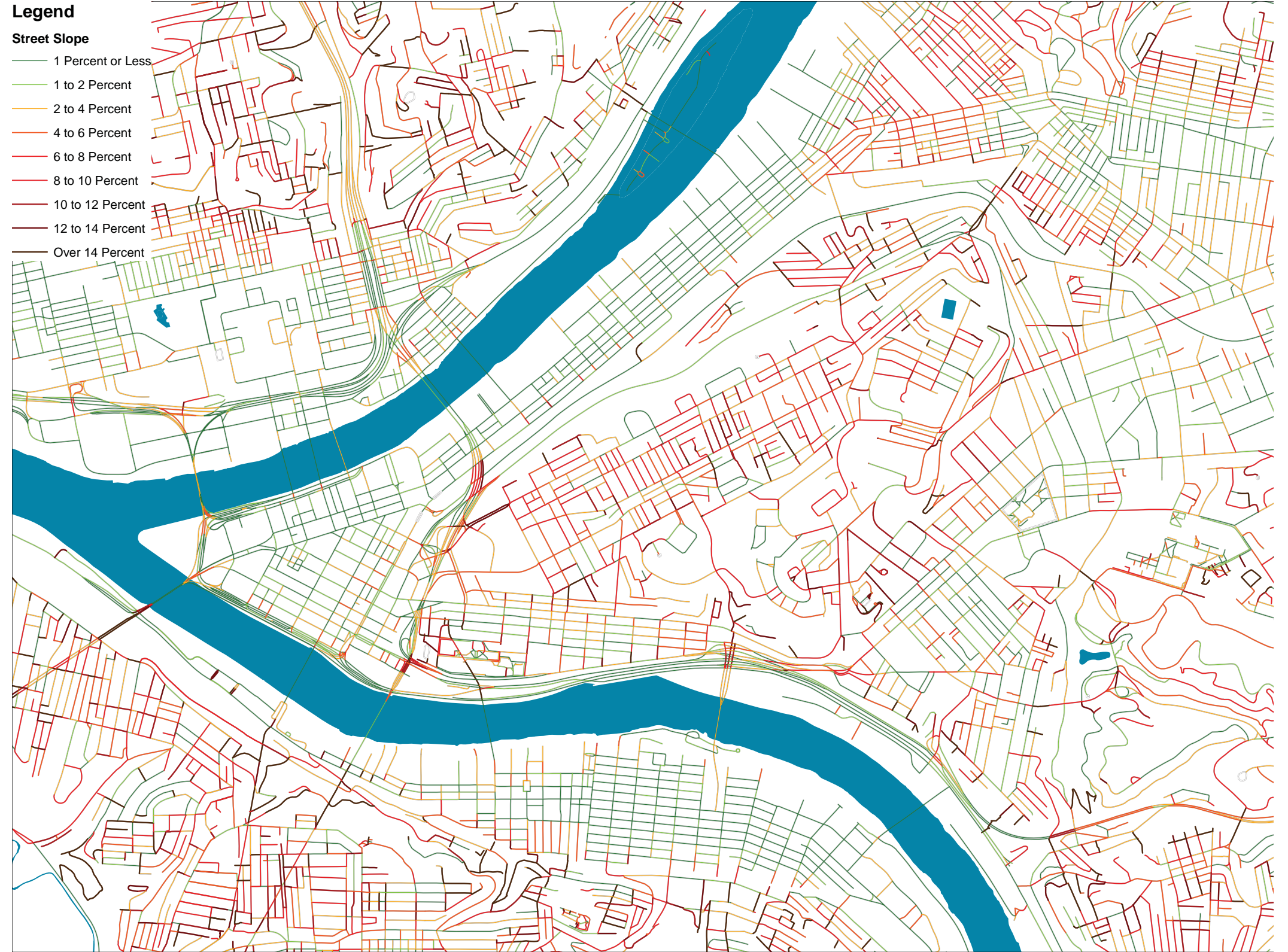


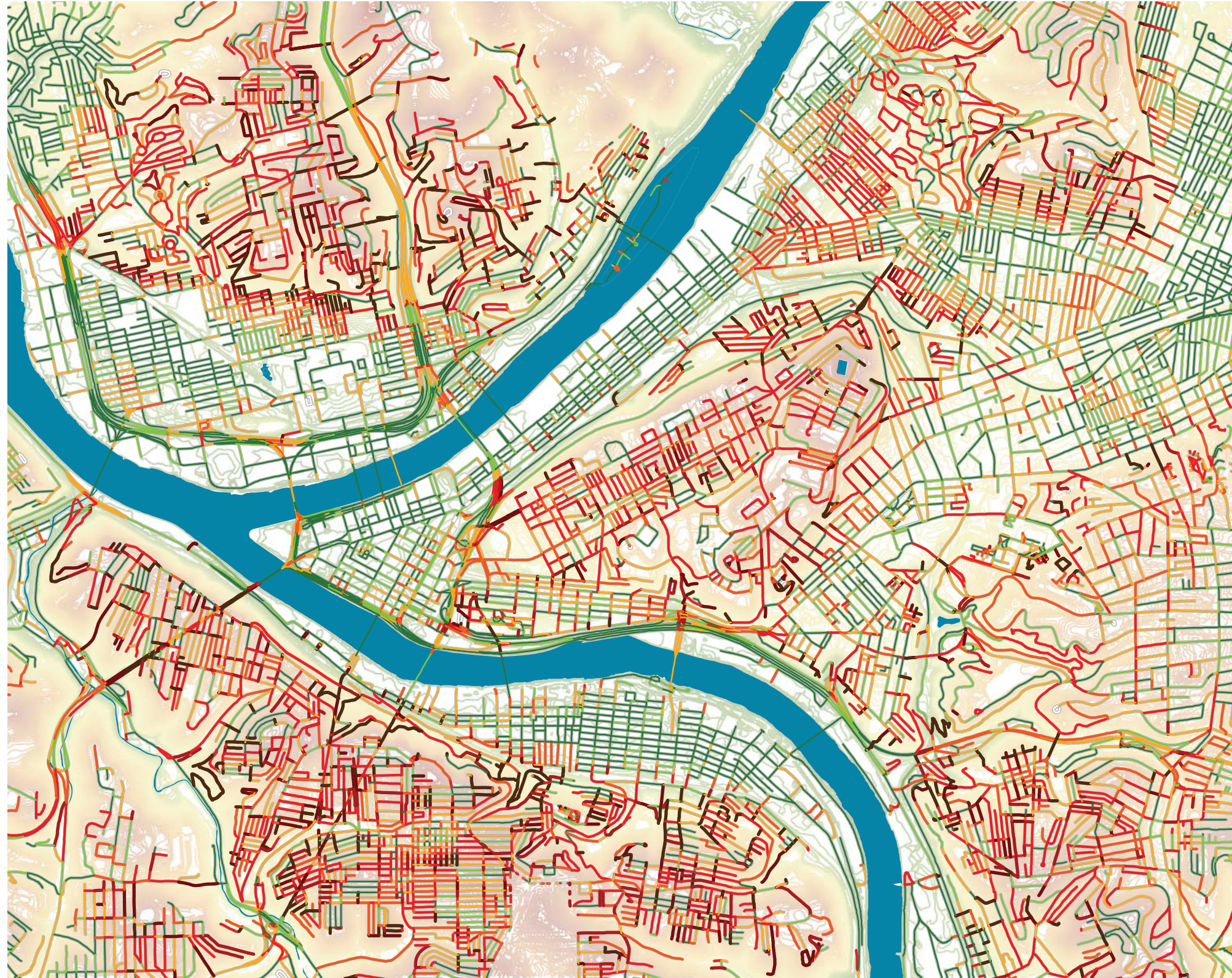
This map shows the topography of the Hill. One can see that it is comprised of several smaller hills and valleys, with somewhat of a central valley down the center on the NE/SW axis. The red lines highlight the 1055 - 1065' elevation, which is the approximate location of the coal seam. All areas that are outlined by the red lines should have the coal seam below at some depth (nearly 1/2 of the Hill). The red lines show places in the neighborhood where the coal seam should emerge from the hillside and be exposed. Sources indicate that most of the coal seam has been removed. Groundwater tends to fill the void left by mining and flow out. The red lines also indicate areas where this water is most likely to emerge at the ground surface. The coal seam edge, particularly its northern portion, seems to have influenced soil and vegetation types (see maps in this appendix).

APPENDIX

GIS MAPS AND DATA

This map shows the slopes of streets in and around the Hill. Street slopes are important in determining the suitability of an area for regular pedestrian and bicycle activity, route planning for emergency vehicles and other public and private vehicles, as well as recreational and other planning. Green lines represent street segments that are the least steep and most accessible, while the darker red lines represent those that are steepest, and could pose difficulties to walking, biking, handicapped residents, and certain types of transit.



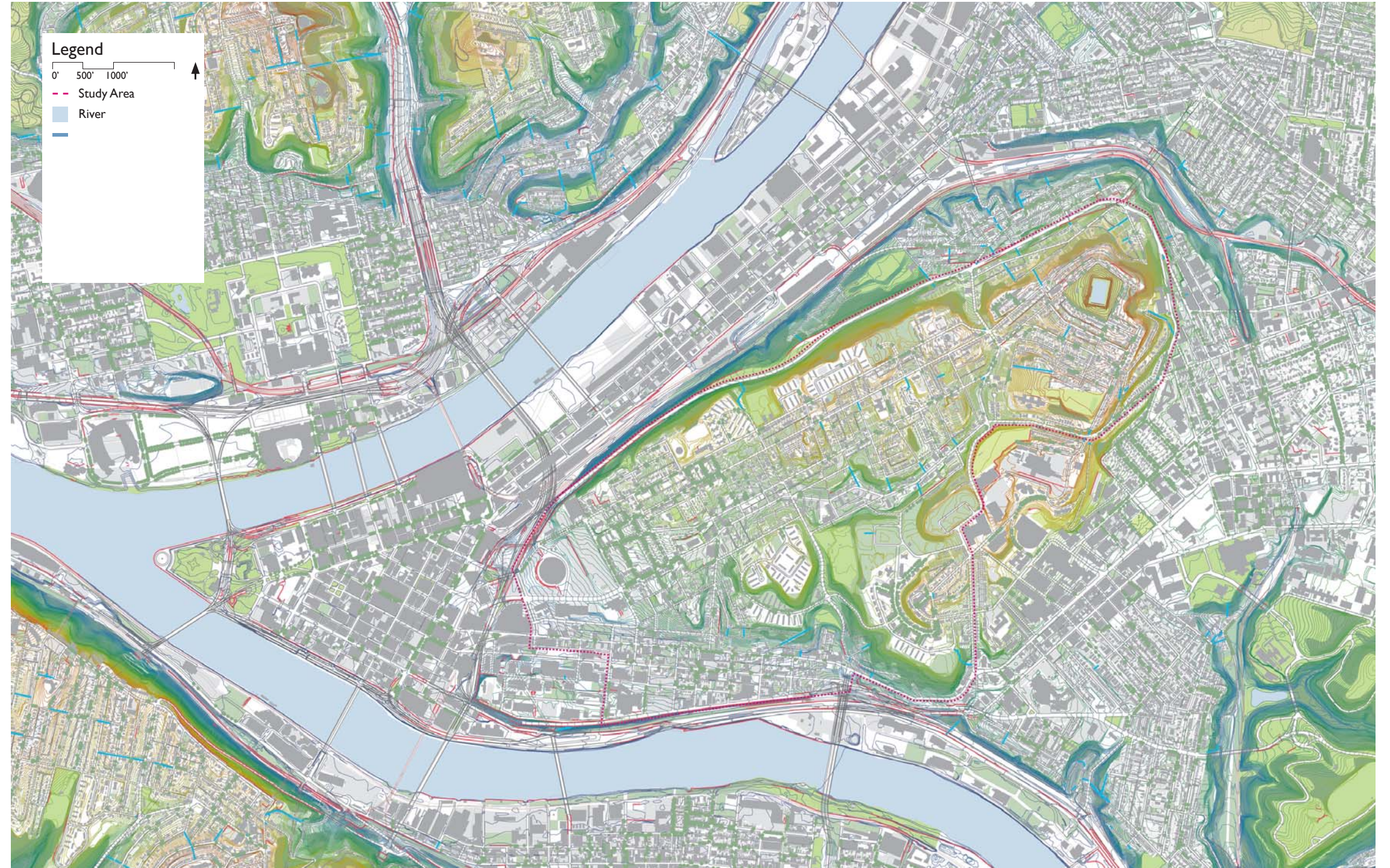


This map shows street slopes, with local topography underlaid for reference.

APPENDIX

GIS MAPS AND DATA

This base map shows a portion of the City of Pittsburgh with the Hill study area highlighted by a dashed pink line. This map illustrates how the hilltop neighborhood relates to adjacent areas and the riverfront and connects to a broader urban context.



HILL DISTRICT - BASE MAP

Map data source: City of Pittsburgh and Allegheny County GIS data



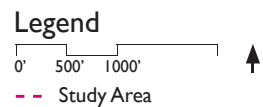
The earliest maps of Pittsburgh show a density of development at the confluence of the Allegheny and Monongahela Rivers. Further east, the landscape between is peppered with hills and valleys. From this map, it is evident that the Hill has always had a rich, diverse landscape, typified by water movement through valleys across, over and down a hilly terrain.

