

CNU27.Louisville Connecting Beargrass Creek

Sponsors

Louisville Metropolitan Sewer District

The Owsley Brown II Family Foundation

Project Champion

Kentucky Waterways Alliance - Beargrass Creek Alliance

Ward Wilson, Executive Director

Design Team

Gresham Smith

Louis R. Johnson, PLA, ASLA

Mike Sewell, P.E.

Patrick Henry, PLA, ASLA

Jared R. Kaelin, ASLA

Wes Griffith

Katie Rowe, P.E.

Ian Van Lierop

Morgan Dunay

Biohabitats

Suzanne Hoehne

Participants

Gordon Garner John Swintosky Erin Wagoner Lori Rafferty Kurt Mason Sylvia Holden Lauren Anderson Allison Smith Tony Mattingly Sarah Lindgreen David Spenard Andrew Reed Lincla Gugin Jim St. Clair Jeff O'Brien Laura Mattingly Margaret O'Neal Mallory Baches Ed Allgeier Mark R. Long Rebecca Minnick Jim Walters Paul Issaac



Congress of New Urbanism

The Congress of New Urbanism (CNU) is an international nonprofit organization working to build vibrant communities where people have diverse choices for how they live, work, and get around. We believe that well-designed cities and neighborhoods are crucial for our health, economy, and environment. We build places people love.

For 21 years, CNU and its network of over 2,600 have led an international movement of designers, developers, policy makers, and activists working towards a common goal: improved access to a high quality public realm.

Legacy Projects

Since 2014, CNU has brought the vast expertise of its membership to bear on issues impacting neighborhoods and cities within the host region of our annual Congress.

Each expert-led congress Legacy Project is aimed at empowering local leader, advocates, and residents in underserved communities to implement New Urbanist principles that help people and businesses in their communities to thrive. Through public engagement and collaboration, CNU's Legacy Projects Strive to demonstrate the power of great urban design beyond the boundaries of each selected community, and targeted communities experience both short-term progress and long-lasting momentum.



Gresham Smith

Gresham Smith is a team of diligent designers, creative problem-solvers, insightful planners and seasoned collaborators who work closely with clients to improve the cities and towns we call home. Our employees are diverse in experience, yet we all have one thing in common: genuine care for each other, our partners and the outcome of our work. With each new project we take on, we have the pleasure of designing communities' most vital institutions and infrastructure.

"We leverage the expertise and collaborative thinking of civil engineers, landscape architects and planners to provide custom solutions that help you grow livable communities."





Contents

Introduction1	2
Background Information1	6
The Design Process2	28
Planning for Action	72
Black Crown Forest	76
Eastern Overlook	36
Rufer Pocket Park	94
3-Bridges1	0
KY Street Alley Promenade1	10
Logan Street Park1	18
Milewide Depave1	20
Baxter Station1	34
Next Steps1	42
References1	4

CNU27.Louisville Connecting Beargrass Creek

Connecting Beargrass Creek began with three distinct goals:

- Connect to the Creek
 - If we ever want Beargrass Creek to be healthy again, people need to see it and love it. Creating better physical and emotional connections to Beargrass Creek is the first step.
- Improve the Creek's Health
 We want to explore unique ways to bring back the ecological systems of Beargrass Creek to create a healthier, safer and more vibrant water system.
- Develop Destinations

 Beargrass Creek has shaped the city of Louisville. We want to highlight the history along the South Fork, while also finding new places for people to engage with and celebrate the Creek.

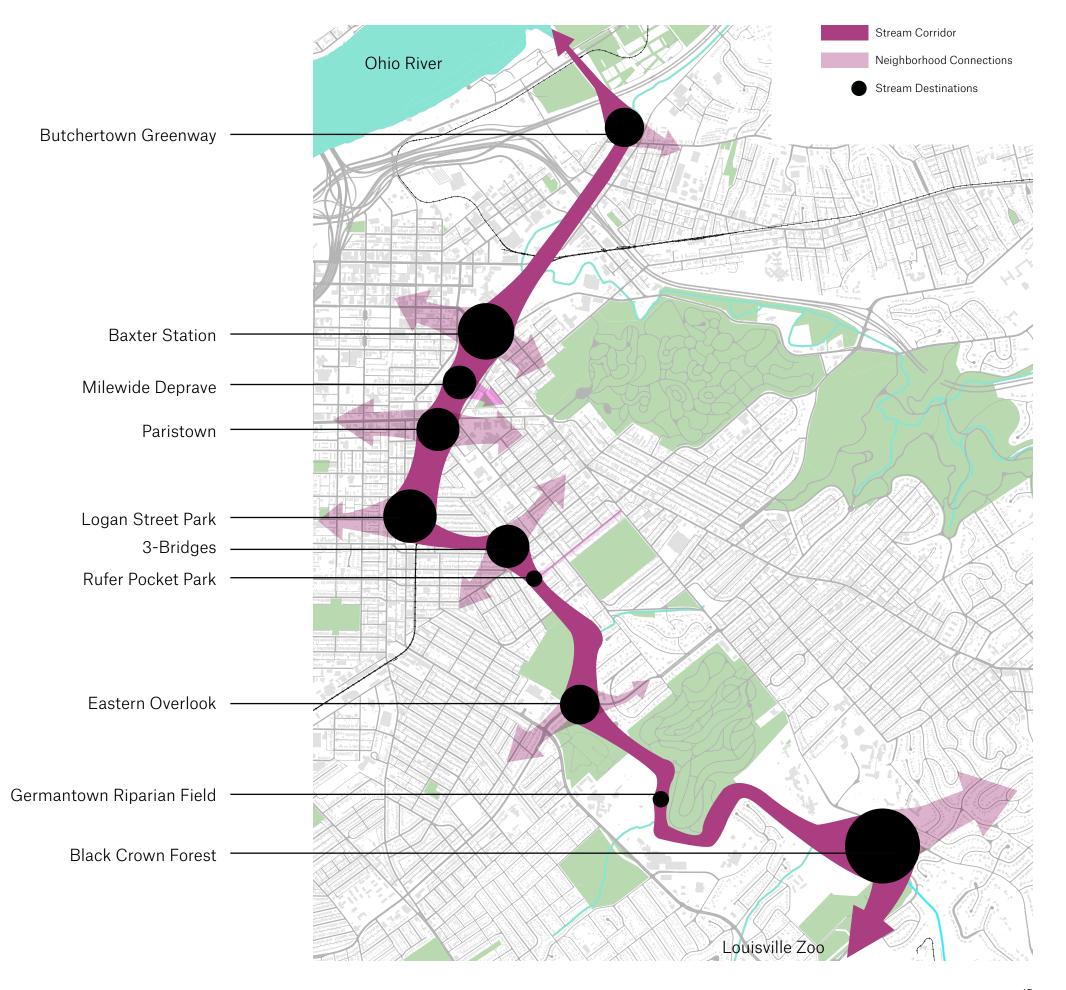
The Process

- Creek Crawl, March 7. We began with a brainstorm. We toured the creek and hosted a visioning session, encouraging big ideas and inspired solutions.
- Open Studio, March 8. During design we left our studio doors open, encouraging the public to ask questions, give feedback and engage in the design process.
- Party, March 9. After three days of hard work, we presented our findings, celebrated our efforts and discussed next steps for transforming Beargrass Creek.



Creating a Connected Corridor

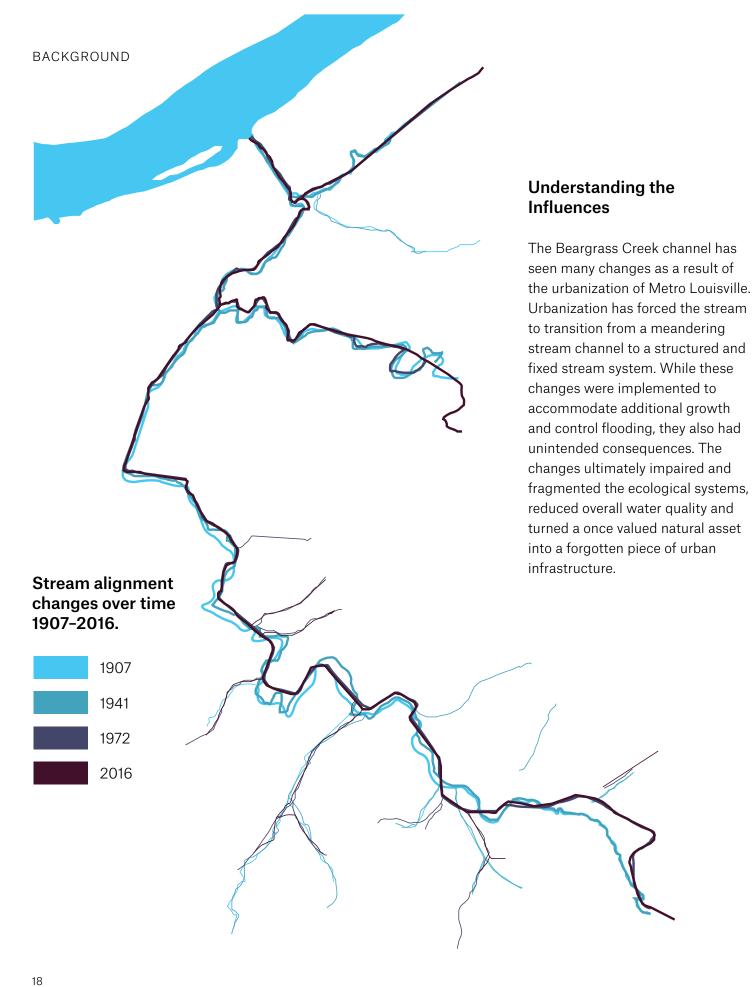
Beargrass Creek, especially the South Fork, is a lost environmental asset. The Connecting Beargrass Creek Legacy Project examines the South Fork from the Louisville Zoo to the Ohio River in an effort to identify issues and opportunities for repositioning the vital stream as a community asset. After intensive investigation and abundant research, our team believes that improvements at strategic locations along the creek system are an opportunity to create a network of community spaces and encourage ecological improvements.

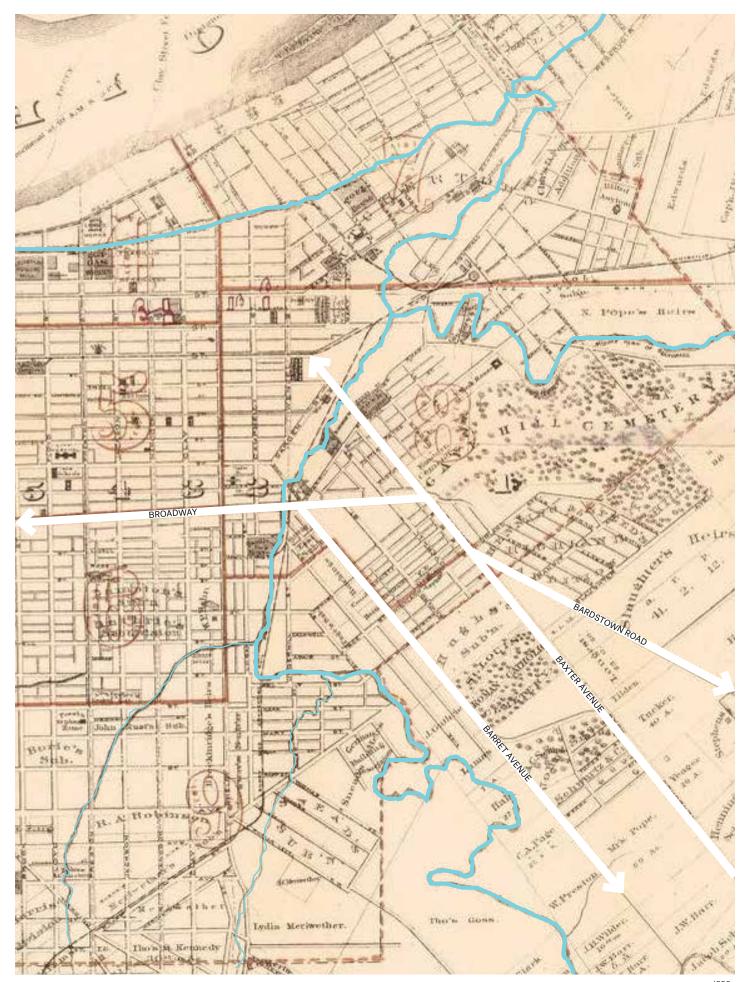


Background

The following section reviews the historical changes, current urban conditions and watershed information for Beargrass Creek. This information will inform and frame the challenges, threats and opportunities surrounding the creek system. Reviewing the historical information outlines changes to the stream channel and how humans have influenced the system. Examining of the Beargrass Creek watershed will identify the impervious and pervious surfaces that impact the runoff and overall health of the channelized system. Finally, analyzing the surrounding urban context will examine how the areas around the creek system will influence different improvement strategies.







