

The Eastwick Flood Resilience Strategy

March 2026

City of Philadelphia
Office of Sustainability

In Partnership with the Flood
Mitigation Council of Eastwick



Acknowledgments

The Eastwick Flood Resiliency Strategy (EFRS) would not have been possible without the support and collaboration from project partners. Community partners have played a critical role in ensuring a plan that is reflective of community goals by sharing local knowledge, voicing resident priorities, and participating in workshops and outreach events. City departments and state and federal partners provided essential funding, technical expertise, and policy guidance to shape the Strategy's foundation. Academic partners contributed research, data analysis, and innovative approaches to flood resilience that have been incorporated into the Strategy. Together, these partners have transformed the Eastwick Flood Resilience Strategy from a concept into a comprehensive, community-driven plan that is ready for implementation.

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CORE PROJECT TEAM:

Flood Mitigation Council of Eastwick (FMCE)
Philadelphia Office of Sustainability (OOS)
US Fish & Wildlife Service, John Heinz National Wildlife Refuge at Tinicum (Heinz)
The Nature Conservancy (TNC)

SUPPORTING PROJECT PARTNERS:

Delaware County Planning Department
Drexel University
Pennsylvania Department of Transportation (PennDOT)
Philadelphia CDBG-DR Team
Philadelphia Department of Aviation (Philadelphia International Airport)
Philadelphia Housing and Development Corporation (PHDC)
Philadelphia Office of Emergency Management (OEM)
Philadelphia Office of Multimodal Planning (OMP)
Philadelphia Water Department (PWD)
U.S. Army Corps of Engineers (USACE)

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The William Penn Foundation
The City of Philadelphia

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CONSULTING TEAM:

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OLIN
Buy-In Community Planning
Capital Access

Foreword from the Flood Mitigation Council of Eastwick (FMCE)

January 2026

Eastwick, a neighborhood in Philadelphia’s southwest region has distinguished itself as one of the first racially integrated neighborhoods in Philadelphia. While demographics have changed in the decades since the neighborhood has undergone one of the largest urban renewal projects for its time, Eastwick remains an attractive place for individuals to live and raise families. Eastwick, despite its many positive qualities, has also been long associated with topics like flooding, contamination, and promises made to residents that were not kept. We, The Flood Mitigation Council of Eastwick, acknowledge the challenges of the past, but we are no longer defined by them. Our resident council is determined to confront these issues head-on in order to share the message that our community is a vibrant, friendly place to raise a family and enjoy a life in. However, as we acknowledge our past challenges, we must also look ahead so that we may prepare Eastwick for a future that will include new challenges due to climate change.

Since the Summer of 2024, we have been working closely with local stakeholders to understand the causes of flooding in our community as well as the potential options available to reduce impacts these events have on our lives. This report includes a suite of options designed to reduce flooding in our neighborhood that we have reviewed and feel align with our shared vision of Eastwick’s future. This ongoing effort will continue to require many hands at all levels of government and representation from the larger Darby-Cobb’s watershed as we work towards a strategy that ensures all communities in our area remain safe, clean, and livable for generations.



RESIDENT-COMPRISED FLOOD MITIGATION COUNCIL OF EASTWICK:

- | | | |
|-------------------|--------------------|------------------|
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Community Day 2025

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HOW TO USE THIS PLAN

When reading the Eastwick Flood Resilience Strategy (EFRS), you are invited to first learn more about why this Strategy is needed. From there, the report guides you through how the team selected the most impactful projects included within this Strategy. Explanations and specific information are provided for each project with detailed descriptions of how each project would evolve during the planning, design, permitting, construction, and implementation phases.

This report encourages continued participation in future project discussions. Community engagement would continue to play a vital role in shaping the projects that would reduce flood risks within Eastwick.

01

Building a Flood-Resilient Eastwick



July 2025 Eastwick Open House

Welcome to Our Thriving Community!