HILL DISTRICT - 1815

Map source: 1815 - Plan of Pittsburg and adjacent country, William Darby, University of Pittsburgh Darlington Digital Library Maps Collection

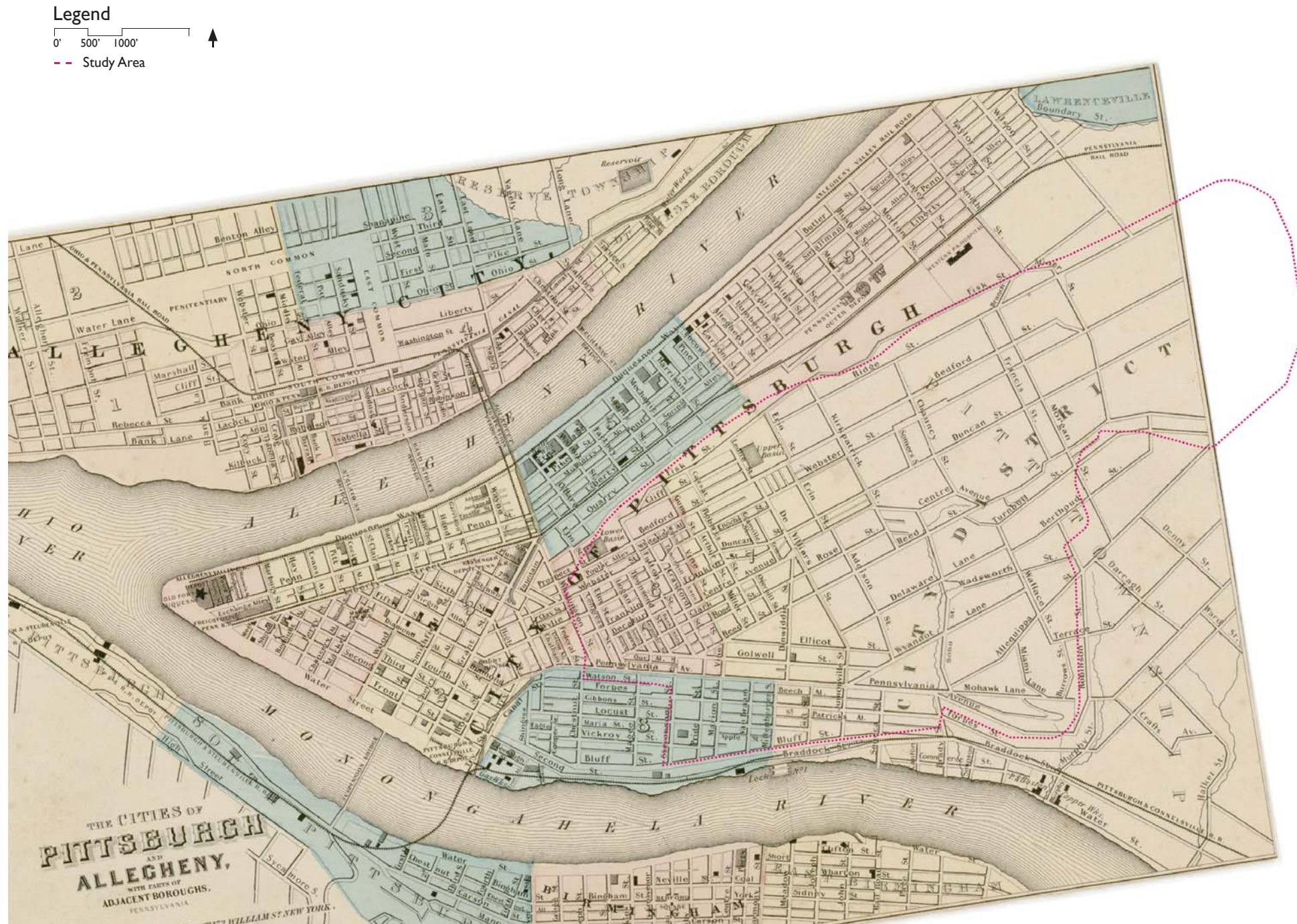
APPENDIX
GIS MAPS AND DATA

By 1835, development stretched further to the East, but the hilly terrain atop the larger Hill plateau remained largely un-built. There was a great deal of speculation and planning for future development, but construction occurred later.



HILL DISTRICT - 1835
Map source: 1835 - Map of Pittsburgh and its environs, Lewis Keyon, University of Pittsburgh Darlington Digital Library Maps Collection

This 1855 map illustrates road networks, blocks and important built landmarks. A dense development pattern is shown in the Lower Hill area. Unlike earlier maps, the cartographer shows no indication of the complex landscape on which the roads are laid.



HILL DISTRICT - 1855
Map source: 1855 - Cities of Pittsburgh and Allegheny, with parts, J. H. Colton & Co., University of Pittsburgh Darlington Digital Library Maps Collection

APPENDIX

GIS MAPS AND DATA

The Atlas of Allegheny County shows that as the Hill is developed, the presence of creeks, waterways and tributaries diminishes. The natural flow of water has been severely altered and suppressed by 1872, through the use of culverts and landfill. Water must now find its way around buildings, along curbs or through pipes to reach the river. Three distinct reservoirs can be seen on this map, two along the northern edge of the Hill and one to the east at the Herron Avenue Reservoir location..



HILL DISTRICT - 1872

Map source: 1872 - Atlas of the Cities of Pittsburgh, Allegheny and Adjoining Boroughs, University of Pittsburgh Hopkins Maps Collection

Legend

0' 500' 1000' ↑

- Study Area
- Rivers 1923
- Streams 1923
- Brick Structures
- Wood Structures
- Steel Clad Structures



The core of the Hill, bounded to the north and south by Bedford Avenue and Reed Street respectively, was densely built by 1923. The Hill had strong connections to Downtown Pittsburgh and to the adjacent neighborhoods that are now referred to as Uptown, Oakland and Polish Hill. No evidence of underlying landscape features and waterways is presented in this map.

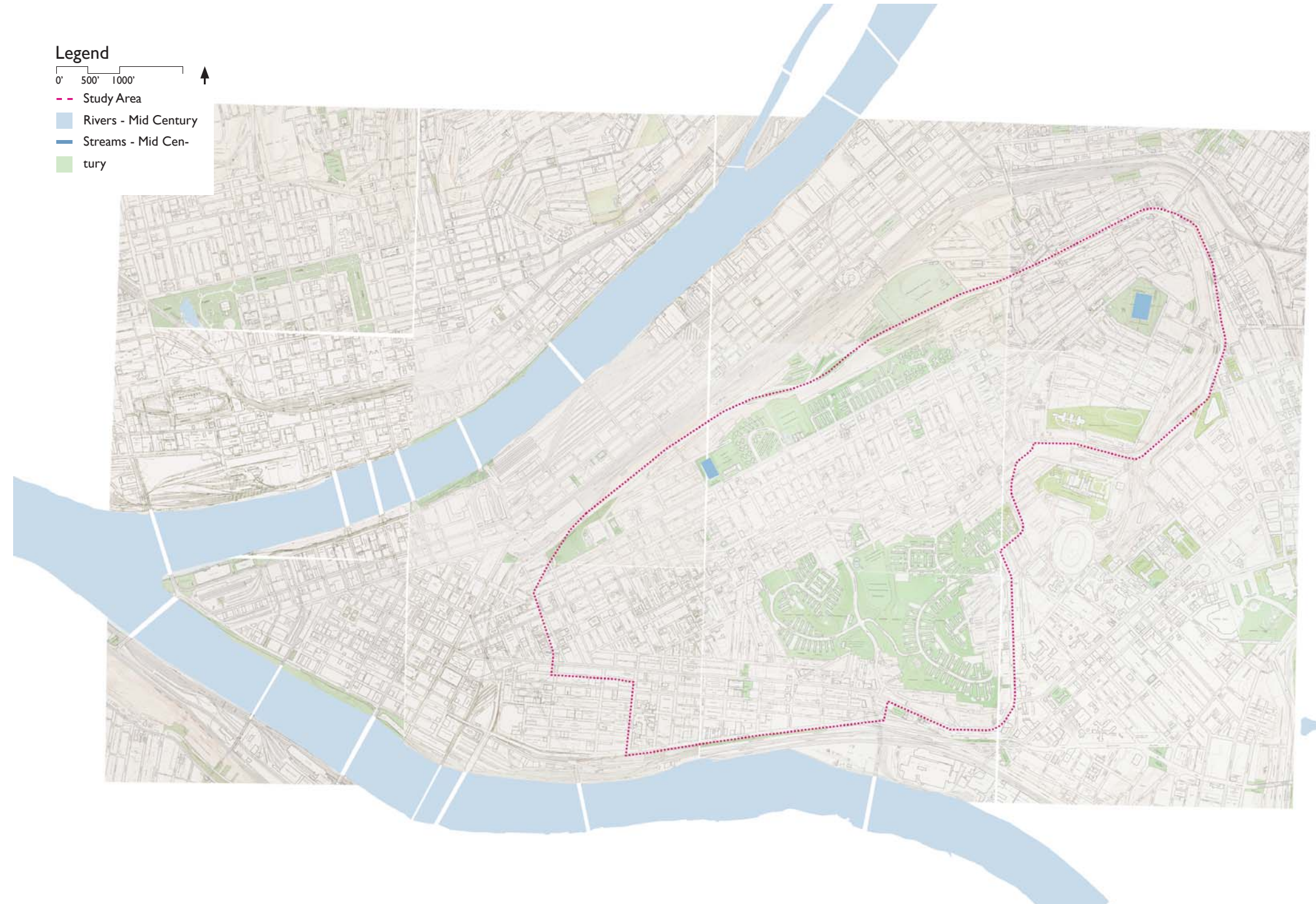
HILL DISTRICT - 1923

Map source: Real Estate Plat-Book of the City of Pittsburgh 1923 Volume 1 - Central Pittsburgh: Wards 1-6 and 9, University of Pittsburgh Hopkins Maps Collection

APPENDIX

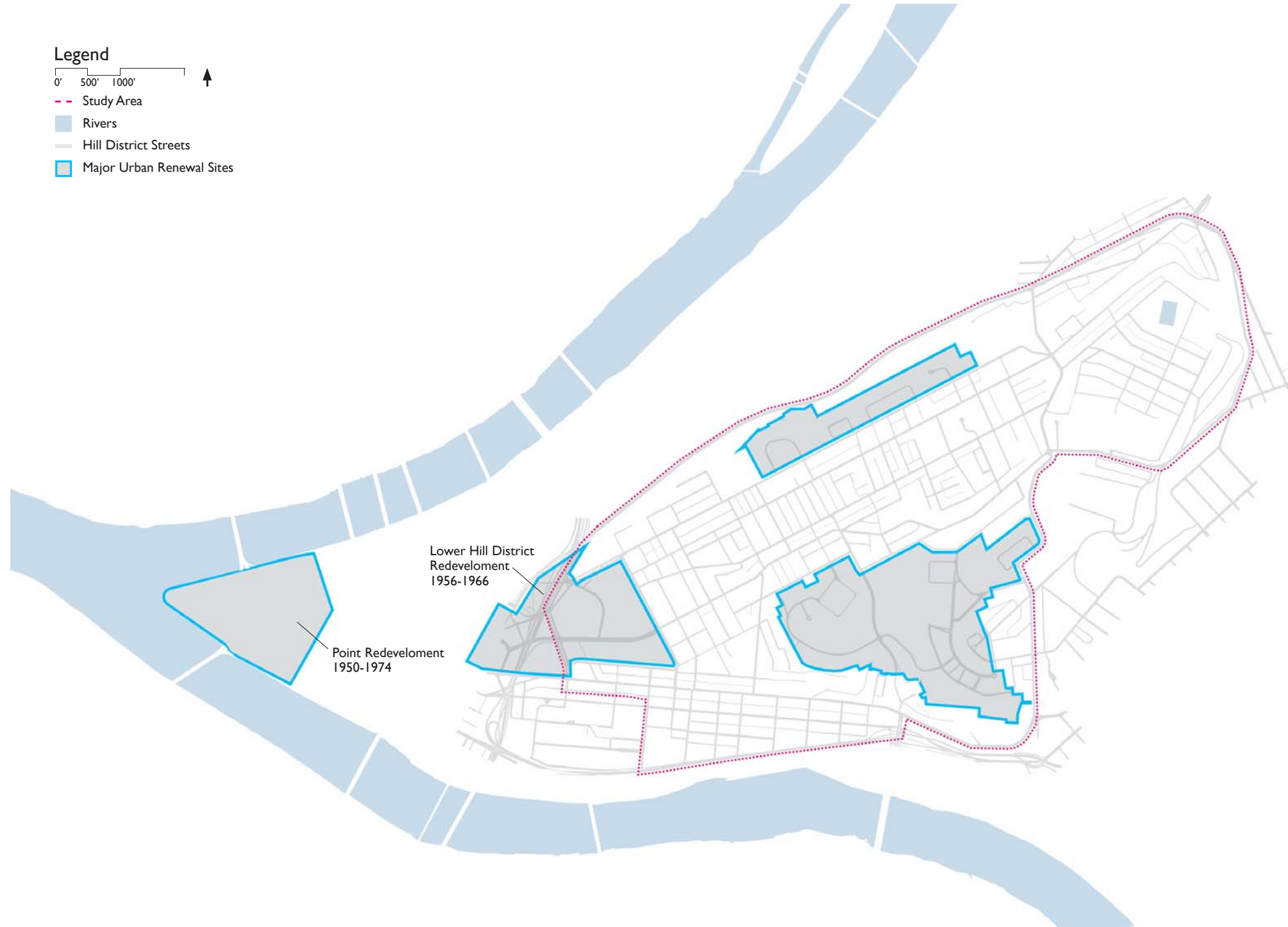
GIS MAPS AND DATA

By the middle of the twentieth century, public housing projects were developed along the northern and southern edges of the Hill. The housing projects were envisioned as green, hilltop landscapes with views of the City below. On this map, bright blue rectangles represent massive city water storage facilities: the Bedford Basin and Herron Avenue Reservoir.