 $_{1}$

Channelization

From early 1920s until today, Beargrass
Creek has been impacted through various
channelization efforts. Many of the channelization
efforts, such as bridges, retaining walls and pump
stations, can still be seen today.



1935 view in Butchertown



1926 Eastern Parkway



1930 Stone Bridge at Beargrass Creek



1929 Ellison Avenue



1928 Eastern Parkway at Beargrass Creek



1929 Kentucky Street at Beargrass Creek



1930 Stone Bridge at Beargrass Creek



1966 Pumping Station on Beargrass Creek



1939 Eastern Parkway between Goss Avenue



1929 Beargrass Creek and Crown Avenue



1930 Retaining Walls at Beargrass Creek



1933 Eastern Parkway at Beargrass Creek

Investigating Impervious Surfaces

When evaluating the conditions of a stream it is imperative to take a broader look at the entire watershed to truly understand the issues at hand. We examined impervious surfaces within Beargrass Creek's Southfork watershed to identify areas that affect the overall stormwater runoff and health of the stream system. The South Fork watershed is 26.1 square miles. Nearly 60% of the the South Fork watershed's 26.1 square miles is made of impervious surfaces, such as roads, buildings and parking lots, that do not allow water to drain naturally.

This imperviousness increases water velocity and erosion, decreases water quality, increases issues related to flooding, raises ambient temperatures and impairs natural water cycles..



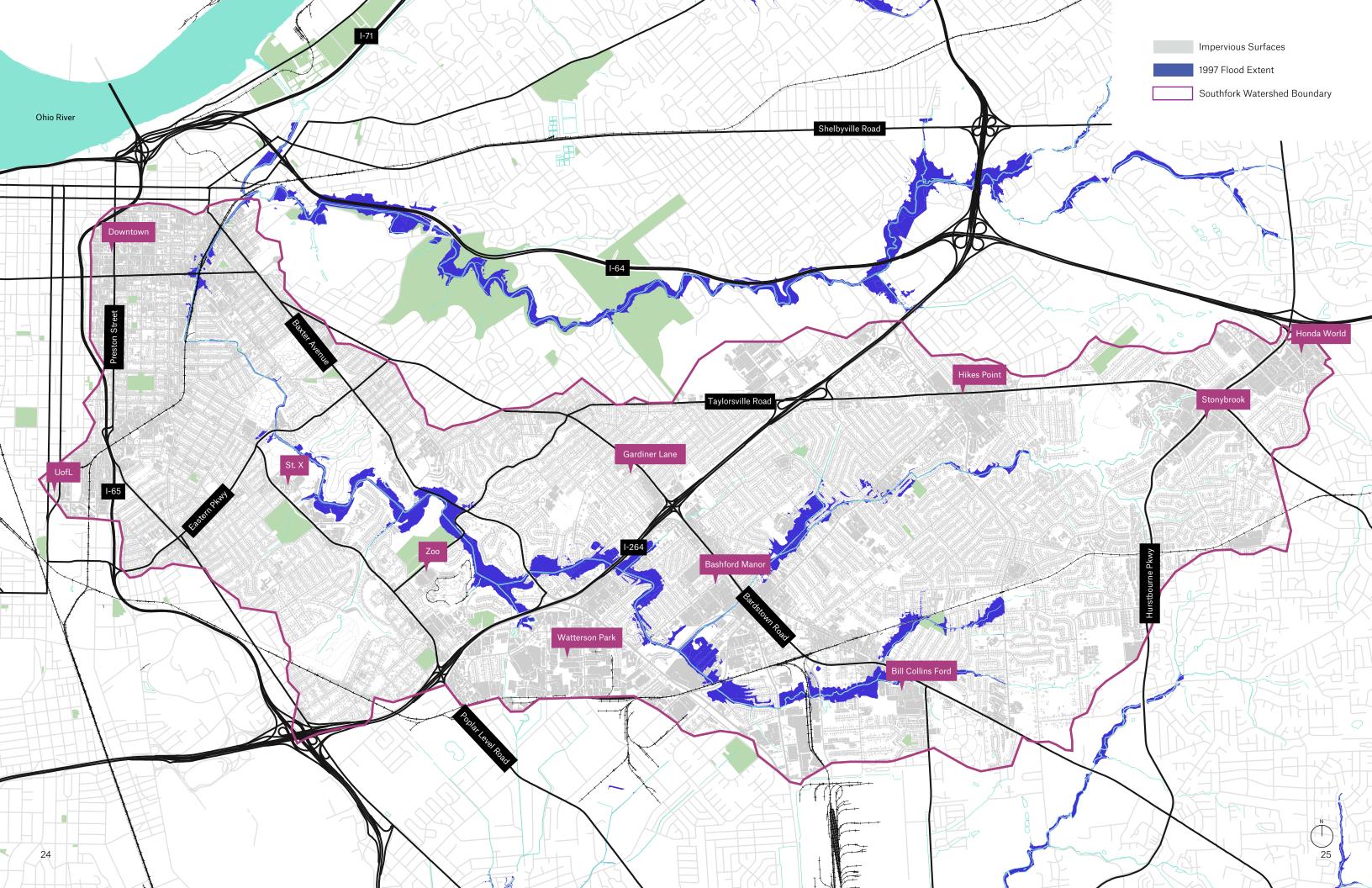
BEARGRASS CREEK SOUTH FORK WATERSHED

26.1 Square Miles

TOTAL ESTIMATED IMPERVIOUS 15.76 Square Miles (60%)

BUILDINGS 14% ROADS 27% OTHER 19%

1998 Measured at 42%



Analyzing the Corridor

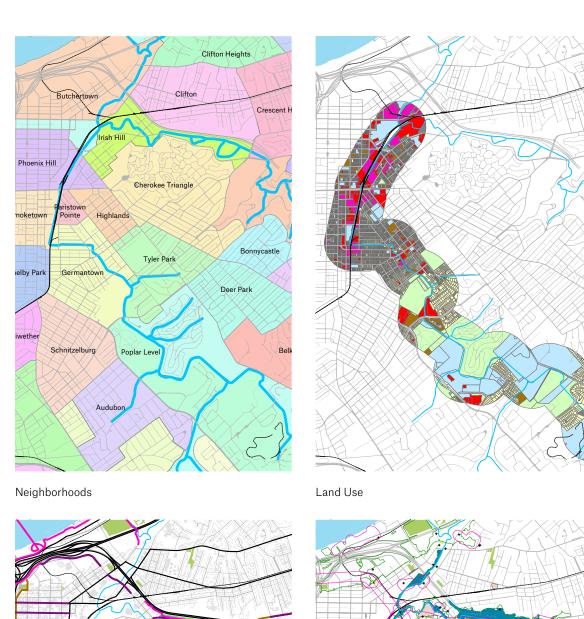
After examining the Creek's current conditions and identifying the constraints and opportunities that could arise during the design process, we began to analyze the Creek in four distinct areas: neighborhoods, land use, transportation and water infrastructure.

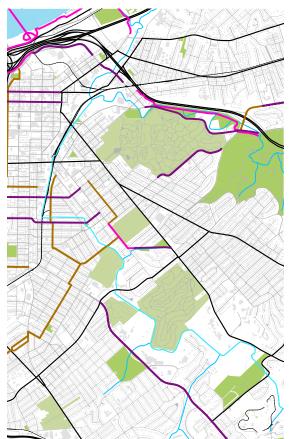
The neighborhood analysis indicated that Beargrass Creek traverse eight different neighborhoods within Louisville. The creek also serves as a barrier in four of these neighborhoods, providing an opportunity to utilize the stream to connect these neighborhoods.

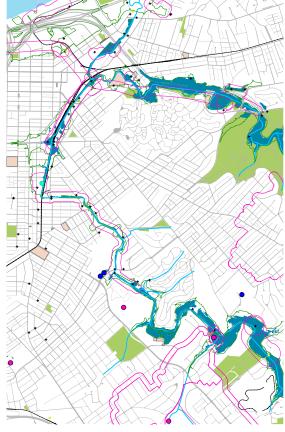
The land use analysis revealed that the creek system interacts with various land types, including commercial, parks, residential, and industrial. Each type of site requires a nuanced approach to addressing the creek that keeps in mind the realities of their specific land use.

Transportation also has an affect on the creek system, as numerous bridges cross over and run alongside the water way. The transportation analysis informed us also how people may interact or access this system.

Finally, understanding the current water infrastructure in place helped our team understand the controls and factors that keep the creek from flooding. Additionally, we sought to better understand how sewage along the corridor impacts overall water quality.







Transportation Water Infrastructure

The Design Process

As part of the Legacy Project, the project team planned and hosted a three-day event to examine and envision future plans for Beargrass Creek. We used site visits and drone imagery for initial observation and analysis, and once the event started we organized a "Creek Crawl." We then hosted an open house and encouraged the public to stop by our studio and voice their opinions and ideas. The following section describes each step of the process and the overall outcomes from our community engagement efforts.