Eastwick is a vibrant neighborhood in the southwest part of Philadelphia. The neighborhood is home to over 12,000¹ residents. Residents and neighbors benefit from resources like the John Heinz National Wildlife Refuge at Tinicum, a well-utilized community recreation center, beloved community events, and a strong legacy of community advocacy.

While the community has experienced flooding in the past, Eastwick residents are moving into a new chapter - one rooted in resilience, equity, and collaboration. This Flood Resiliency Strategy will enable Eastwick to continue as a vibrant neighborhood now and into the future.

¹ Population estimate reflects zipcode 19153 population

“It is extremely beneficial to have residents that opt to remain in the community to show up, and have impact; if only given the opportunity.”
- The RFP Selection Committee



American Bar Association Service Day 2025



Eastwick Community Day 2025



Basketball Court at Eastwick Regional Park

Looking Back to Look Forward

The Eastwick neighborhood became the focus of one of America’s largest urban renewal projects in the 1950s and 1960s, spearheaded by the Philadelphia Redevelopment Authority (PRA). The vision, further discussed in the Lower Eastwick Public Land Strategy, was to transform Eastwick into a “City within a City” by acquiring nearly 5,800 properties - displacing over 8,000 residents through eminent domain - and constructing new homes, schools, and infrastructure across 2,300 acres. While parts of this plan were realized, such as the creation of 4,200 housing units and new public amenities, large portions of the land remained vacant due to significant environmental challenges and mismanaged development. The marshy, low-lying terrain of Eastwick required massive amounts of fill and new drainage infrastructure, but these interventions were insufficient to address the area’s chronic vulnerability to flooding.

Historically, Eastwick has always been flood-prone due to its natural marshland setting and proximity to the Delaware and Schuylkill Rivers. Urban development - both locally and upstream - intensified pressure on the neighborhood’s drainage systems worsening flood risks. Major storms, including Hurricane Floyd in 1999, have caused severe damage to homes and infrastructure. Community opposition to new development has often centered on concerns that further construction would worsen flooding. In recent years, resident advocacy has led to calls for flood risk mitigation to take precedence over new development, highlighting the need for land use decisions that prioritize resilience.



Timeline of Named and Unnamed Flooding Impacts in Eastwick

Documented Flooding Events in Eastwick

Eastwick has been impacted by several flood events; in addition to named flood events, heavy rains have frequently affected the community.



What is a Flood Resilience Strategy and Why Do We Need One?

Eastwick experiences flooding from multiple sources. The “Planet Streets” (affectionately named so because of streets named “Saturn Place, Venus Place, Mars Place”), Eastwick’s most flood prone area, have experienced multiple flooding events to date. Flood risks are expected to increase with climate change, making more of the neighborhood vulnerable to future flooding. Work is already starting to happen to protect Eastwick. An interim flood barrier is currently being designed with a goal to be installed in 2027. Because flooding comes from several sources, a single solution will not be enough to protect Eastwick both now and into the future.

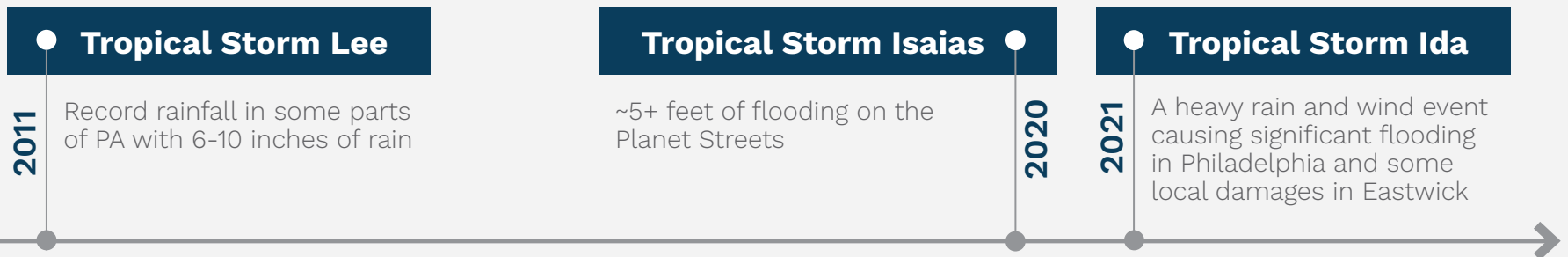
The EFRS brings together multiple projects in a coordinated way to ensure that each project complements the others and collectively addresses all flood risks.