HILL DISTRICT - MID 20TH CENTURY

Map source: City of Pittsburgh Geodetic and Topographic Survey Maps, 1923-1961, University of Pittsburgh Maps Collection - Maps are a mix of dates



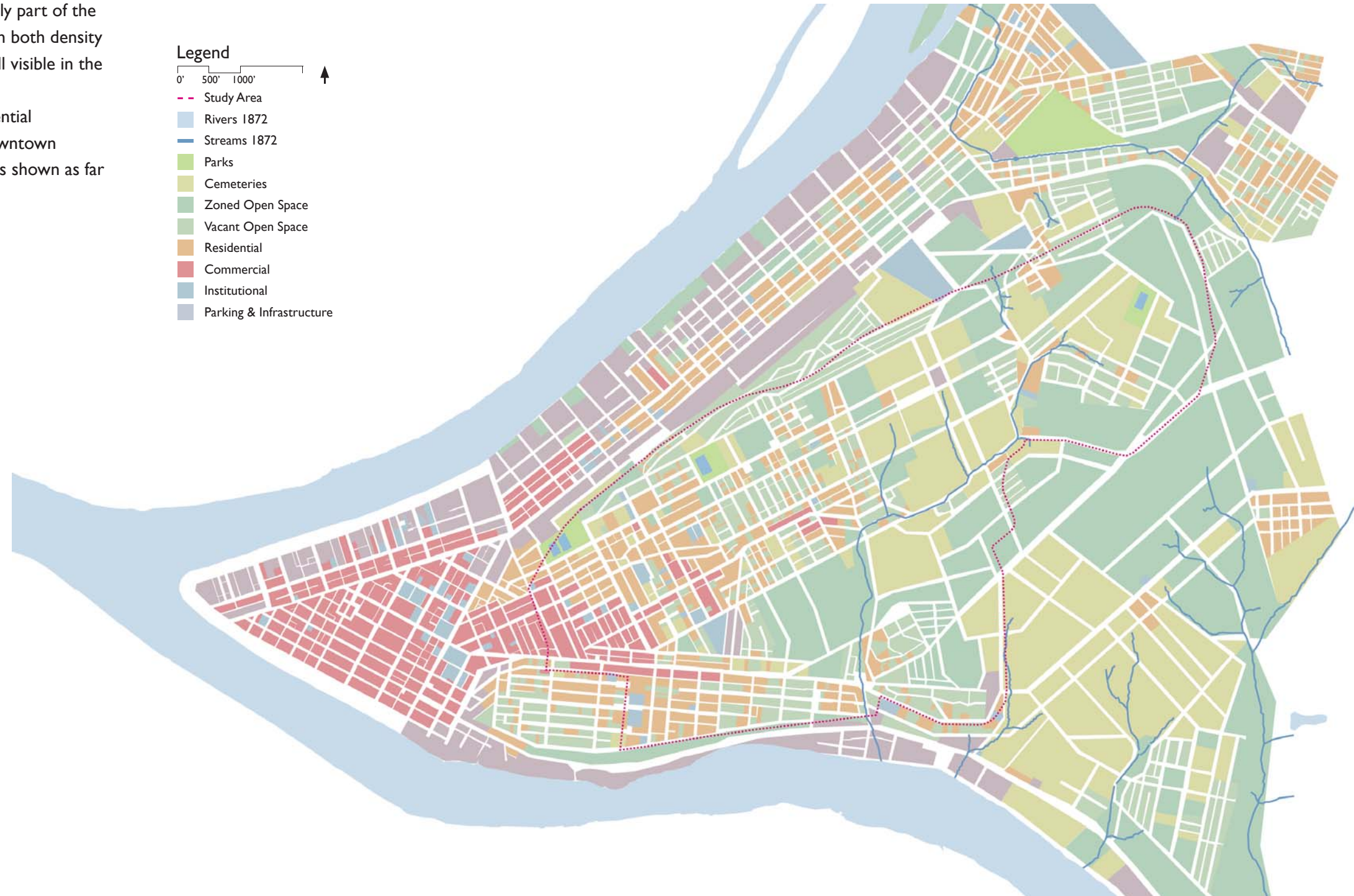
This map identifies the location of mid-century urban renewal projects across the city, as indicated by grey patches outlined in blue. The Hill was heavily impacted by urban renewal efforts. Projects included: the construction of public housing projects along the northern and southern edges of the Hill; the redevelopment of the Lower Hill into a home for the Pittsburgh Civic Light Opera; and the conversion of industrial land at the confluence of the Allegheny and Monongahela Rivers, in Downtown Pittsburgh, into Point State Park.

HILL DISTRICT - MID 20THCENTURY URBAN RENEWAL SITES
Map data source: City of Pittsburgh and Allegheny County GIS data & University of Pittsburgh Historic Maps Collection

APPENDIX

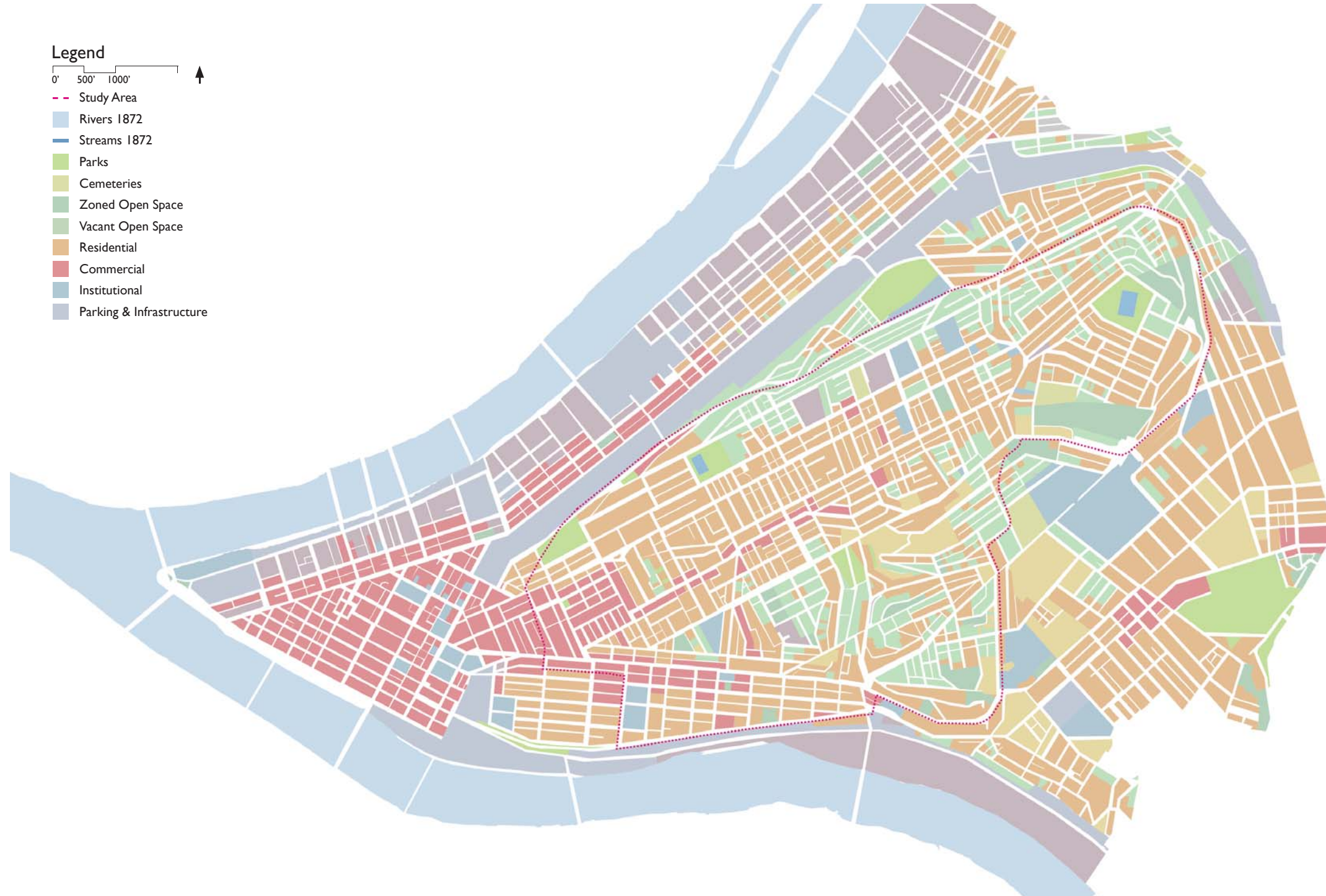
GIS MAPS AND DATA

This series of land use maps, from 1872 to the early part of the twentieth century, demonstrates a dramatic shift in both density and program over time. In 1872, streams were still visible in the Hill and eastern and southern hillsides remain less-developed. Over time, commercial and residential development grew eastward from the edge of Downtown Pittsburgh. In this map, commercial development is shown as far east as present-day Kirkpatrick Street.



HILL DISTRICT - HISTORIC LAND USE 1872

Map data source: 1872 - Atlas of the Cities of Pittsburgh, Allegheny and Adjoining Boroughs, University of Pittsburgh Hopkins Maps Collection



This series of land use maps, from 1872 to the early part of the twentieth century, demonstrates a dramatic shift in both density and program over time. In 1923, streams are no longer visible in the Hill, having been buried or covered by roadways. Eastern hillsides are being developed into residential neighborhoods, and institutional uses are being introduced along the neighborhood's northern and southern edges. By 1923, green space has been eliminated from the central core of the Hill.

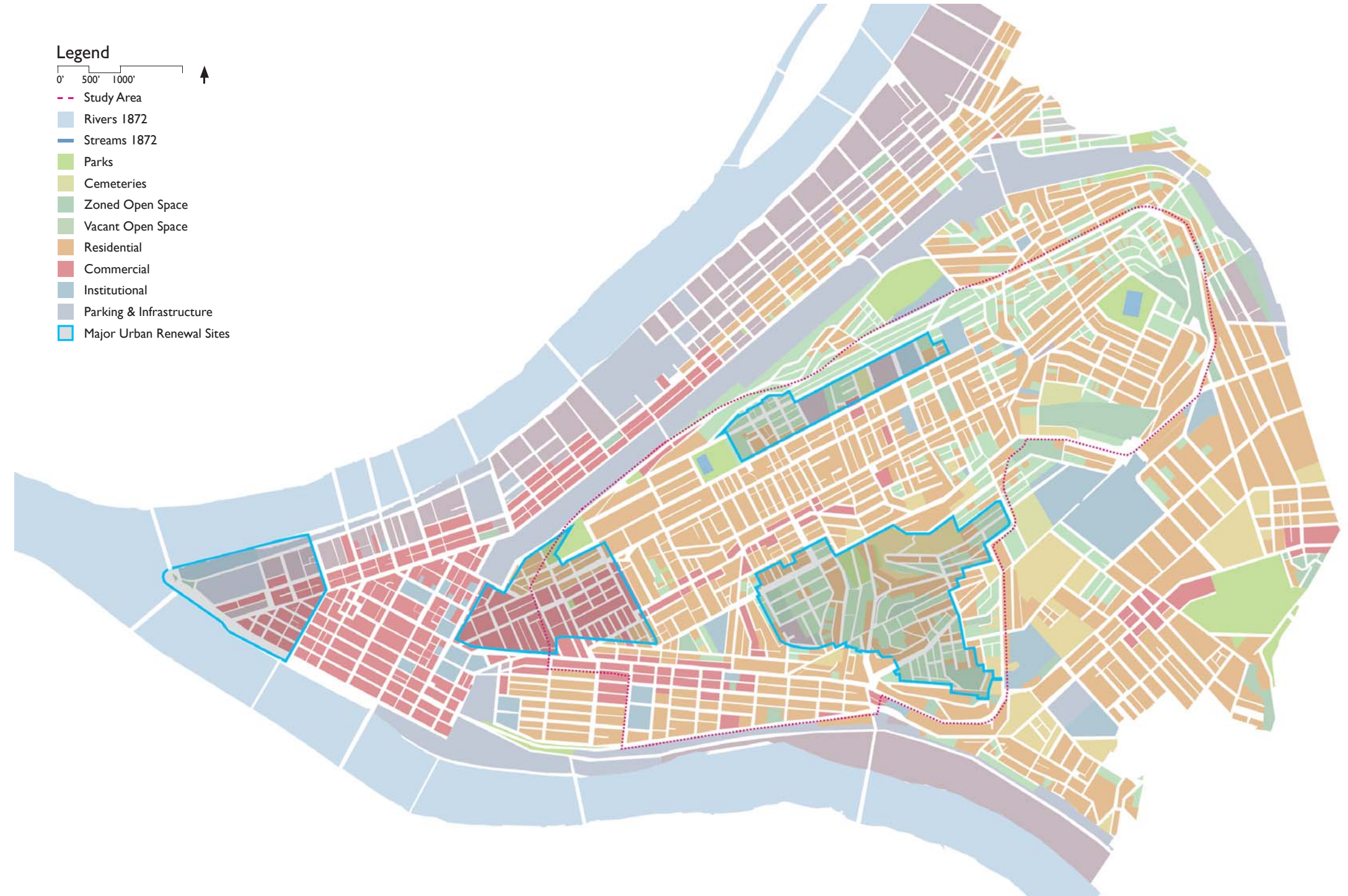
HILL DISTRICT - HISTORIC LAND USE 1923

Map data source: Real Estate Plat-Book of the City of Pittsburgh 1923 Volume 1 - Central Pittsburgh: Wards 1-6 and 9, University of Pittsburgh Hopkins Maps Collection