THE DESIGN PROCESS

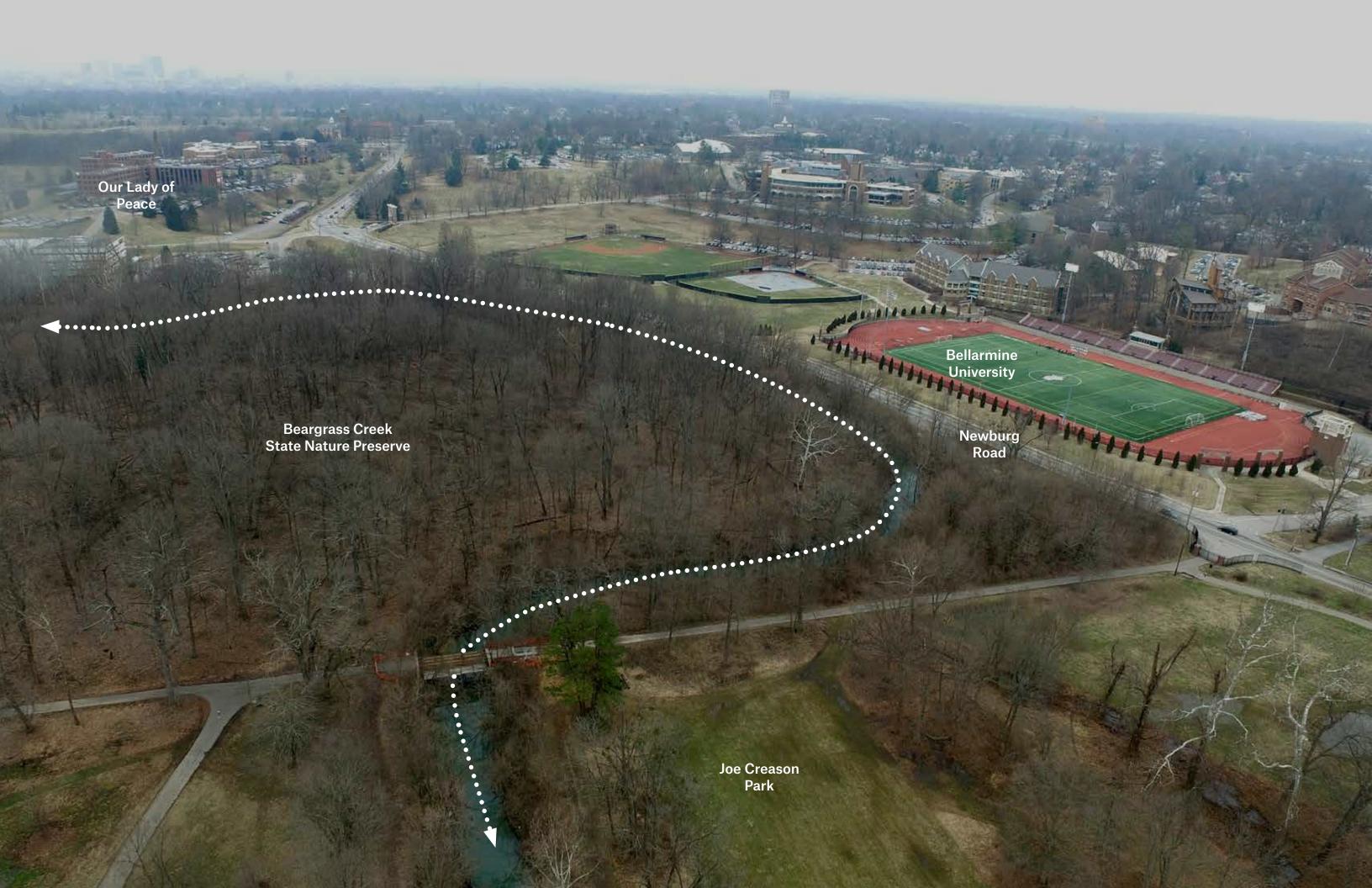
Initial Observations

We initially observed the site before interacting with the community. Using drone footage, the design team investigated the stream corridor and its surrounding features. During our research we learned that the creek system is heavily urbanized and that roadway interaction plays a large role in the overall make-up of the site.

Using this information the design team began to identify locations along the creek system for further investigation. These areas included park systems, open space, industrial locations, residential areas, a railroad located near the creek, and commercial zones.

The information we learned during our initial investigation informed the upcoming community workshops and site tours.

















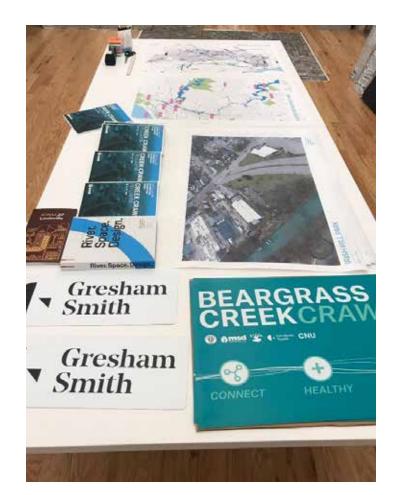




Hosting a Creek Crawl

The Beargrass Creek Crawl was held on March 7th, 2019, as a kick-off to the intensive three-day workshop. Kentucky Waterways Alliance identified a series of stakeholders who represented local area agencies, non-profits, creek stewards, ecologists and designers to participate. The intent of the walk was to reveal hidden moments of the hard to reach South Fork and have conversations on-site about opportunities and challenges.

Starting at the Olmsted Conservancy's office in Joe Creason Park, the group of nearly 20 participants walked nearly six miles along the banks of the stream, stopping at key locations along the way. Each participant was given a "Creek Crawl Field Guide" which included drone aerial photography, maps and other information, as well as places to take notes and make suggestions for potential future trajectories for this urban stream.











Welcoming the Community for a Workshop

After completing the Creek Crawl the design team conducted a community workshop. The workshop explored the information obtained during the tour and, ultimately, three core concepts were developed. The concepts include connecting to the creek, improving the creek's health and developing destinations along the creek.

- Connect to the Creek
- Improve the Creek's Health
- Develop Destinations











Before participants left, the team held a round robin conversation. We asked each participant to provide one big idea for the future of the stream and one small idea that could be accomplished tomorrow.

Big

- Reduce impervious surfaces by 50%.
- Elevated multi-use path in and along the channel
- · Create observation decks along the corridor.
- I want to be able to fish in the stream without fear for my health.
- Reintroduce the flood plain along the stream where possible.
- · Create formal access points to the stream.
- · Realize the vision for Baxter Station.
- Create an educational curriculum (Beargrass Creek Critters) in partnership with schools along the corridor.
- Joe Creason Park become a hub for stream and wetland research in partnership with Bellarmine and the Louisville Zoo.
- Develop a connective ecological corridor along the stream and injected into adjacent neighborhoods.

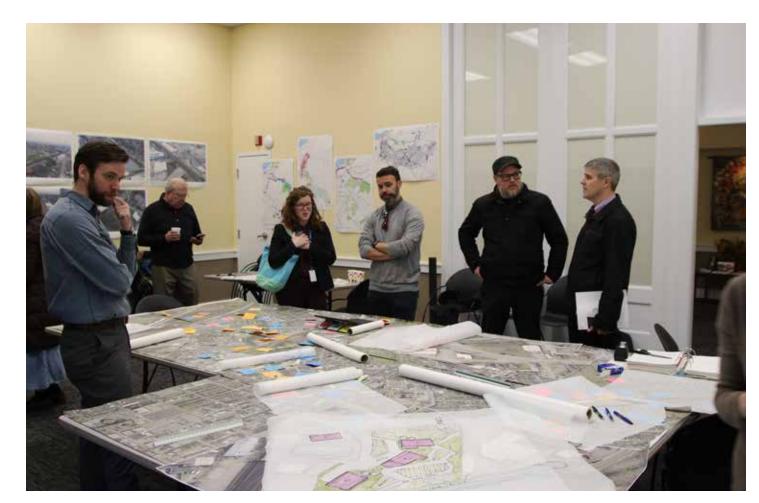
Small

- Build ramps for turtles so they can get out of the steep stream channel and to educate the public on those ecological details.
- Implement short-term educational signage along a tour route.
- Formalize a South Fork Walking Tour/Pod Cast.
- Educational elements to illustrate impacts of infrastructure, like combined sewers.
- Create a place people know they can drop a kayak in the stream.
- Adjust height of lawn mower 1" to increase turf length and reduce erosion and slow stormwater down.
- Artistically indicate to people when they are crossing the bridge, signage or paint on the bridges.
- Inventory invasive species along the stream and develop a pilot under story rehabilitation project.
- Improve dangerous street conditions with temporary measures.
- Plant trees and other native plants along the corridor.

Opening the Studio Doors

The Open Studios Session was held on March 8th, 2019. The intent of the Open Studio session is transparency. With a overall goal of transparency, the design team allowed the public to visit during a specific window of time so that they could visit with the designers, see the vision coming to life and give feedback in real time.

The live critiques improved the design, revealed important details and influenced the overall direction of the project. The design team then continued to work through the night for a public presentation the following day.





Presenting to the Public

The three-day workshop was capped off with a public presentation at Milewide Brewery, which is adjacent to the stream. The design team recapped the entire process and showcased the design ideas, both BIG and small. This workshop capped off an intense period of work, and represents the beginning of what ultimately will be a long journey to realizing the many ideas and transformative vision this community has for this critical ecological and cultural resource.







Planning for Action

Planning for Action means that while each of these larger transformational projects come with inherent complexity, good ideas must still move forward. Throughout the design process the design team and participants worked to develop a vision that is both transformational and actionable. This section begins by describing a sampling of incremental action items suggested during the public engagement. Following the action items, are a series of eight site specific, transformational projects. The design team has attempted to illustrate how incremental action items can help jump start larger efforts. These suggestions can be seen by the incremental action icons located on the project illustrations.



PLANNING FOR ACTION

Incremental Actions

Connecting Beargrass Creek will require vision, patience and ingenuity. These recommendations begin by acknowledging the importance of strategic, incremental actions to kick-start larger transformations.

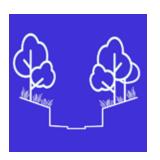
Through conversations with stakeholders, agency representatives and the public, we developed 10 incremental actions as starting points so that we can ultimately achieve our three main goals:

- Connecting people physically and emotionally to this ecological and cultural asset.
- · Improving human and ecological health along the corridor.
- Repositioning the Creek as a community asset that will influence growth and development to reorient toward the water and to support water quality.



Turtle Ramps

In extreme urban stream conditions, miniature and temporary installations to help turtles and other wildlife navigate extremely steep stream banks can also serve as a point of conversation for the public.



Native Buffers

Due to the extremely narrow urban condition, the stream banks are very limited. Therefore working hard to reduce invasive species and encourage native riparian plant materials along the creek would have big value and can start now.



Educational Partnerships

The stream runs adjacent to and near a number of educational institutions, from elementary schools to Universities. Allowing Beargrass Creek to become a learning laboratory can help improve the stream and create new generations of stewards.



Public Fund Raisers Awareness

Partnering with some of Louisville's key economic engines that rely on clean water, such as the bourbon and beer industries, can help raise funding and awareness.



Beargrass Creek Bridges

Beargrass Creek is a hidden resource often out of sight out of mind.

Developing wayfinding and public art installations, like bridges, at stream crossing moments can help bring awareness to the stream.



Tactical Urbanism

Connecting people to Beargrass
Creek may mean making streets
and intersections safer for bicyclists
and pedestrians. Temporary street
improvements can start today to help
make it easier to see the stream.



South Fork Podcast Tour

There is no shortage of astounding landscapes or unique stories along and adjacent to the stream. Combining these into a podcast tour could help spur more interest in the stream and help raise awareness about the ecological issues.



Depave

Reducing pavement within the watershed is critical if water quality and flooding is ever going to improve. Start by replacing asphalt in underutilized spaces, like disused parking lots, with trees.



Name the Tributaries

The Beargrass Creek's water quality is heavily dependent on the quality of water in the tributaries that feed into it. Often, those smaller streams have no names and are hard to recognize. Formalizing these streams can help raise awareness.