APPENDIX

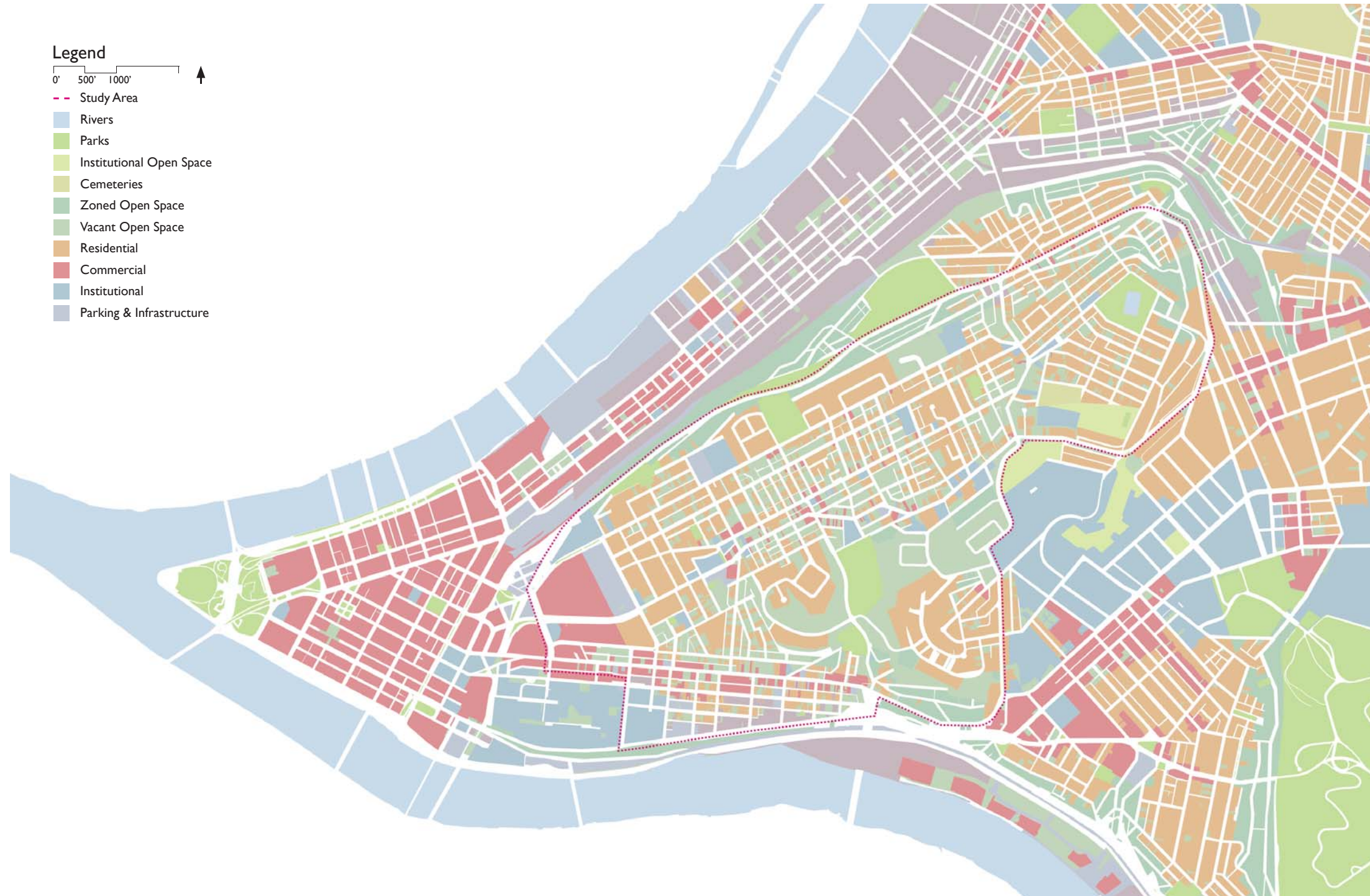
GIS MAPS AND DATA

This map overlays mid-twentieth-century urban renewal sites with the 1923 land use map. Three urban renewal sites are located within the Hill. The Civic Arena is shown to have replaced a dense commercial area in the Lower Hill. Less-dense areas along the northern and southern edges of the Hill were developed into large-scale public housing projects, some of the first of their kind in the United States.



HILL DISTRICT - HISTORIC LAND USE 1923 + URBAN RENEWAL SITES

Map data source: Real Estate Plat-Book of the City of Pittsburgh 1923 Volume I - Central Pittsburgh: Wards 1-6 and 9, University of Pittsburgh Hopkins Maps Collection



The present-day land use map contrasts strongly with earlier, historic maps. Green space is once again present within the central Hill where buildings were removed over time. Commercial and some institutional uses are mainly clustered along Centre and Wylie Avenues. Public housing projects, sited on southern hilltops, are geographically isolated by green hillsides, and large institutions located in the Oakland neighborhood have a strong presence along the Hill's southeastern edge.

HILL DISTRICT - LAND USE
Map data source: City of Pittsburgh and Allegheny County GIS data

APPENDIX

GIS MAPS AND DATA

The series of Historic Circulation maps, from 1815 to 1872, show how the network of roads, streets, highways and railways extended eastward from Downtown Pittsburgh. This series also illustrates how roads often followed existing creeks and waterways, following the easiest navigation paths through the Hill's complex hilly landscape. The 1815 map shows little more than a spine road extending eastward from Downtown Pittsburgh towards Herron Avenue.



HILL DISTRICT - HISTORIC CIRCULATION HIERARCHY 1815
Map data source: City of Pittsburgh and Allegheny County GIS data



The series of Historic Circulation maps, from 1815 to 1872, show how the network of roads, streets, highways and railroads extended eastward from Downtown Pittsburgh. This series also illustrates how roads often followed existing creeks and waterways, following the easiest navigation paths through the Hill's complex hilly landscape. The 1855 map shows an expanded circulation network, with parallel roads extending from Downtown Pittsburgh towards Herron Avenue. Several cross streets are also present in the relatively dense Lower Hill area. A canal, connecting the Allegheny and Monongahela Rivers, is shown passing through Grant's Hill in the area between Downtown and the Hill. Railroad lines are also indicated on relatively flat land parallel to the riverfront.

HILL DISTRICT - HISTORIC CIRCULATION HIERARCHY 1855
Map data source: City of Pittsburgh and Allegheny County GIS data

APPENDIX

GIS MAPS AND DATA

The series of Historic Circulation maps, from 1815 to 1872, show how the network of roads, streets, highways and railways extended eastward from Downtown Pittsburgh. This series also illustrates how roads often followed existing creeks and waterways, following the easiest navigation paths through the Hill's complex hilly landscape. The circulation network in the Hill is denser than it was in 1855, and the grid of roadways in Downtown Pittsburgh is more complete. The canal shown on the 1855 map is no longer present, and train stations are now shown in flat areas along the riverfronts.



HILL DISTRICT - HISTORIC CIRCULATION HIERARCHY 1872
Map data source: City of Pittsburgh and Allegheny County GIS data



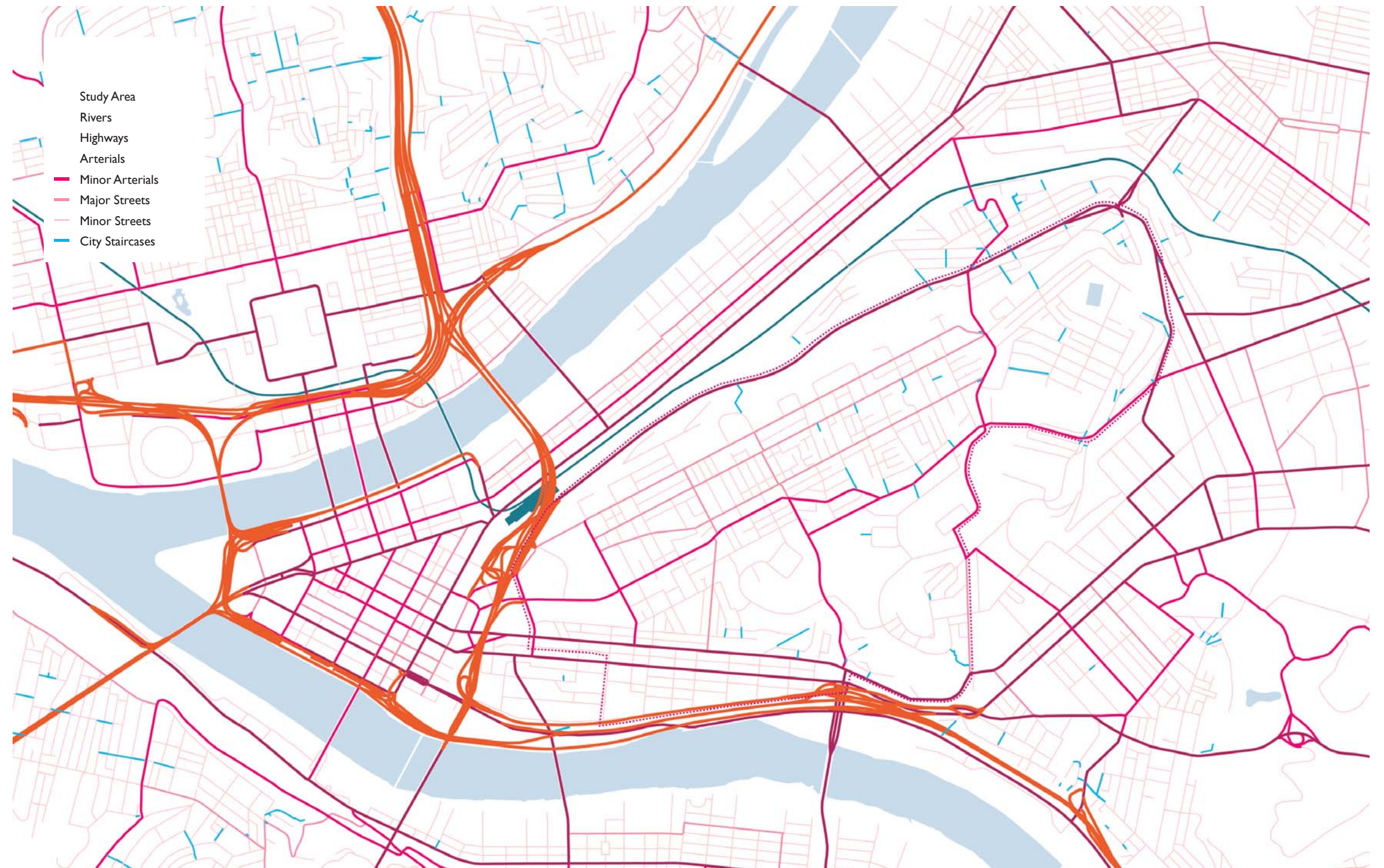
The series of Historic Circulation maps, from 1815 to 1872, show how the network of roads, streets, highways and railways extended eastward from Downtown Pittsburgh. This series also illustrates how roads often followed existing creeks and waterways, following the easiest navigation paths through the Hill's complex hilly landscape. The circulation network in the Hill is dense within the central core of the Hill, and roadways are expanding into the less developed edges of the neighborhood as well. An incline is shown along the northern edge of the neighborhood, connecting the Hill directly with the Strip District neighborhood below. A connection across Bigelow Boulevard is also shown, connecting the neighborhood to the neighborhood currently referred to as Polish Hill.

HILL DISTRICT - HISTORIC CIRCULATION HIERARCHY 1923
Map data source: Real Estate Plat-Book of the City of Pittsburgh 1923 Volume 1 - Central Pittsburgh: Wards 1-6 and 9, University of Pittsburgh Hopkins Maps Collection