Native Broadcasting

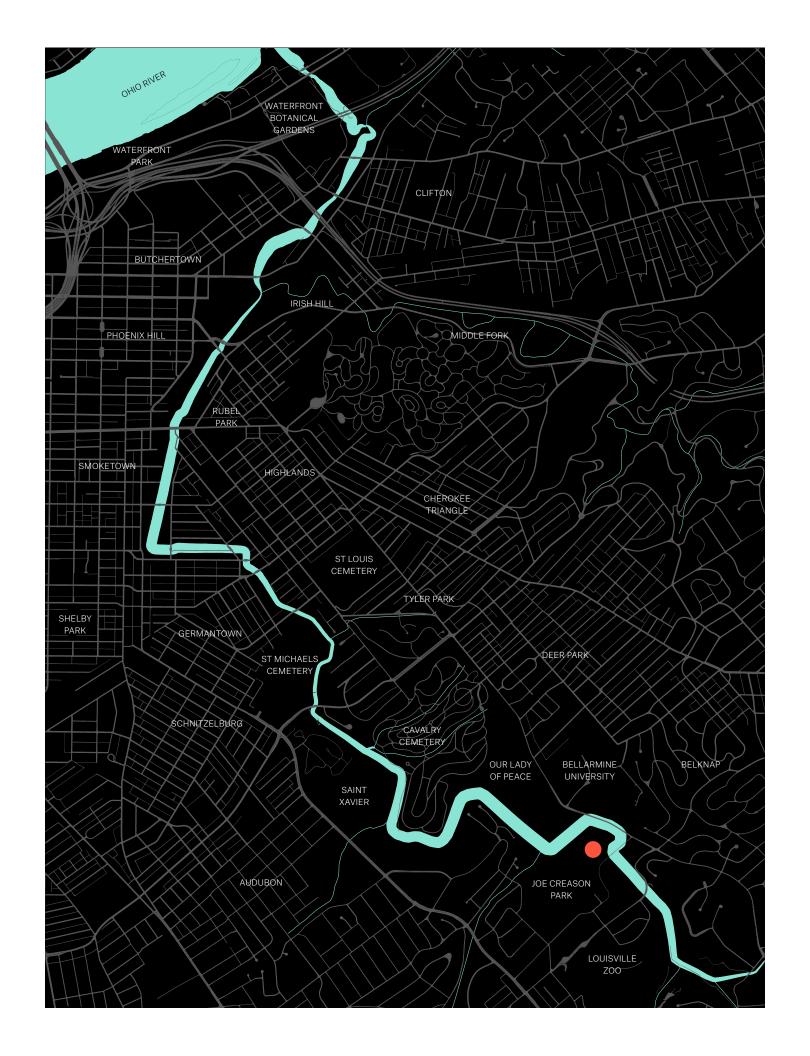
Finding low use areas covered in lawns that require mowing or fertilizer and broadcasting native grass and flower seeds can be a low cost investment with big long-term impacts.



Black Crown Forest

Joe Creason Park

Black Crown Forest is a concept to re-imagine a portion of Joe Creason park as an ecologically-focused public space that showcases the South Fork of Beargrass Creek. Joe Creason Park offers a major opportunity to address all three of the goals of this project. This existing park has ample space that could allow for more intensive stream restoration practices. Additionally, it is adjacent to the Louisville Zoo, Beargrass Creek State Nature Preserve and Bellarmine University, making it a logical location for environmentally- and ecologically-focused public space programming and research.

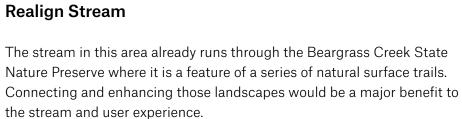




Realign Strea

Currently, the park is not heavily programmed and is mostly used as a connection point to the zoo, tennis courts and surrounding neighborhoods.

Wetlands





Rehabilitating Riparian Landscapes

Within Joe Creason Park, Beargrass Creek has an abundance of surrounding open landscape that could be large opportunity for stream realignment, enhanced riparian edges and wetland landscapes.



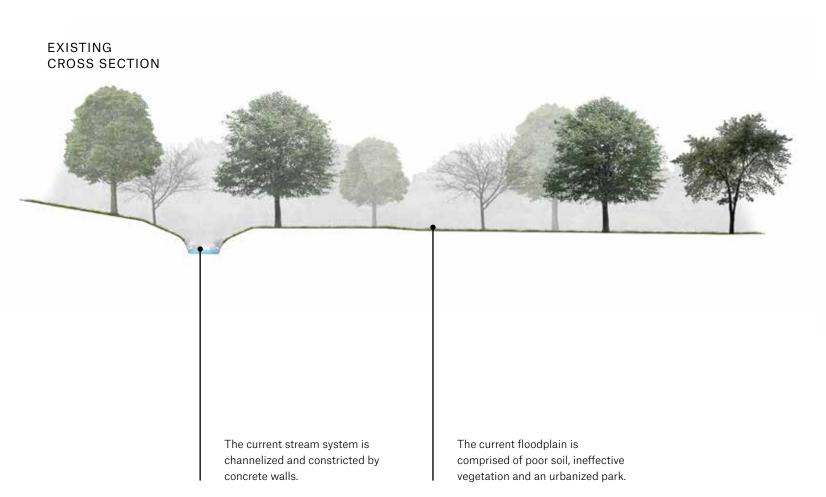
Public Education

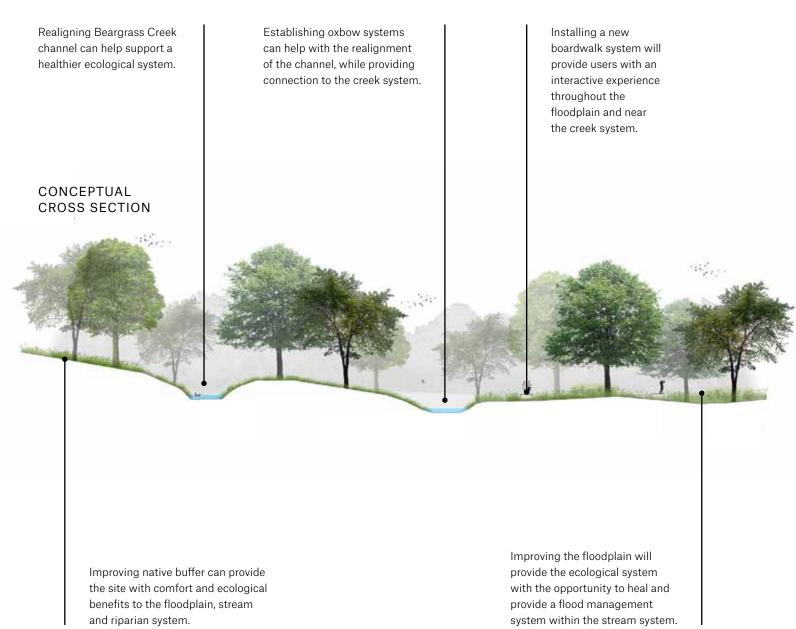
The image above depicts one of Louisville's major sewer outfalls. As part of a combined sewer system, this infrastructure serves as an outlet for sewage that overflows into Beargrass Creek during periods of heavy rainfall. Making the public aware of this infrastructure and how it works is critical for creating future water quality stewards.

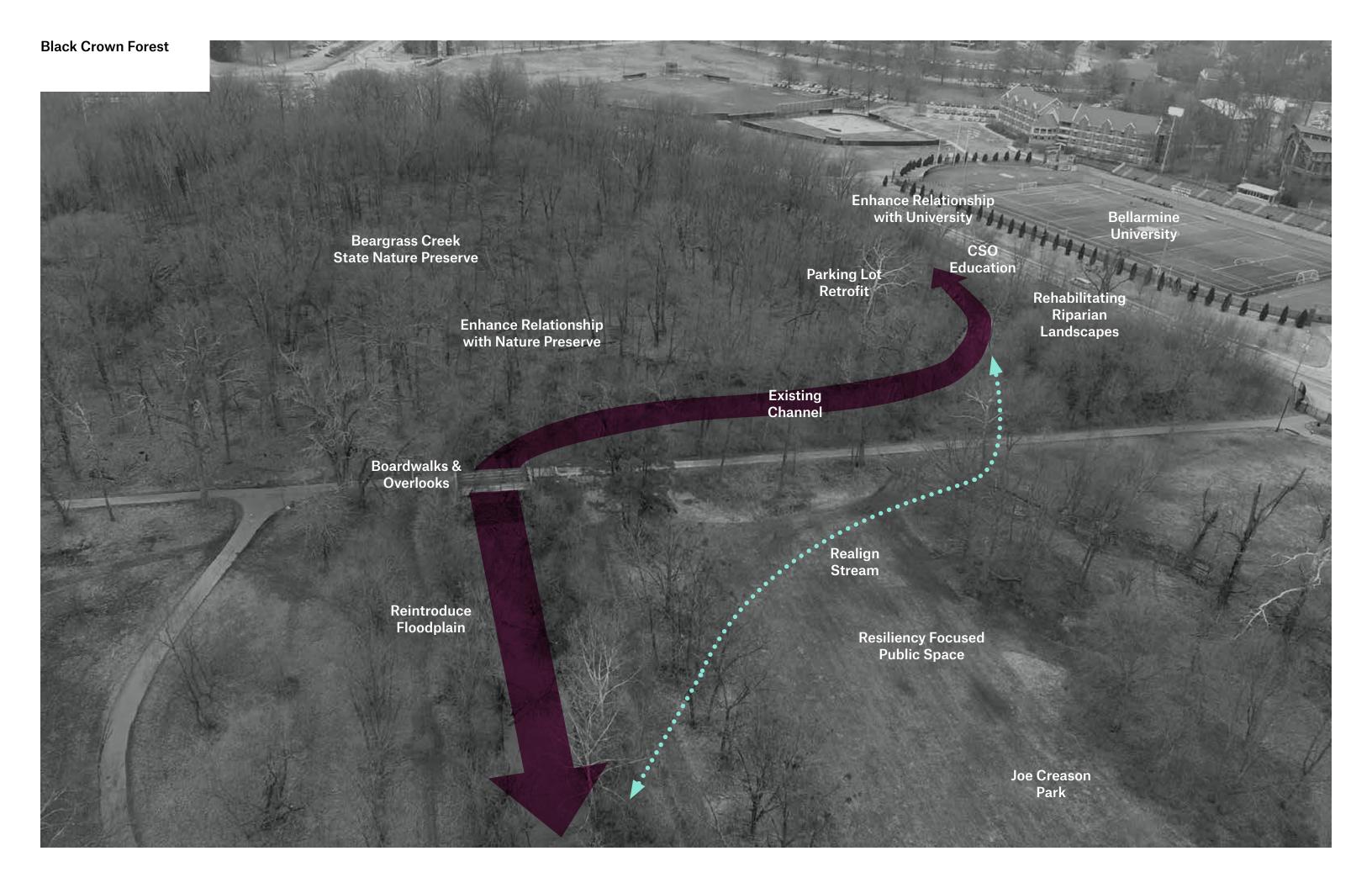
A Resiliency Park

80

Black Crown Forest is a concept that creates better functioning ecological system, unique landscapes that allow the public to interact with and learn about the stream instead of simply jogging over it, and creates a unique park that can elevate surrounding neighborhoods and institutions.







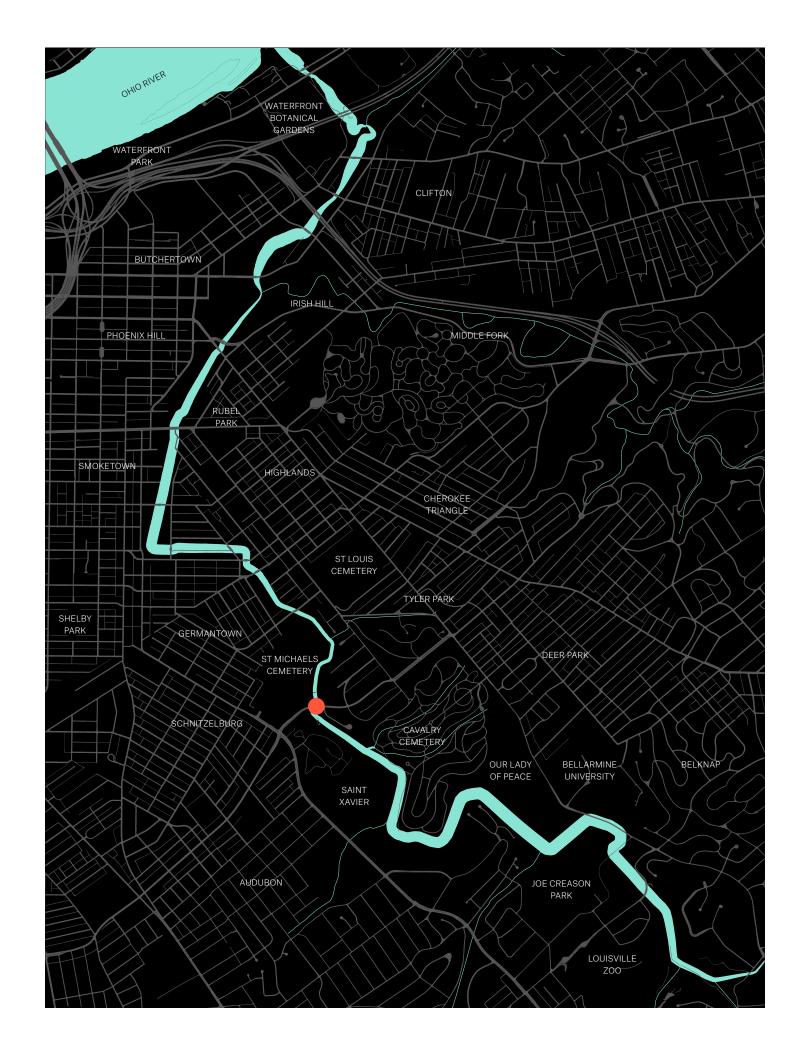




Eastern Overlook

Eastern Parkway

Two unique opportunities exist at the intersection of Eastern Parkway and Beargrass Creek. To the north, two aging development sites, a senior living center and a medical office complex, could benefit from rethinking their relationship with the stream. To the south, a former construction storage site could be rehabilitated into a more ecologically functional landscape to protect the stream and offer passive public space opportunities.