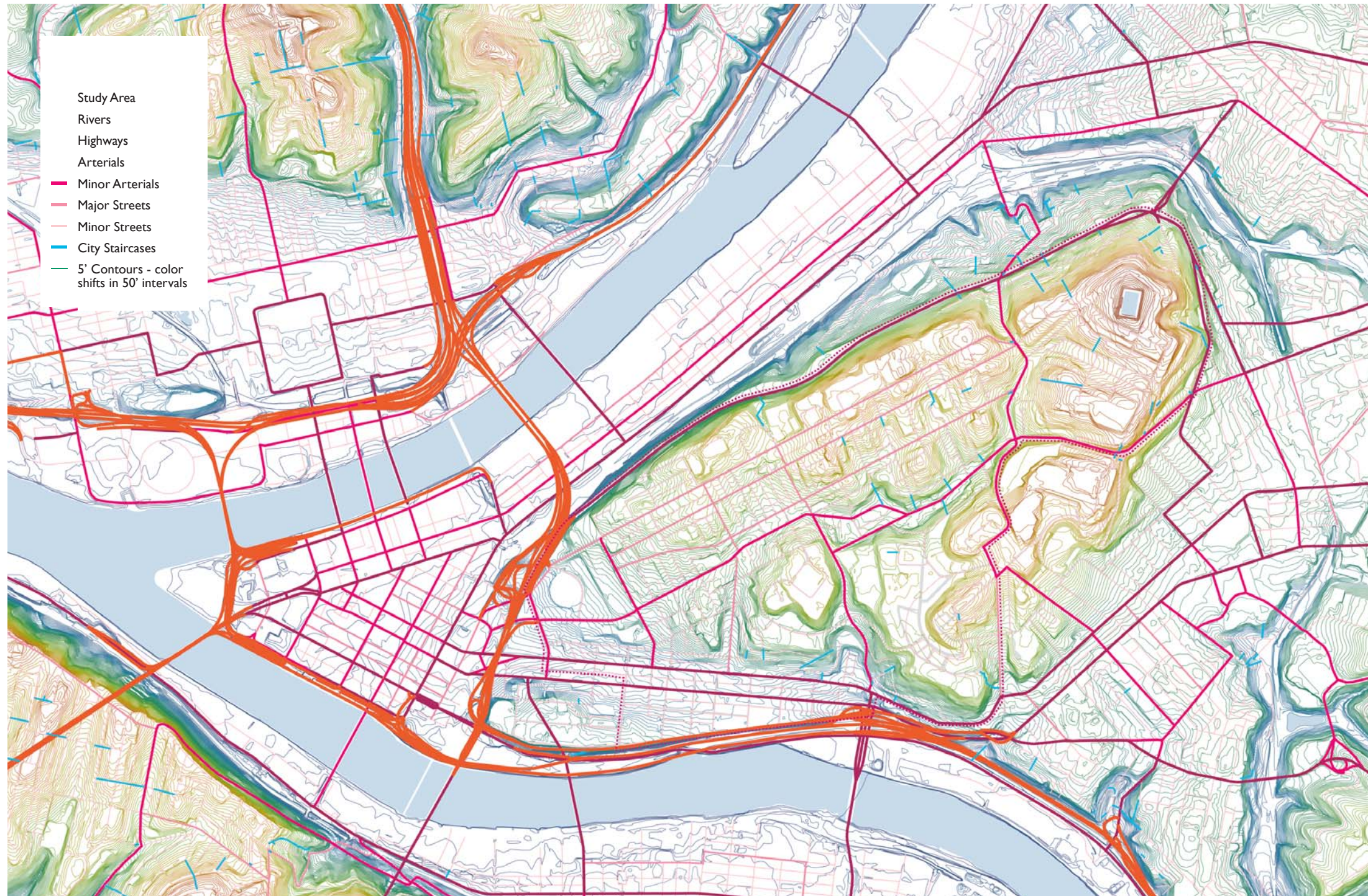
APPENDIX

GIS MAPS AND DATA

The series of Historic Circulation maps, from 1815 to 1872, show how the network of roads, streets, highways and railways extended eastward from Downtown Pittsburgh. This series also illustrates how roads often followed existing creeks and waterways, following the easiest navigation paths through the Hill's complex hilly landscape. Railroad transit continues to be an important means for moving large cargo through the region. Connections between the Hill and the Strip District and Polish Hill have been compromised due to the removal of the incline and stairway connections between the neighborhoods. The contemporary circulation map also reveals the impact of the Cross-Town Expressway, the highway that divides Downtown Pittsburgh from the Hill. Vehicular movement is now the dominant means of circulating through the city.



HILL DISTRICT - CIRCULATION HIERARCHY
Map data source: City of Pittsburgh and Allegheny County GIS data



The combination of the contemporary circulation map and the topography shows that major north-south streets meander up and down the hillsides through former creek beds. Major west-east roadways are more rigid in their path, unwavering as they stretch across the hilly landscape towards Herron Hill.

HILL DISTRICT - CIRCULATION HIERARCHY + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data

APPENDIX

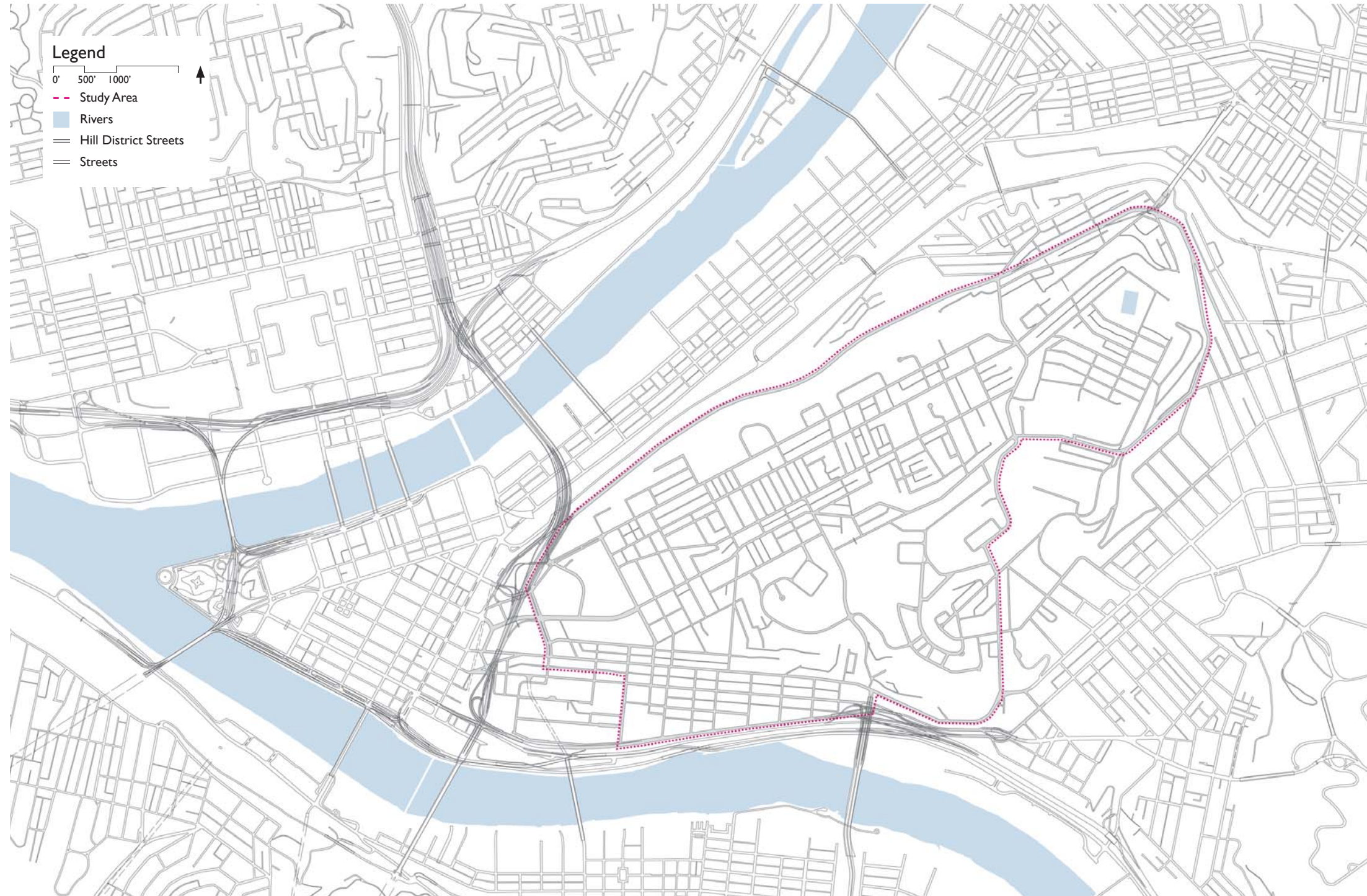
GIS MAPS AND DATA

The topography map reveals the uniqueness of Hill's landscape. Though it is not always evident in maps, the hills and creek beds that were evident in the 1815 map of Pittsburgh still exist beneath the streets and structures that were built over time.



HILL DISTRICT - TOPOGRAPHY

Map data source: City of Pittsburgh and Allegheny County GIS data



The present-day street grid, highway network and bridges are shown here.

HILL DISTRICT - STREETS
Map data source: City of Pittsburgh and Allegheny County GIS data

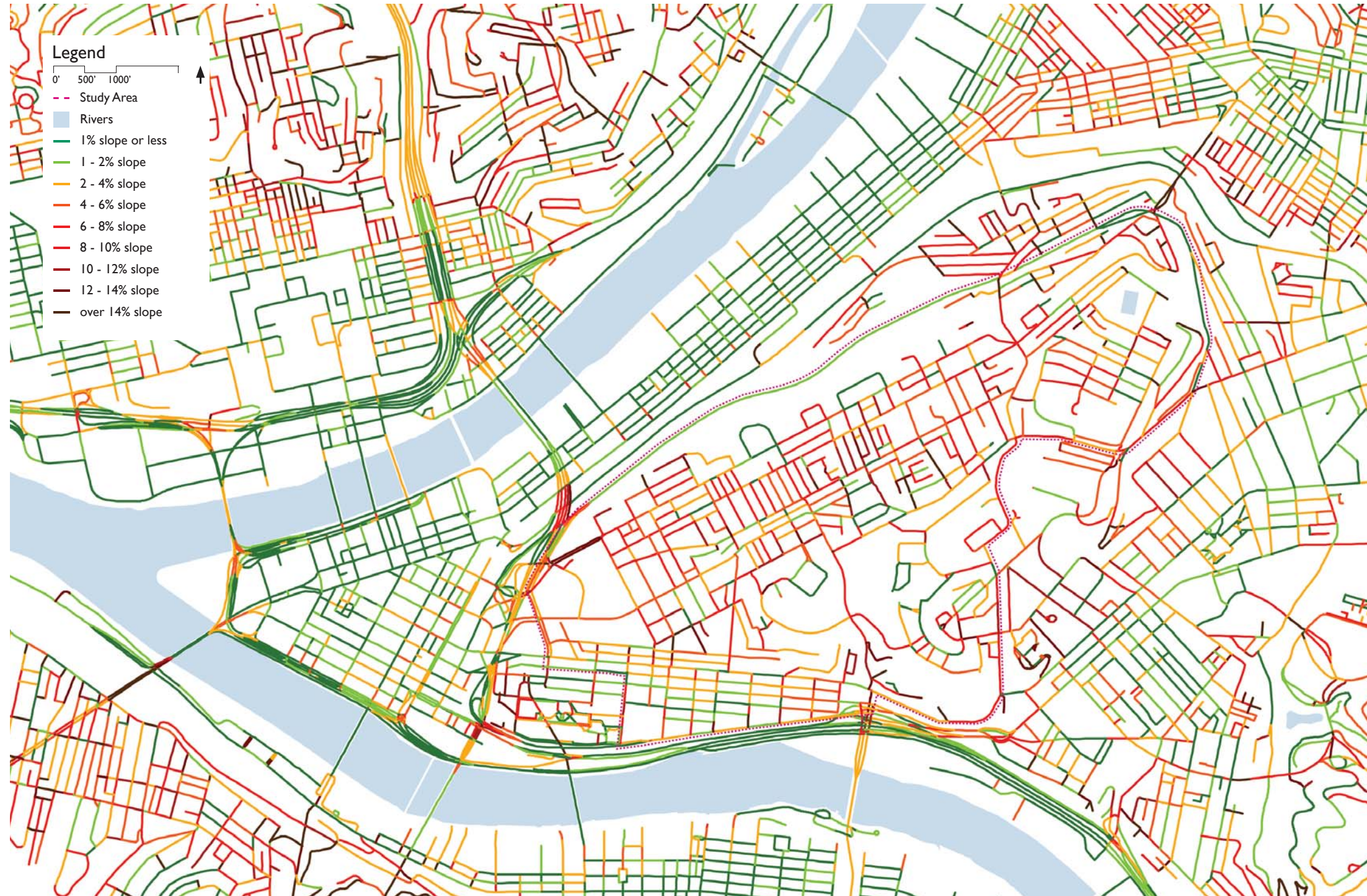
APPENDIX

GIS MAPS AND DATA

Complex topography contributed to irregularities in the development of the Hill's road network. Steep topography is also the reason that there are limited locations from which the Hill can be accessed from other neighborhoods.



HILL DISTRICT - STREETS + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - STREETS BY PERCENT SLOPE
Map data source: City of Pittsburgh and Allegheny County GIS data

This map shows streets by percentage of slope. Green indicates areas that are relatively flat. Red shows moderate slopes and brown indicates steep conditions. Nearly every street in the Hill has a moderate to steep slope. Connections to adjacent neighborhoods are especially challenging for pedestrians to traverse due to the incline of roadways and sidewalks.

APPENDIX

GIS MAPS AND DATA

An extensive network of retaining walls and stairs is needed to navigate the Hill's steep landscape. This map illustrates the rich network of paths, stairways and other structures in the Hill that help pedestrians traverse the hilly landscape. This map also highlights locations where passage is necessary, but a street or road is not possible.



HILL DISTRICT - CITY STAIRCASES & RETAINING WALLS
Map data source: City of Pittsburgh and Allegheny County GIS data



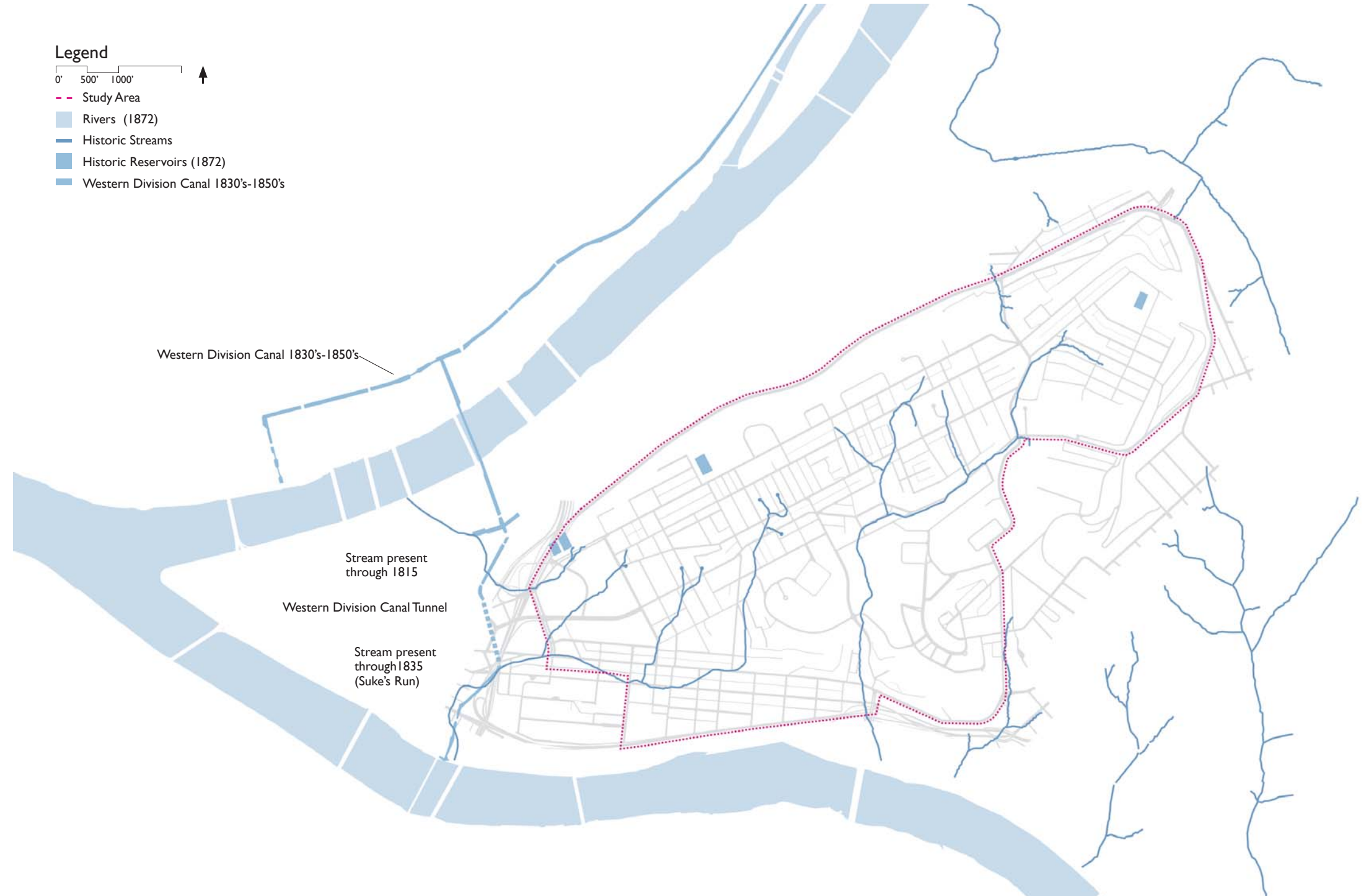
HILL DISTRICT - CITY STAIRCASES + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data

This map shows where the topography makes staircases necessary for pedestrian passage within the Hill, or between neighborhoods, at locations where there is significant elevation changes. Portions of the northern plateau edge are too steep for stairs to be of use. An incline was once located at this location, providing a direct, mechanical connection from the Hill to the Strip District below.

APPENDIX

GIS MAPS AND DATA

The Historic Creeks, Reservoirs and Canals map illustrates the significant role of water in Pittsburgh's landscape. A basic life-supporting necessity, water also provides a means of transport that we continue to use today. The historic creeks and streams carved the land into the distinctive city neighborhoods that exist today. The Hill's historic creeks and streams have since been repurposed as roadbeds, facilitating the movement of cars and people up and down the hillsides.



HILL DISTRICT - HISTORIC CREEKS, RESERVOIRS & CANALS
Map data source: City of Pittsburgh and Allegheny County GIS data & University of Pittsburgh Historic Maps Collection



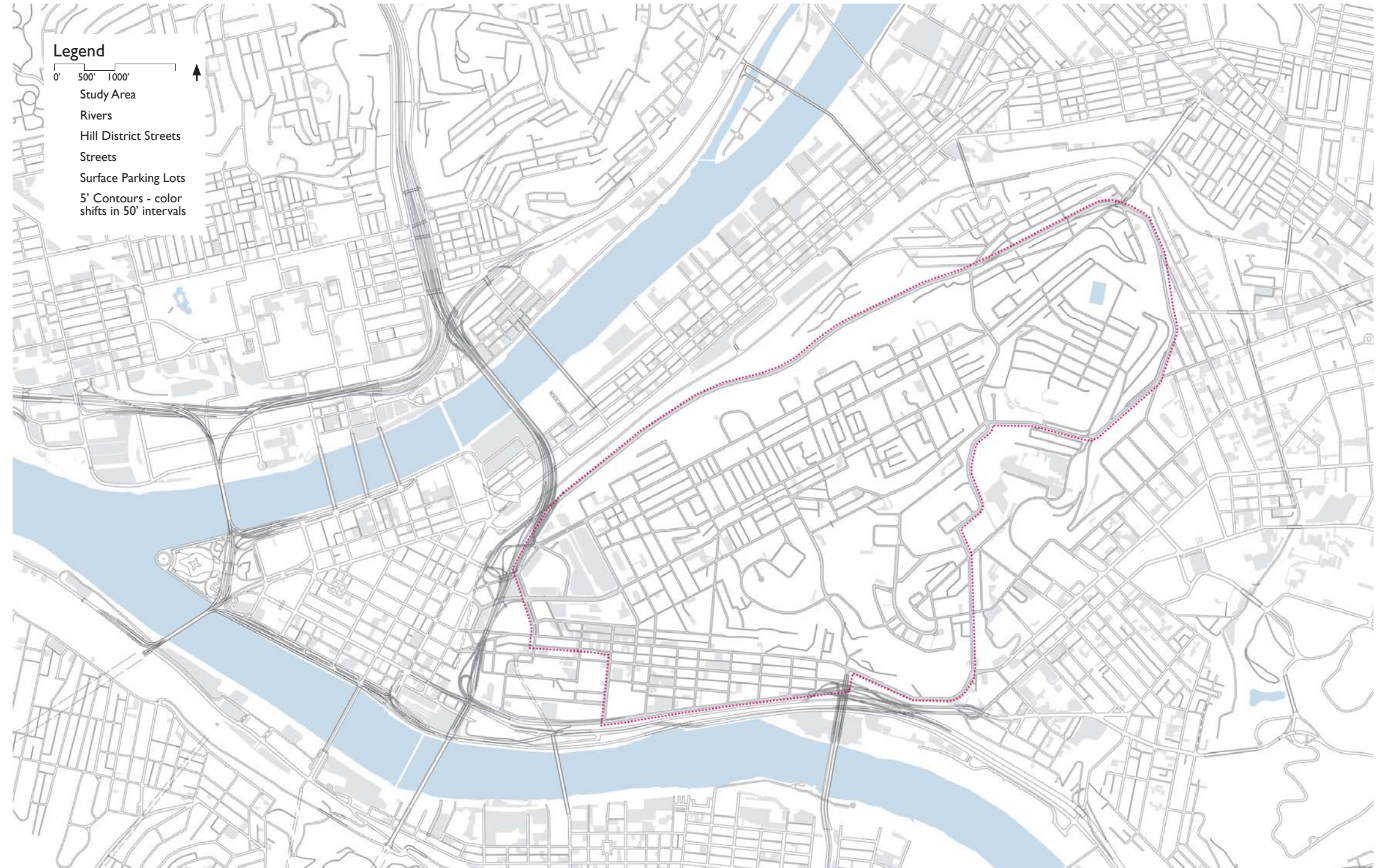
HILL DISTRICT - HISTORIC CREEKS, RESERVOIRS & CANALS + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data

As clearly depicted here in the adjacent map, the valleys act as conduits for water to travel from the highest elevations to the rivers. The historic creeks and streams carved the land into the distinctive city neighborhoods that exist today. The Hill's historic creeks and streams have since been repurposed as roadbeds, facilitating the movement of cars and people up and down the hillsides.

APPENDIX

GIS MAPS AND DATA

This map shows all impervious, ground level surface areas where rainwater is not able to soak into the earth to recharge the ground water. The resulting storm water runoff must either be directed off-site, or collected in place for eventual slow release or evaporation. Impervious ground surfaces include paved asphalt or concrete roadways, parking areas and sidewalks.



HILL DISTRICT - IMPERVIOUS SURFACES
Map data source: City of Pittsburgh and Allegheny County GIS data



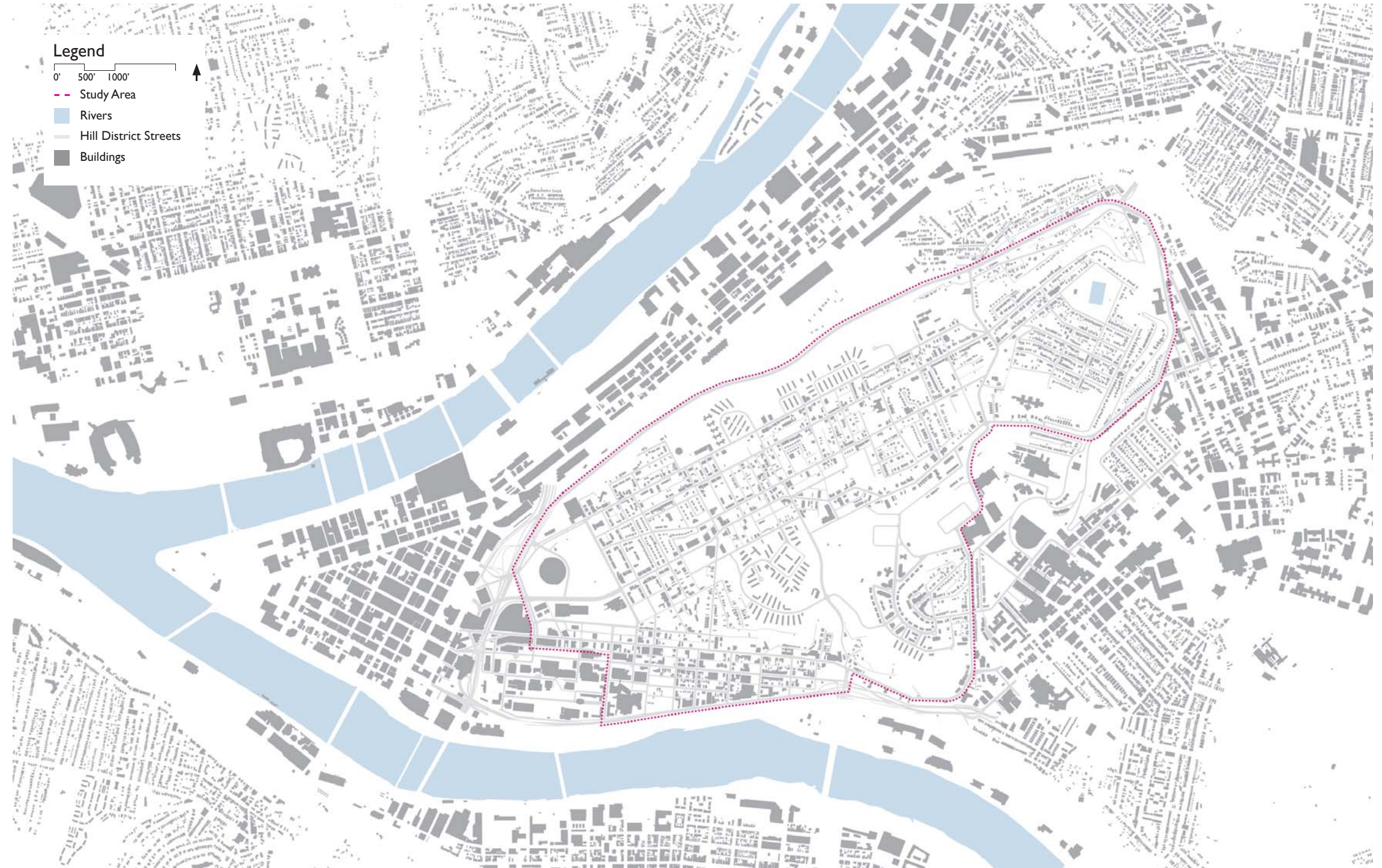
This illustration combines impervious surfaces and topography maps to demonstrate discrepancies between where water would naturally go and where it is forced to go based on the slope and location of the surface it lands upon. Storm water would naturally pass over pervious surfaces on its way to creek and streambeds. This natural process is interrupted in the built environment by streets, gutters, storm inlets, curbs and paved surfaces.

HILL DISTRICT - IMPERVIOUS SURFACES + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data

APPENDIX

GIS MAPS AND DATA

This map of buildings in and around the Hill provides a clear sense of building sizes, density and location in the defined study area.