Re-Purpose Vacant Space

Space that was once used for MSD construction work now could be enhanced as improved riparian landscape and public space.



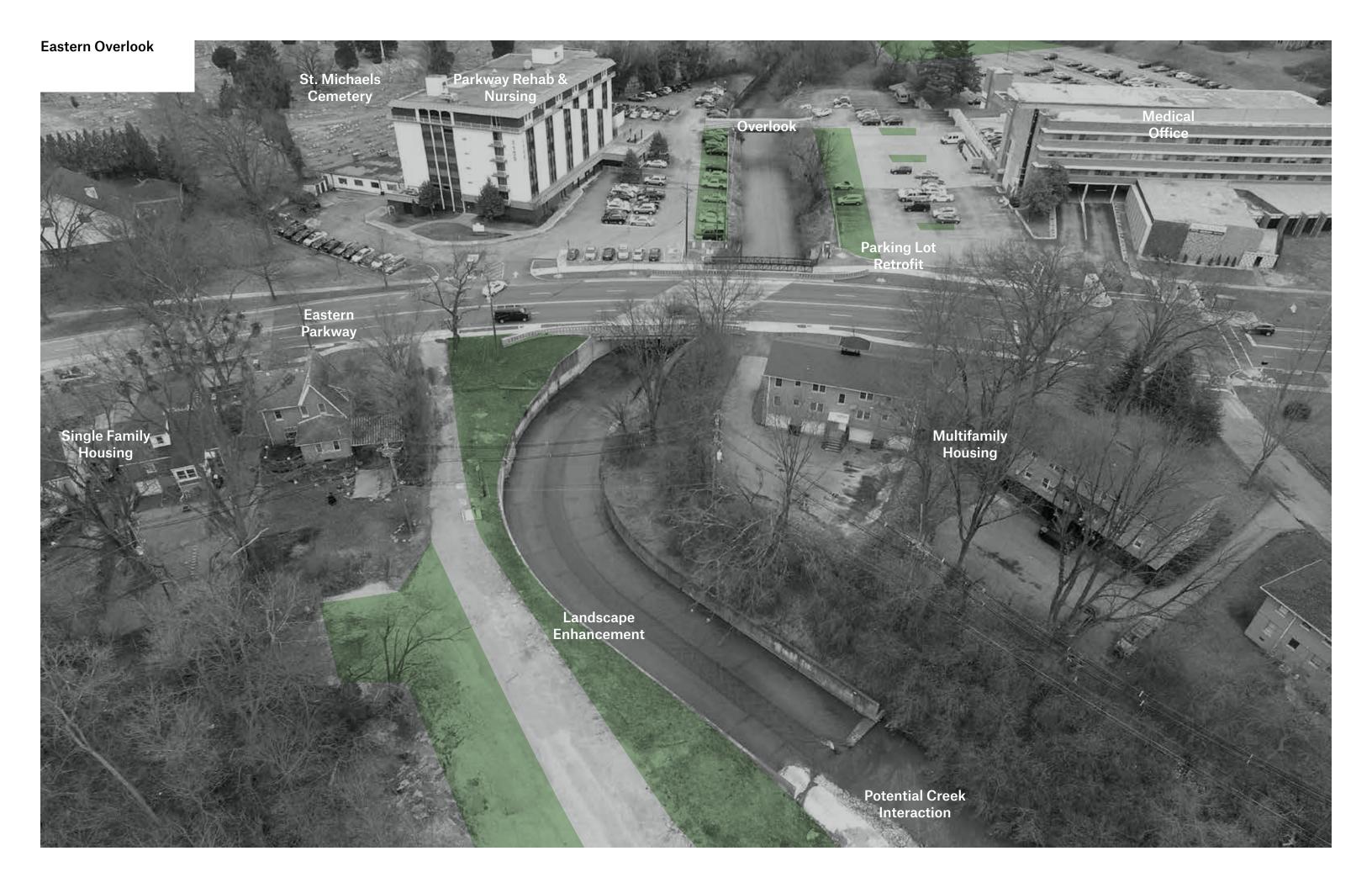
Overlook

The current bridges showcase the fantastic views of the cathedral-like trees growing across the stream corridor. With offices and a senior center adjacent the stream- there is an opportunity for outdoor social spaces that add value to these adjacent land uses.



Parking Lot Retrofit

Land uses have historically turned their back on the stream, often placing parking lots against its banks. This has led to increased stormwater run off and reduced water quality. Rethinking parking and stream bank edges can add ecological, social and economic value to these aging sites.



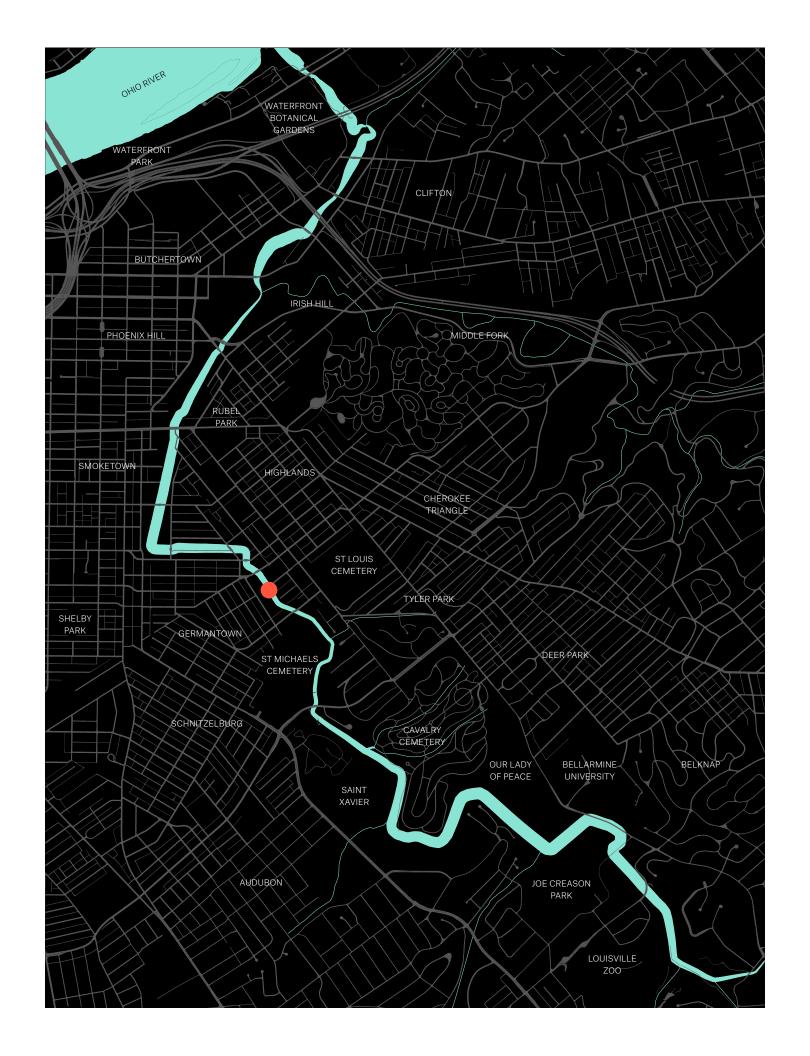




Rufer Street Pocket Park

Rufer Street

A series of perpendicular streets along Barret Avenue that dead-end into Beargrass Creek. Rufer Street, seen above, dead-ends into an Metropolitan Sewer District (MSD) facility. Part of increasing public awareness around the importance of water quality is providing immersive educational opportunities where people are. The design team sees locations such as this as an opportunity to implement small, incremental public space improvements that allow people to socialize along the banks of the stream while also providing water quality treatment and green infrastructure opportunities to clean the stormwater runoff. Additionally, installing educational signage in this environment can help create stewards to look after the space and help maintain the infrastructure.



RUFER STREET POCKET PARK



Native Buffer

Currently, the edges of the stream are comprised of overgrown invasive species. Increasing natural and native plantings will provide ecological improvements to the stream system.



Stream Overlook

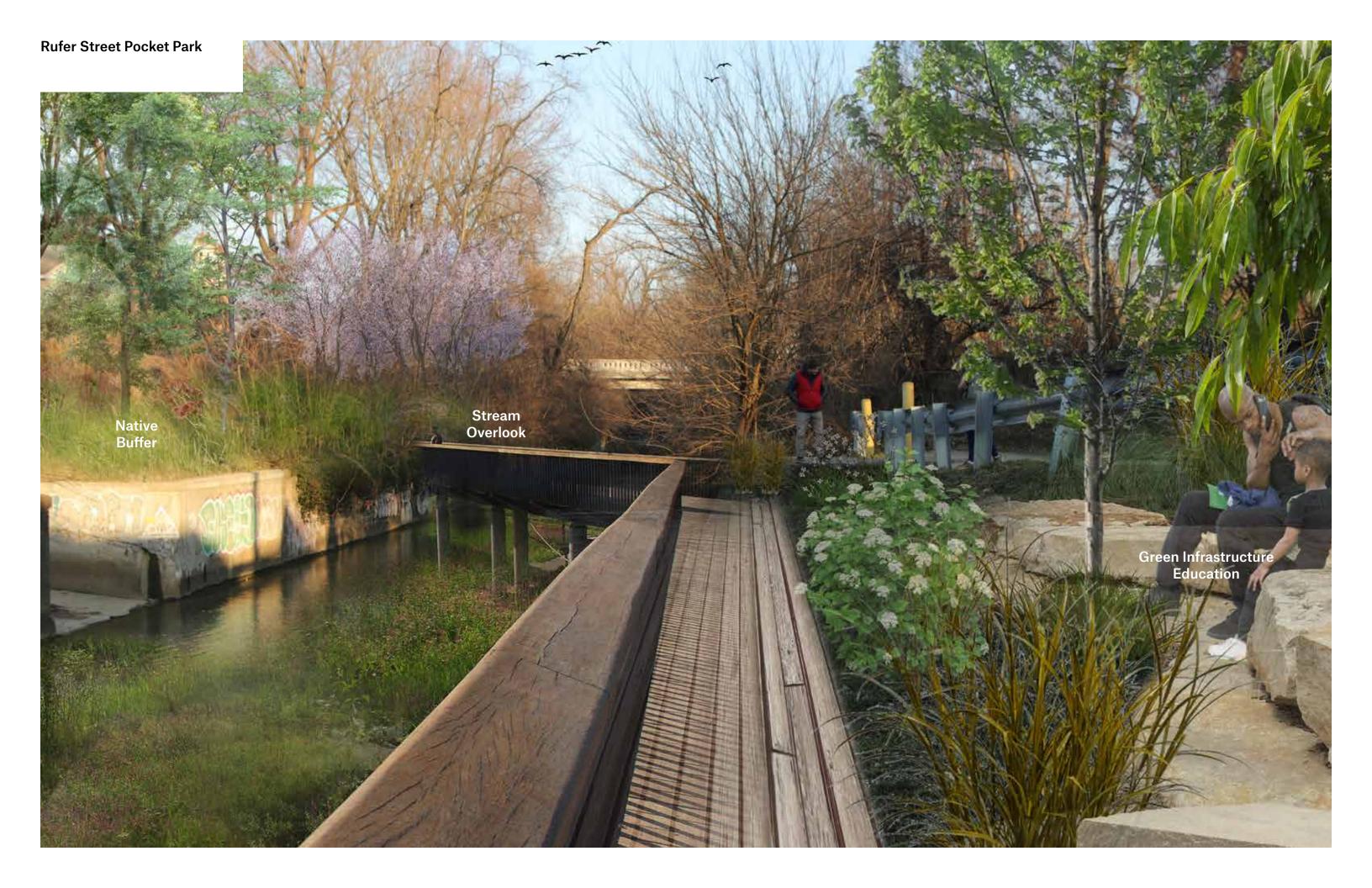
Today the site is made of concrete pads and boxes and is only intended for MSD maintenance-related uses. By adding railings, seating and planting areas, the space could double gathering space for neighbors.