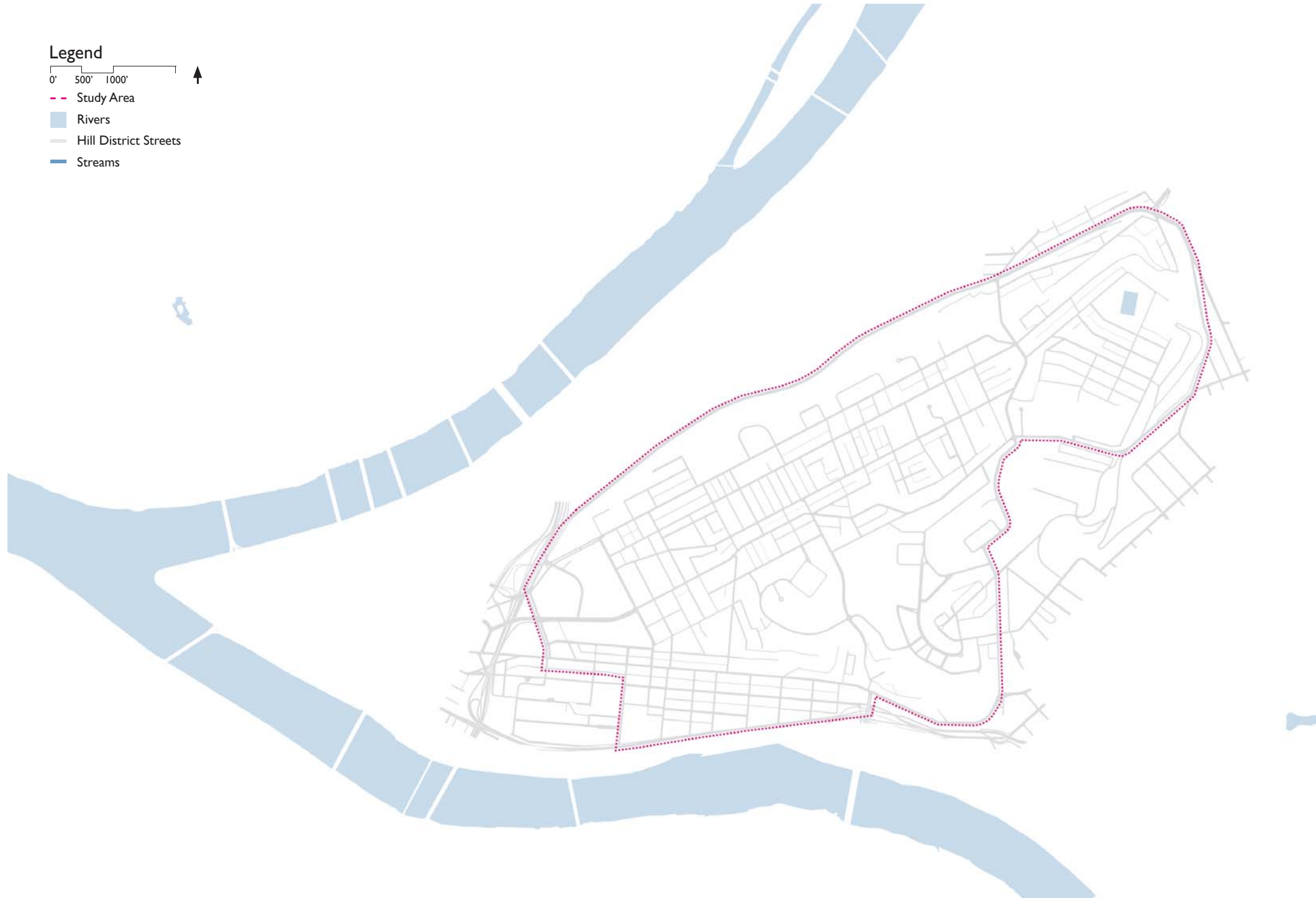


HILL DISTRICT - BUILDINGS
Map data source: City of Pittsburgh and Allegheny County GIS data

Legend

0' 500' 1000' ↑

- - - Study Area
- Rivers
- Hill District Streets
- Streams



No surface streams currently feed into the Allegheny or Monongahela Rivers from the Hill.

HILL DISTRICT - RIVERS & STREAMS
Map data source: City of Pittsburgh and Allegheny County GIS data

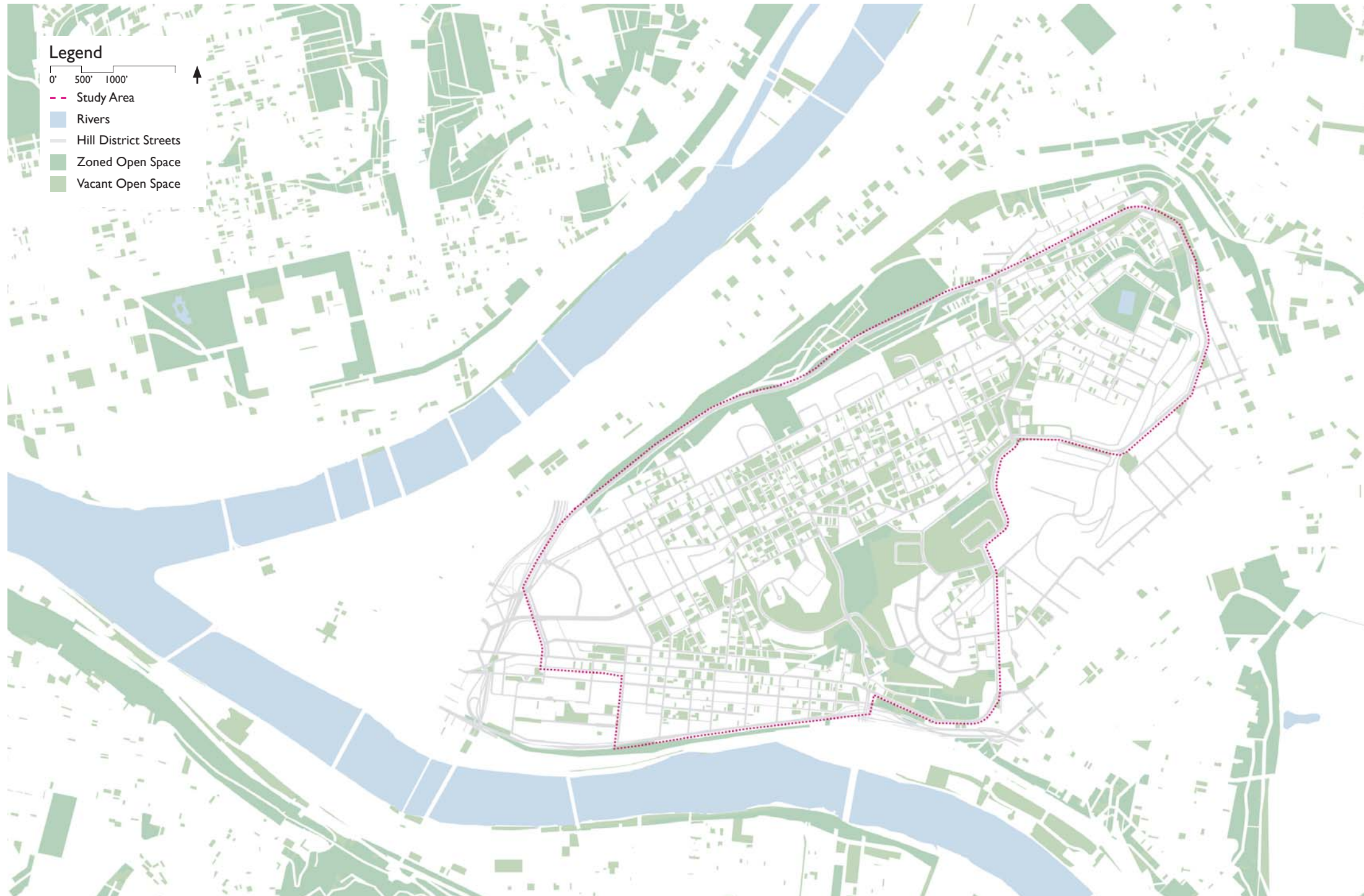
APPENDIX

GIS MAPS AND DATA

The map shows places in and around the Hill that are zoned as park, are identified as cemeteries, or comprise a part of large expanses of open space in association with an institutional entity.



HILL DISTRICT - PARKS & INSTITUTIONAL OPEN SPACE
Map data source: City of Pittsburgh and Allegheny County GIS data



This map illustrates green space in the Hill resulting from vacancy. These green lots have been designated *open* or *vacant* land by the City of Pittsburgh. This map also includes the significant amount of landscaped areas that exist within public housing projects.

HILL DISTRICT - OPEN LAND: ZONED OPEN SPACE & VACANT LAND
Map data source: City of Pittsburgh and Allegheny County GIS data

The green shapes in this map represent tree cover, including tree-lined streets along with larger woodland areas.



HILL DISTRICT - TREE CANOPY
Map data source: City of Pittsburgh and Allegheny County GIS data



This illustration compiles all parks, cemeteries, vacant land, public housing and institutional landscape areas, woodlands and street trees into a comprehensive map of the Hill's green space.

HILL DISTRICT - GREEN SPACE: PARKS + OPEN LAND + TREE CANOPY
Map data source: City of Pittsburgh and Allegheny County GIS data

APPENDIX

GIS MAPS AND DATA

The map of the Hill's green space is enhanced by the addition of topography.



HILL DISTRICT - GREEN SPACE + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data



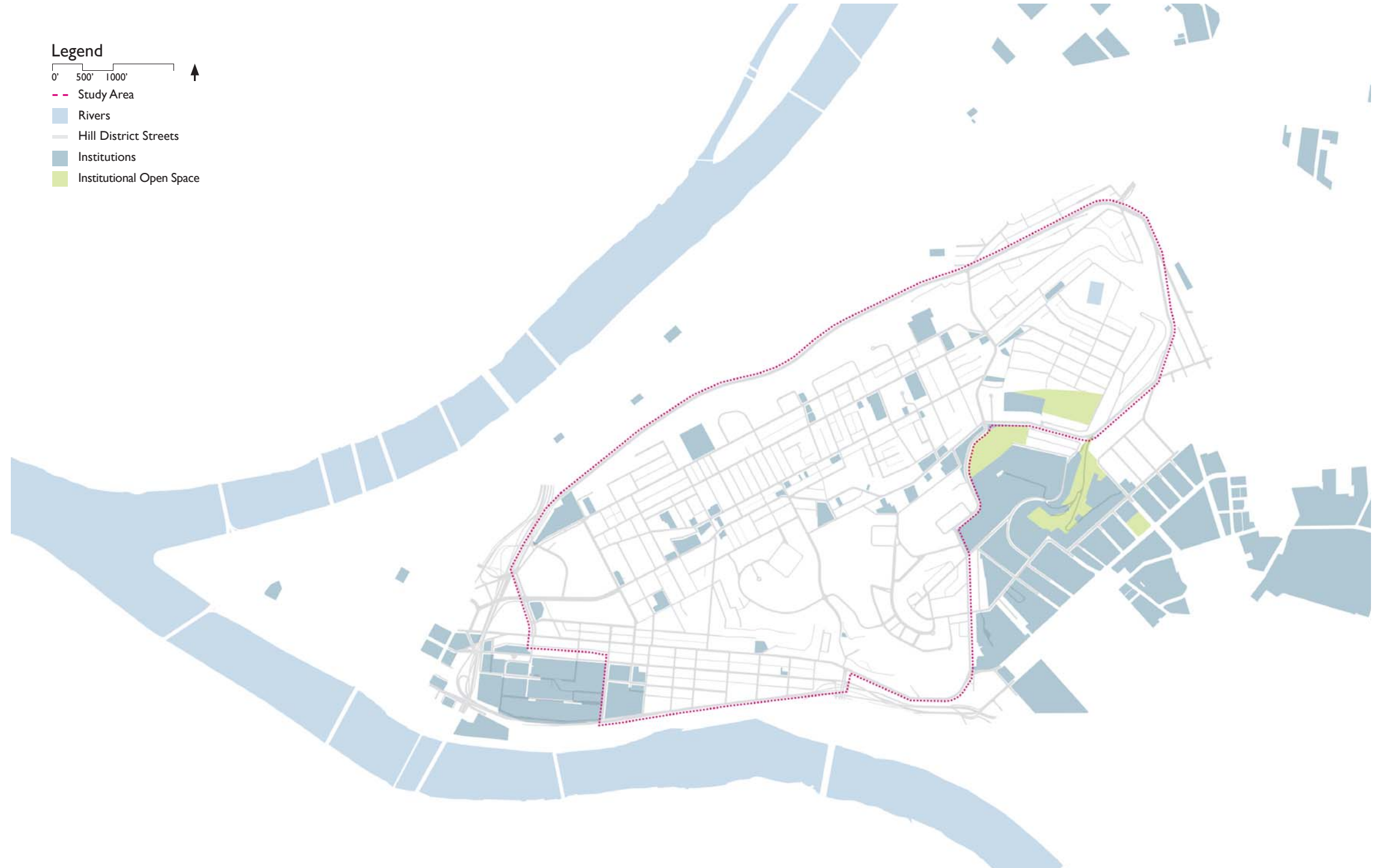
This map superimposes the location of historic Hill streams onto present-day green space and topography.

HILL DISTRICT - GREEN SPACE + TOPOGRAPHY + HISTORIC STREAMS
Map data source: City of Pittsburgh and Allegheny County GIS data

APPENDIX

GIS MAPS AND DATA

This map shows major civic institutions such as universities, hospitals and similar entities along with associated open space, if any exists.



HILL DISTRICT - INSTITUTIONS
Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - AERIAL PHOTOGRAPH 2006
Map data source: City of Pittsburgh and Allegheny County GIS data

In this illustration, the Hill study area boundaries are outlined on a 2006 satellite photo.

APPENDIX

GIS MAPS AND DATA

This zoning map shows that although much of the Hill is made up of single-family homes, most of the neighborhood is zoned for multi-family density. The Sugar Top neighborhood, at the eastern end of the Hill, is zoned to allow two- and three-unit dwellings. Mixed-use areas designated Local Neighborhood Commercial are found along Centre and Wylie Avenues. Steep hillsides along the north and south edges are designed Parks and Open Space.