Green Infrastructure

Currently, stormwater runoff directly drains into Beargrass Creek. By intercepting the stormwater with pervious materials or green infrastructure, we can improve water quality and slow the water velocity.



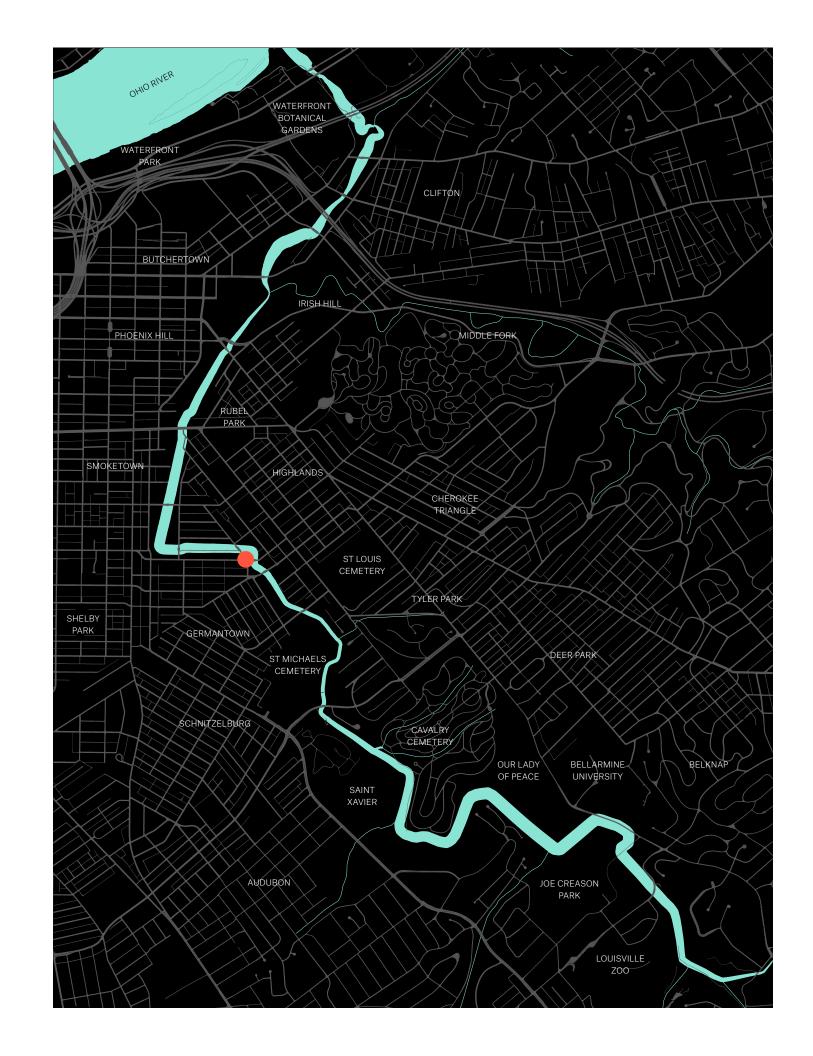


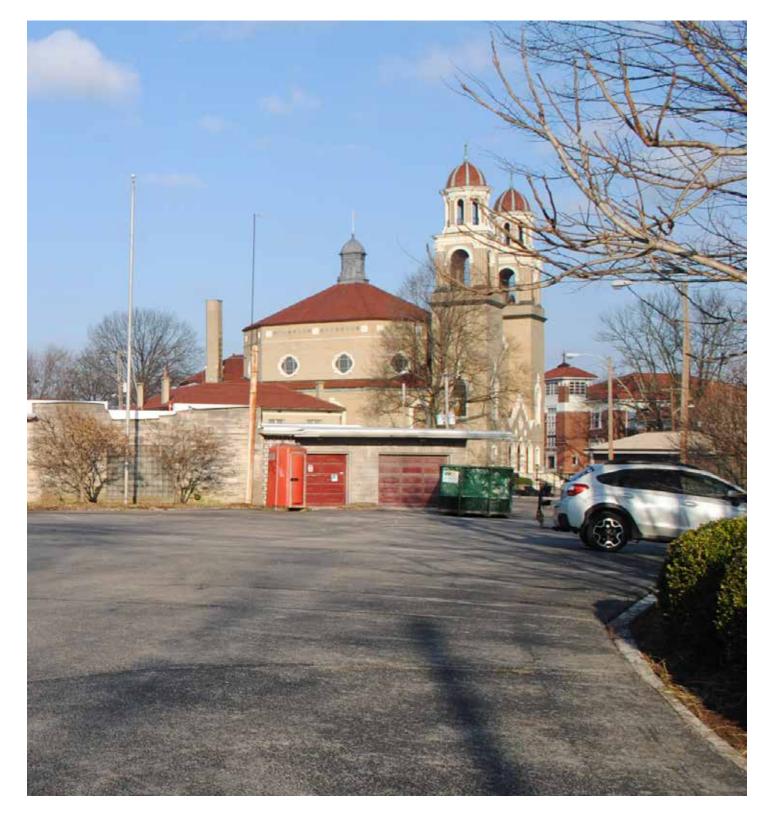


3-Bridges

Intersection of Kentucky and Schiller

Named for the three bridges that were built to cross Beargrass Creek as it curves through this part of Germantown, the stream at the intersection of Kentucky and Schiller is truly hidden in plain sight. Today the stream is hidden by dense invasive stream edges, but it only takes stopping on one of the bridges to see how spectacular the stream is in this location. The design team and stakeholders identified opportunities to improve the complicated, dangerous roadway intersections by creating specific spaces to view the stream, such as German-Paristown Park. Additionally, with the team feels strongly that reorienting aging and underutilized developments toward the stream will create more demand for a walkable and stream-friendly development.





Infill Site

This existing site, located across from the beautiful church on Schiller Avenue, turns its back to the stream and is nearly 100% impervious. Without some investigation, a site visitor may never even realize the stream is there. Re-orienting the development and improving its physical relationship to the stream are key opportunities for this site.



Stream Connection

In this section, the channelized stream is covered in street art from end to end. Often times the murals are used by neighbors as indicators of water levels and make for a stunning backdrop.



Retrofit Park

The existing German-Paristown Parkdoes not have a relationship with the stream either. The park could provide an opportunity to educate visitors and create visual connections while treating stormwater.

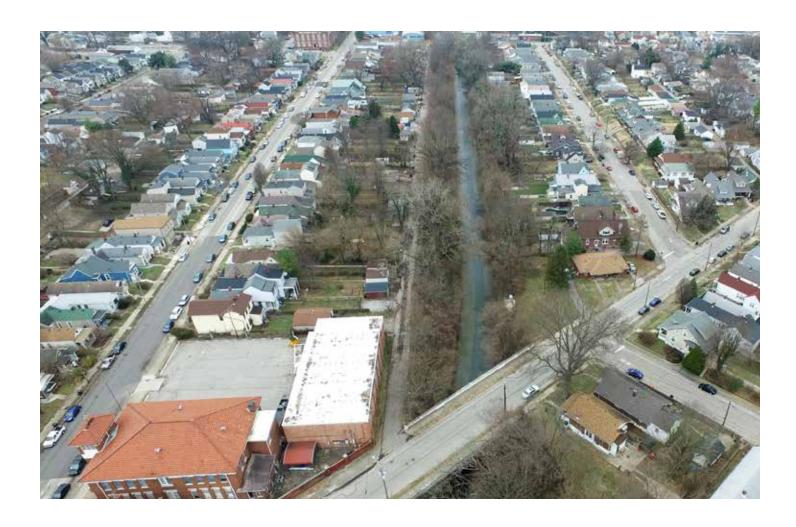


Intersection Retrofit

The Schiller and Oak intersection is oversized and lacks clear pedestrian and bike connections. By making intersection improvements, we can make it easier for community members to visit the stream and increase the viability of the intersection's commercial properties.



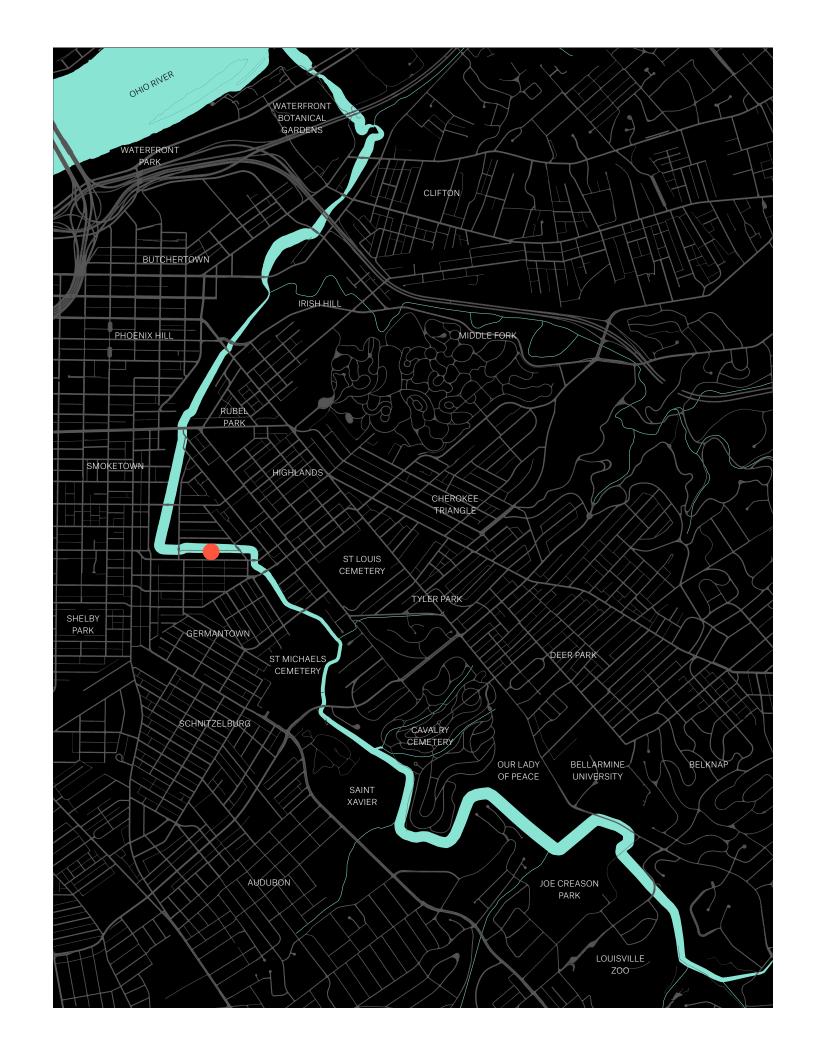




Kentucky Street Alley

Alley parallel to Kentucky Street

Throughout the study area Beargrass Creek has heavily influenced overall community growth and the street network. This part of Louisville is heavily impacted by one-way streets in a dense urban fabric, making opportunities for ample active transportation infrastructure hard to come by. Kentucky Street Alley's three-block stretch along the stream could be utilized to create an uninterrupted trail that showcases the stream. This trail could be built with coordinated green infrastructure elements to actually clean stormwater runoff from adjacent homes and the alley itself.