HILL DISTRICT - ZONING
Map data source: City of Pittsburgh and Allegheny County GIS data

Legend

0' 500' 1000' ↑

- - - Study Area
- Rivers
- Hill District Streets
- Public Rights of Way



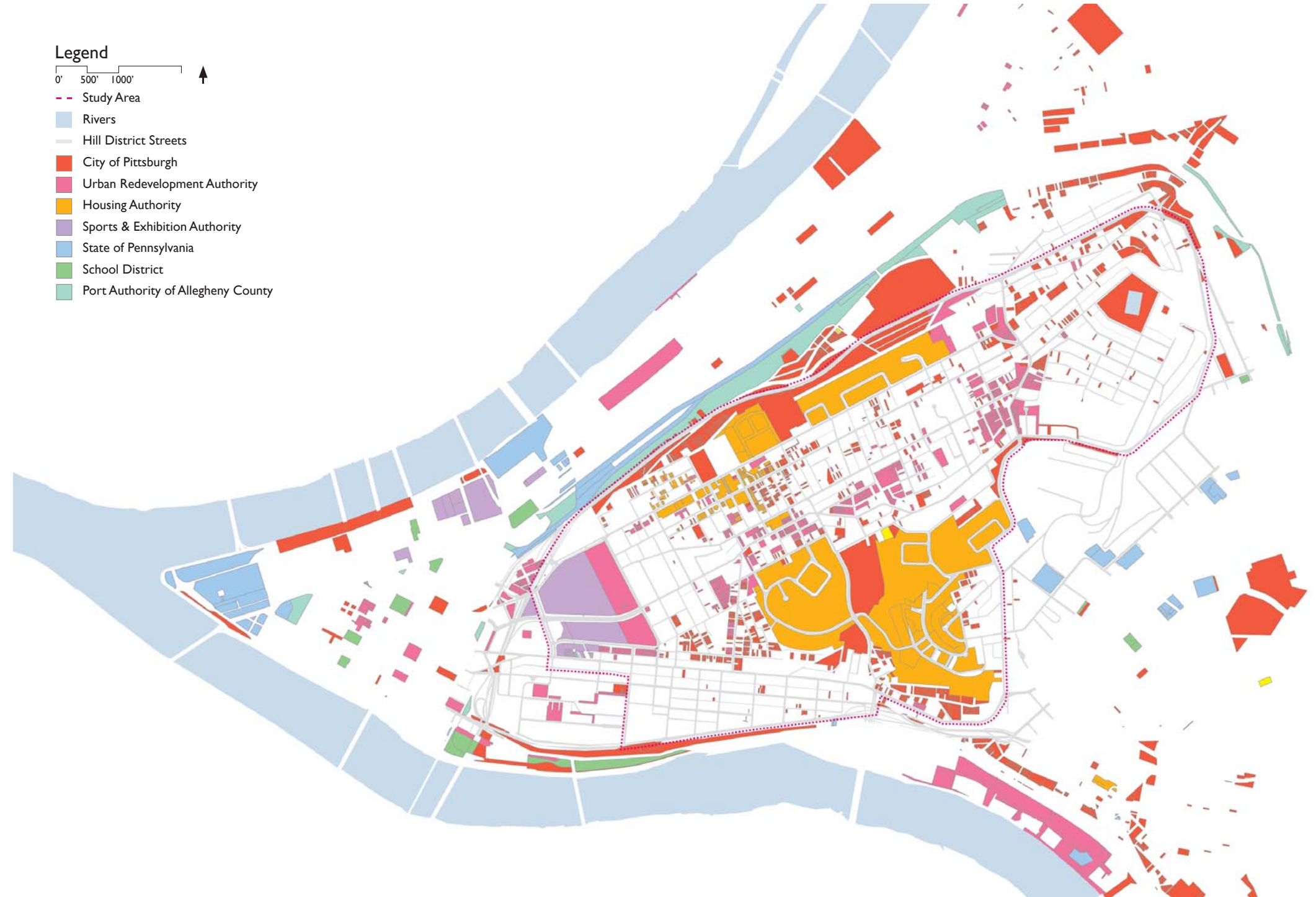
In this map, light purple-pink areas represent corridors to which the City of Pittsburgh and general public have access and allow the public access for passage. In some cases, a right-of-way exists where no roadway or access path was ever built. These conditions, often found on steeply sloped land, are commonly called “paper streets.”

HILL DISTRICT - PUBLIC RIGHTS OF WAY
Map data source: City of Pittsburgh and Allegheny County GIS data

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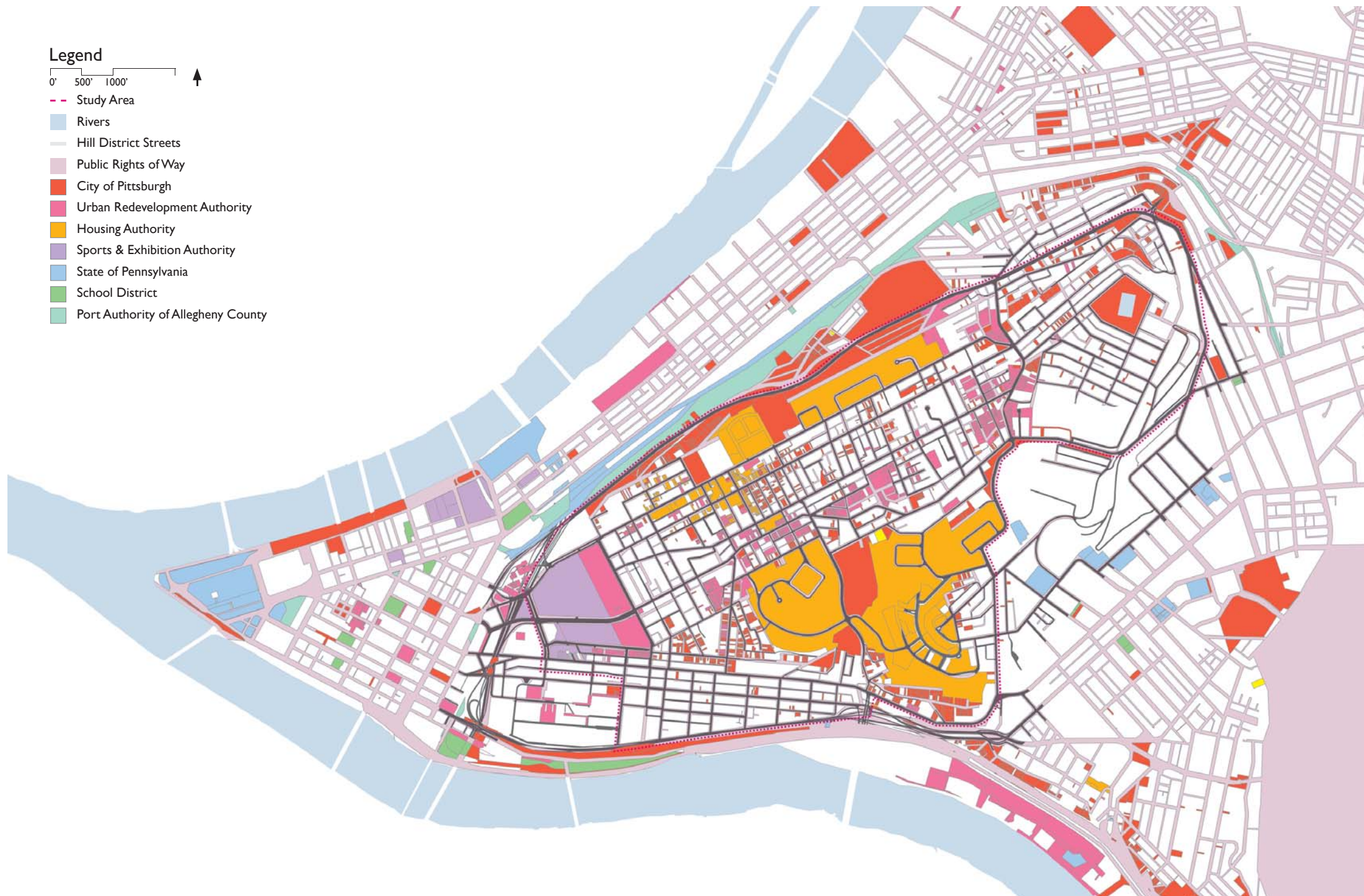
GIS MAPS AND DATA

This map shows all publicly owned land. Each color represents a different municipal entity with dominion over land.



HILL DISTRICT - PUBLICLY OWNED LAND
Map data source: City of Pittsburgh and Allegheny County GIS data

This map shows public rights of way in relation to publicly owned land.



HILL DISTRICT - PUBLICLY OWNED LAND + PUBLIC RIGHTS OF WAY
Map data source: City of Pittsburgh and Allegheny County GIS data

APPENDIX

GIS MAPS AND DATA

By overlaying green space with public ownership, this map illustrates that a significant amount of land area belongs to the city and city agencies.



HILL DISTRICT - GREEN SPACE + PUBLIC OWNERSHIP
Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - URBAN RENEWAL SITES + HISTORIC STREAMS + TOPOGRAPHY
Map data source: City of Pittsburgh and Allegheny County GIS data & University of Pittsburgh Historic Maps Collection

The combination of urban renewal sites, historic streams and the current topography shows how the landscape may have influenced decisions about where to build large-scale public housing projects and other civic spaces. This map also illustrates the proximity of historic watercourses to urban renewal sites.

APPENDIX

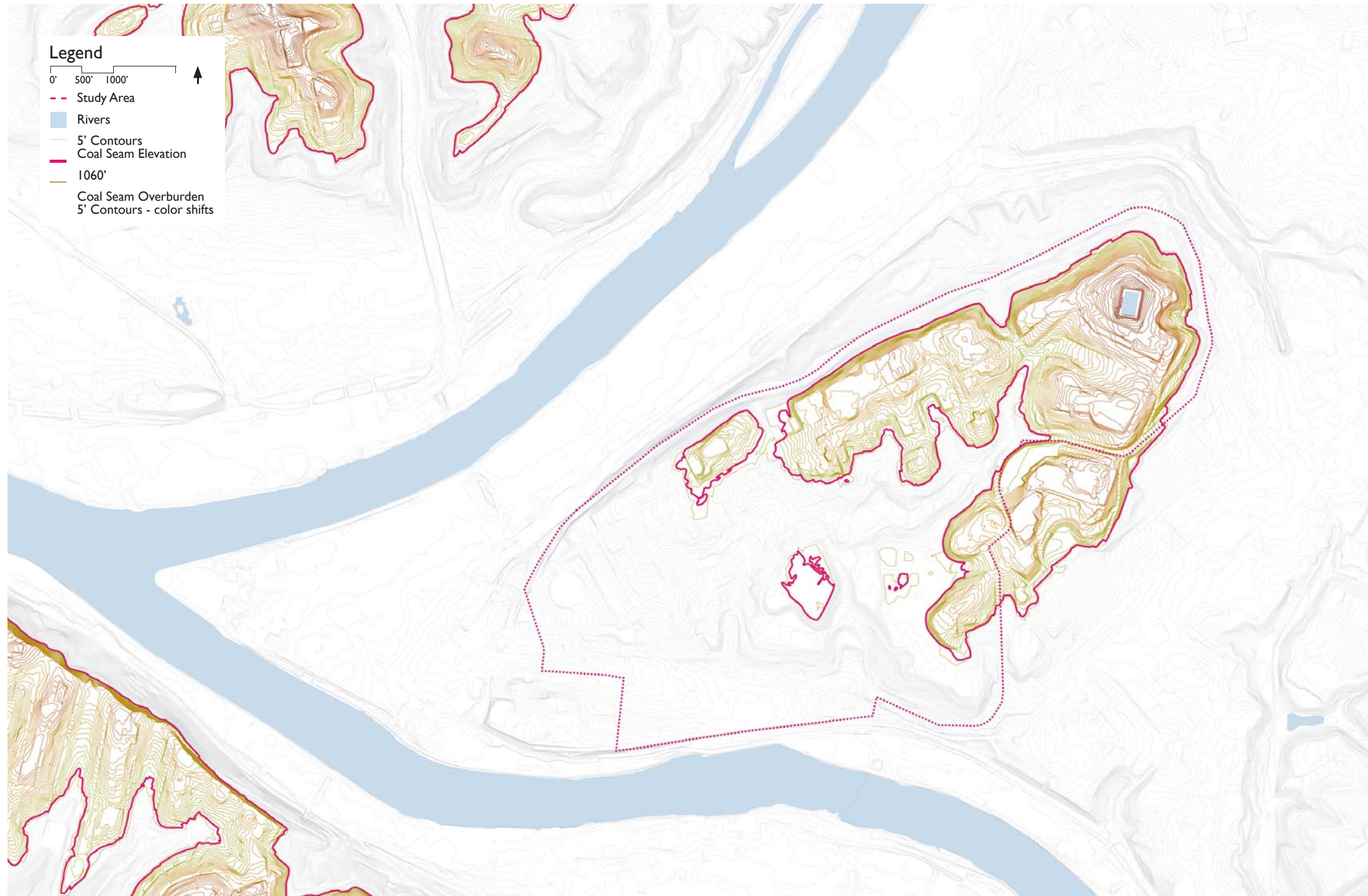
GIS MAPS AND DATA

This map reveals the elevation at which the coal seam is present throughout the Hill and the City of Pittsburgh. The coal seam was mined primarily in the eastern portion of the Hill where it was accessible at or near ground level. The coal seam's legacy is still evident in Minersville Cemetery and in the acid mine seepage that occurs along some steep hillsides.



HILL DISTRICT - TOPOGRAPHY + COAL SEAM ELEVATION

Map data source: City of Pittsburgh and Allegheny County GIS data



HILL DISTRICT - COAL SEAM OVERBURDEN
Map data source: City of Pittsburgh and Allegheny County GIS data

The overburden map represents land above the 1060-foot coal seam line. Land at or just above the coal seam elevation is particularly sensitive and prone to collapse due to disturbed subterranean conditions. Coal mining significantly impacted the Hill significant land areas are vulnerable to collapse, but the groundwater coursing through underground mines can also be useful, providing a heat source and sink for building heating, ventilation and cooling systems.

APPENDIX

GIS MAPS AND DATA

Beneath the undulating Hill landscape is a rich mix of soil types, which are diagrammed in this map.



HILL DISTRICT - SUBTERRANEAN SOIL TYPES
Map data source: City of Pittsburgh and Allegheny County GIS data