KENTUCKY STREET ALLEY



Native Buffer

An improved native buffer area could help with user experience and comfort. Additionally, providing more native species could help support stronger ecological function.



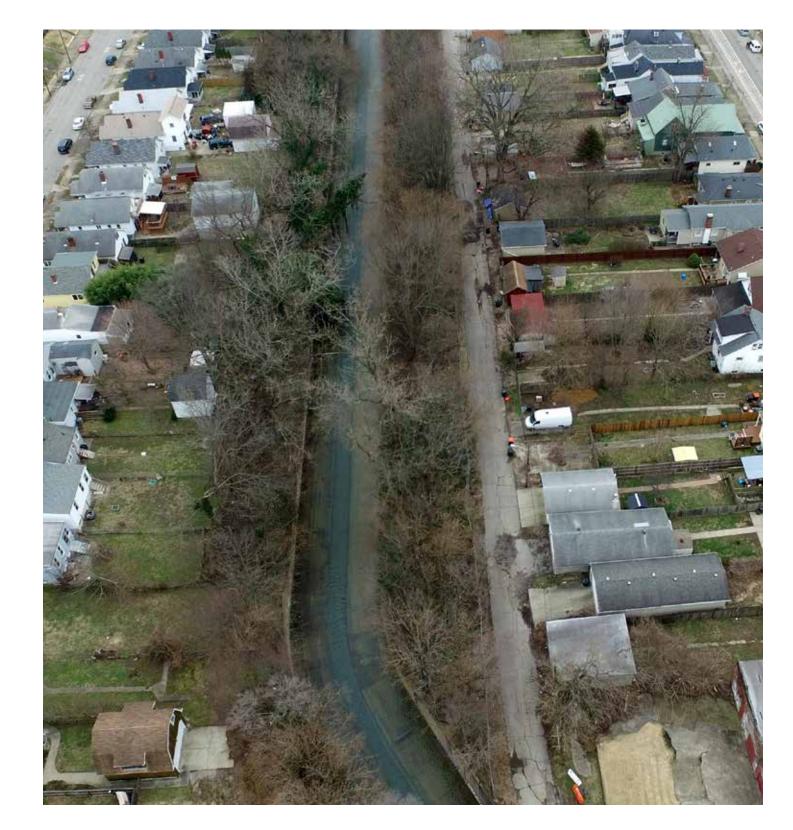
Multi-Use Trail

Utilizing the available space for a wide pathway could help fill a gap in the overall neighborhood bike network, as well as get people closer to the stream corridor.



Clean Stormwater

Currently, stormwater runs into Beargrass Creek with little infrastructure filtration. Improvements to the infrastructure system could help alleviate the pollution into the creek system from runoff surrounding the site.



Connectivity

Taking advantage of the alley is could increase connectivity, improve ecological and human health and even create greater connectivity to sites like the vacant Blue Bird Bread building.



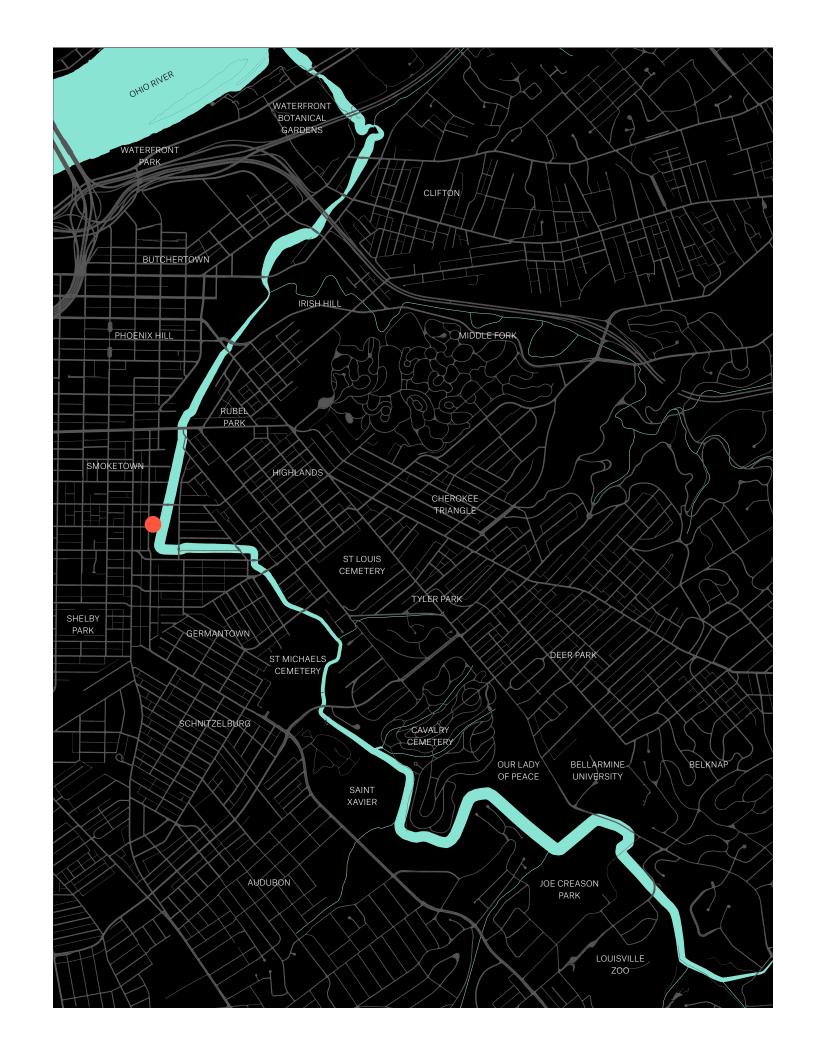




Logan Street Park

Logan Street Basin

Located between Beargrass Creek and a commercial/industrial district, Logan Street Basin is surrounded by industrial warehouses. To the east the site is bordered by a large industrial site and the railroad tracks, while the west hosts smaller commercial uses. This basin has an opportunity to directly connect to the stream system while hosting a series of retention and green infrastructure elements that could help improve the health of the creek system. Situated within an industrial area, this site could also provide public amenity space in addition to the infrastructure systems already on site.





Understanding the Subtext

Having been through multiple design iterations, the Logan Street basin ended with a solution that is intended to allow public access to the site. Under a two foot soil cap is a basin for sewage overflow to help improve water quality. This detail means that plantings and improvements must be strategic and take into account what is underground.



Eco Buffer

Improvement to the ecological buffers connecting to Beargrass Creek can help the overall health of the creek system.



Native Grassland

An establishment of native grassland can help improve the ecological system located on this site and will allow for environmental improvements.



Bioswale Overlook

Currently, this site has a retention pond that helps the site's overall floodplain and ecosystem of the site. Improving this with additional plantings, educational materials and public space elements, like a boardwalk, could help create more stream stewards.



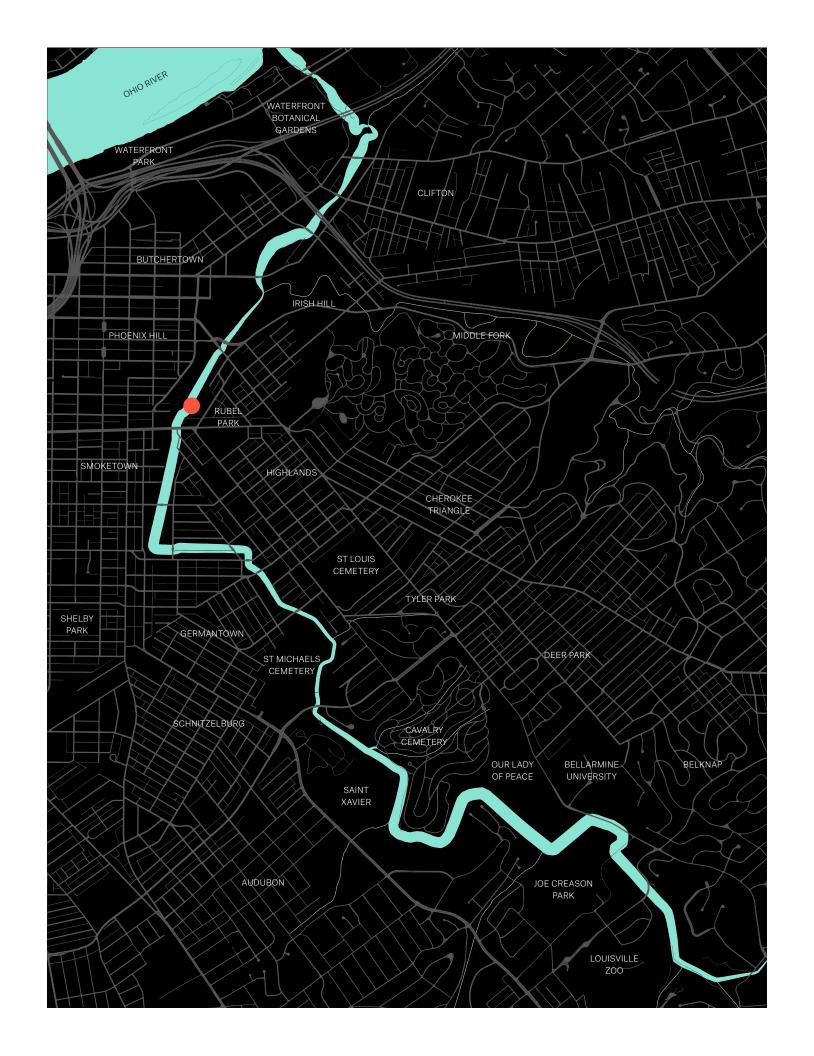




Milewide Depave

Milewide Brewery

Located near Rubel Park, Milewide Depave is an old industrial site that houses a brewery and event space. This area, once an active site, is now an underutilized and impervious parking lot. With improvements to the parking lot and overall creek edge, this site can impact the overall health of and ecological system of the creek and its surrounding environment. By developing the brewery's outdoor space and creating a site amenity, such as a beer garden, we could benefit the brewer while also helping improve overall water quality.





Restorative Plantings

Throughout the site there is little vegetation of ecological significance and simply improving the plantings could play a big role in improving the health of the site.



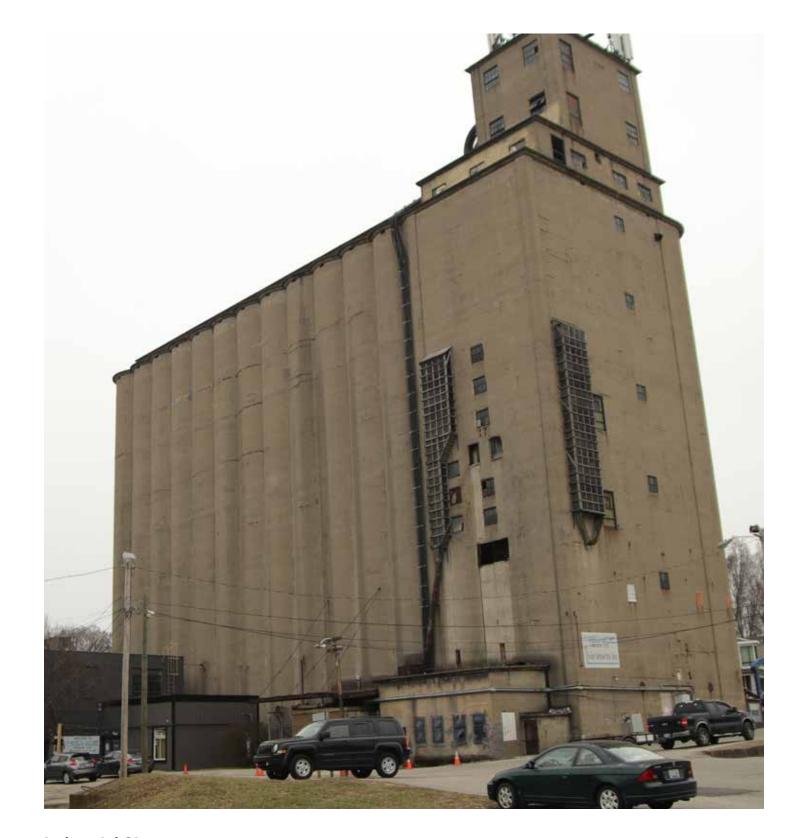
Eco Buffer

Space along the stream and along the abandoned rail spur has become fallow. Creating an intentional native planting along the stream would help encourage a more successful ecological environment.



Parking Lot Depave

Vast amounts of parking lot creates a sense of vacancy and does not help the permeability of the site. Improvements to the overall parking lot could provide safe and clear access, while also improving ecosystem services including water quality.



Industrial Site

Creating a stronger relationship to the stream could help position this dramatic post-industrial site as a future mixed-use redevelopment opportunity.





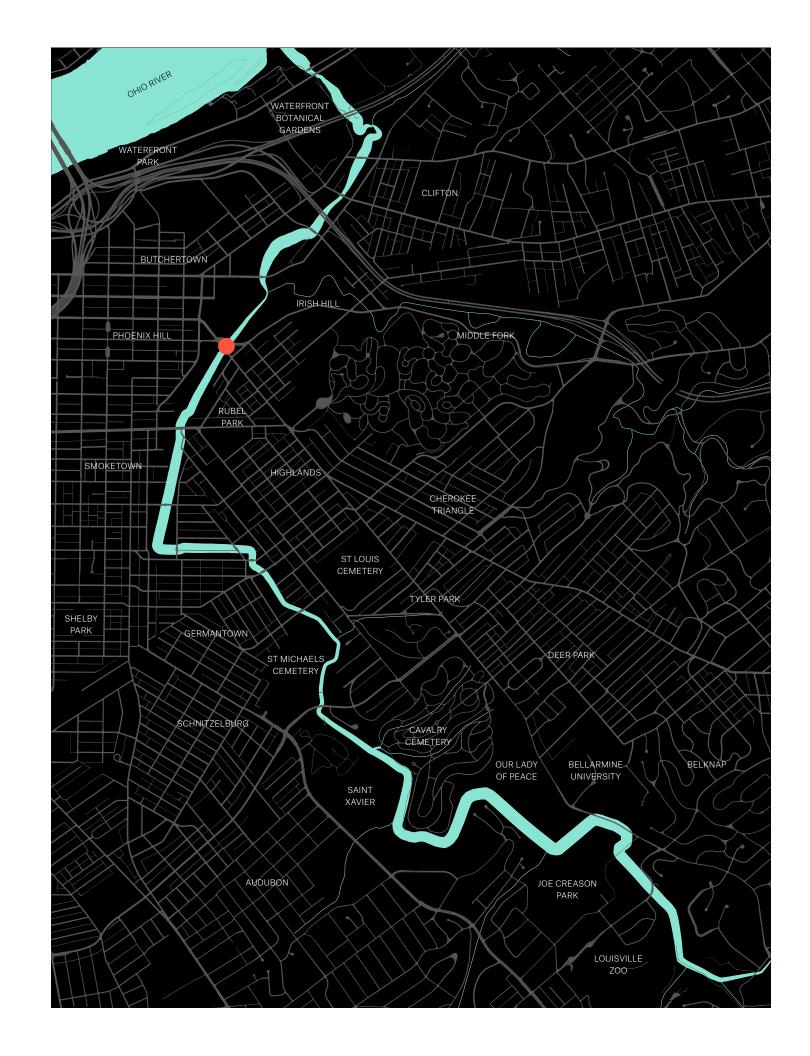


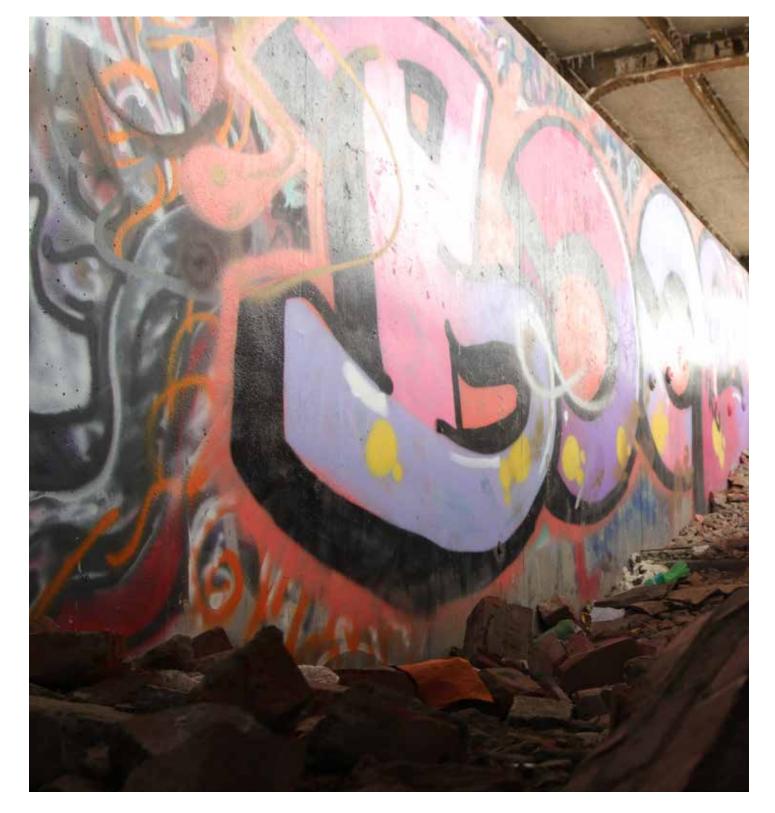
Baxter Station

Intersection of Liberty and Baxter

Located at the intersection of Liberty Street and Baxter Avenue, Baxter Station is surrounded by a high-traffic road and intersection, while an active railroad runs over the site. Once an active rail station, this area is now underutilized and poorly accessible.

Capitalizing on the sites, dramatic infrastructure and history through strategic interventions, we can make it safe, accessible and beautiful. Rethinking the Liberty crossing and providing key public space improvements at and around the main intersection would transform this site.





Graffiti

Currently, the site's bright graffiti gives it a unique identity. This urban "art" adds a place-making quality to the area and identifies areas of vacancy and potential.



Connection

Connection to the stream system is very limited due to the existing infrastructure elements surrounding the creek system. Providing an improved pedestrian access to this area can provide users with safe and clear access points.



Native Buffer

Improved native vegetation can provide users with a comfortable space that removes them from the high volumes of traffic in the area.



Street Retrofit

The current street conditions are not welcoming or safe for pedestrian users. Through strategic retrofitting and improved bike and pedestrian lanes, this area can be comfortable and safe for users to interact with.





Next Steps







Large Logan Street development planning to incorporate Beargrass Creek access after reading about the legacy project in LEO Weekly

Discussed potential improvements to Logan Street Basin field with Louisville MSD and Housing Authority

Metro Louisville working to improve intersection of Liberty and Baxter



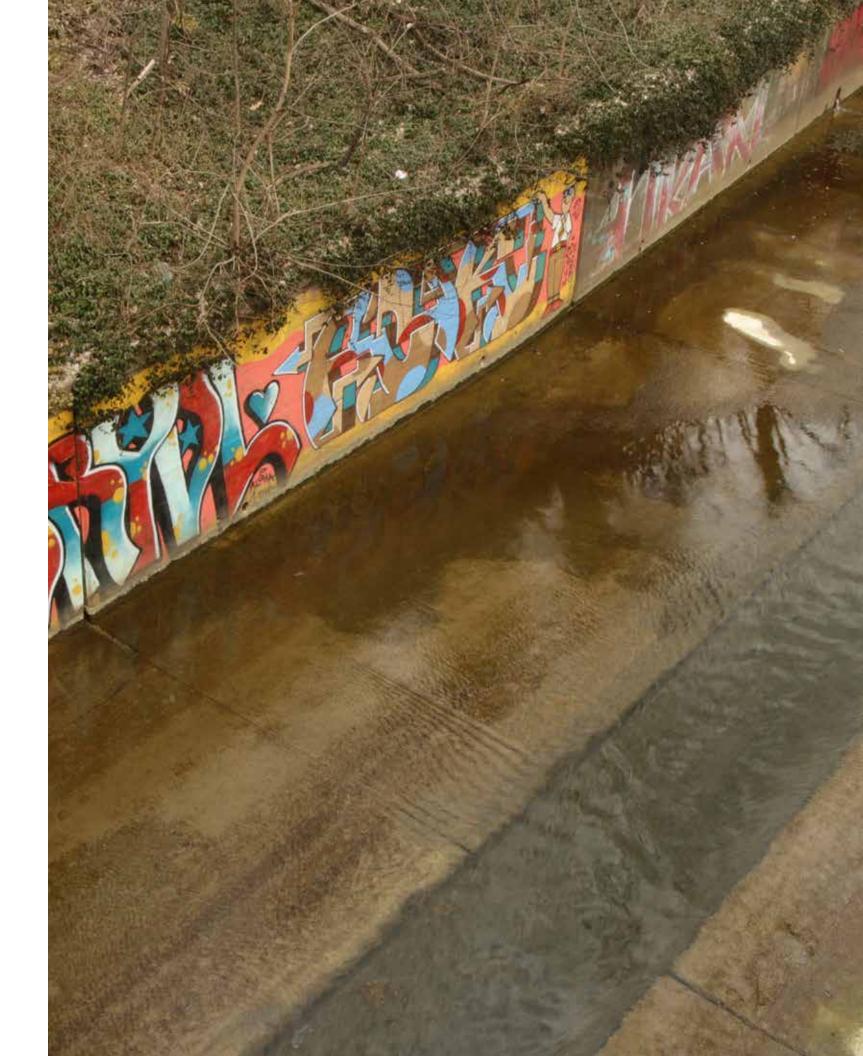


Potential grant for tree planting in Joe Creason Park on nearby site





Landowner has interest in depaving project near Irish Hill



References

UL Historic Photo Database (2019) Univeristy of Louisville, Libraries Digital Collections http://digital.library.louisville.edu/

Lojic Data (2019) Louisville/Jefferson County Information Consortium (LOJIC) https://www.lojic.org/data/lojic-data

USGS Historic Maps (2019) USGS, Topoview, https://ngmdb.usgs.gov/topoview/viewer/#14/38.2106/-85.7216

MSD Annual State of Streams Report (2019) Louisville/Jefferson County Metropolitan Sewer District (MSD), https://www.louisvillemsd.org/WaterQuality

Photography: Louis Johnson, Jared Kaelin and Patrick Henry





Genuine Ingenuity