What does this Strategy consist of?

This Strategy puts forward multiple flood resilience project concepts. When combined these projects would reduce flood risks for Eastwick residents. Project concepts are in different stages of development, and would continue into the next stages of implementation based on the recommendations in this plan.

As a community-driven process, the EFRS:

- Builds on deep community engagement to understand community priorities
- Was co-developed by Eastwick Community leaders
- Would be easier to implement with strong community buy-in

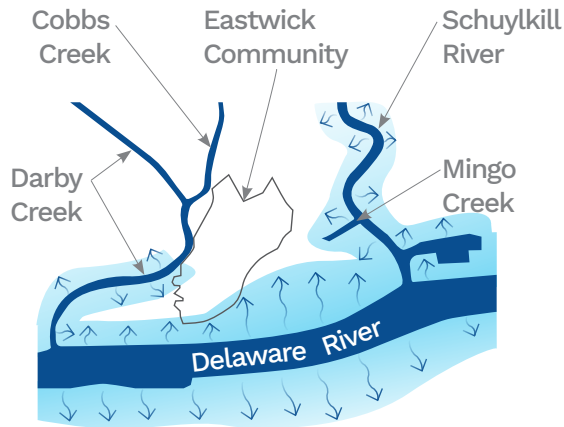


Flooding in Eastwick

Eastwick experiences flooding from multiple sources, including coastal, riverine, and in some cases stormwater; in addition, sunny day flooding (flooding in the absence of rainfall or storms) could occur in Eastwick toward mid-century as sea levels continue to rise. All of these sources are likely to worsen over time due to climate change, with the greatest increases expected in riverine flooding and coastal flooding. These types of flooding and their projected frequencies informed the strategy and where flood resilience projects are recommended.

1

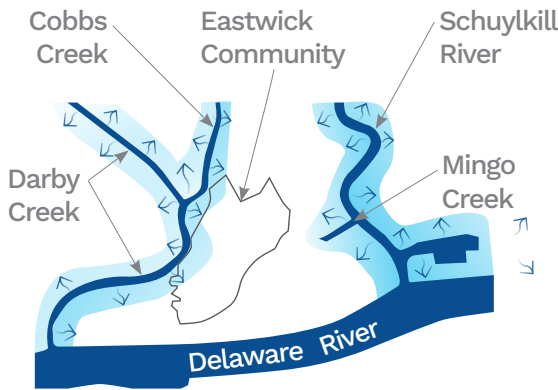
COASTAL



Coastal storm surge, sea level rise, and high tides will increasingly push water into Eastwick from the tidal Delaware River, Darby and Cobbs Creeks, and the Schuylkill River. In addition to coastal flooding storm events, sea level rise may cause “Sunny Day Flooding” from regular higher levels of water.

2

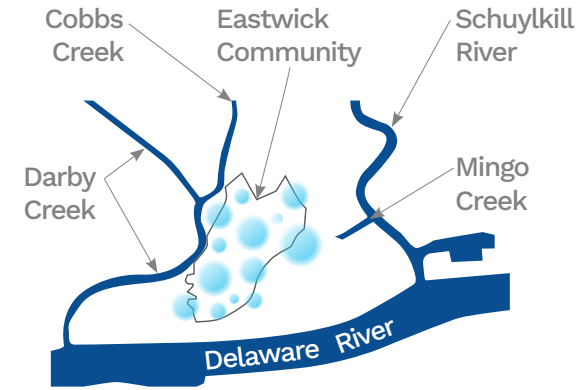
RIVERINE



Water flowing through Darby and Cobbs Creeks, driven by upstream runoff, brings high-speed water into Eastwick by overflowing the creek banks into the neighborhood.

3

STORMWATER

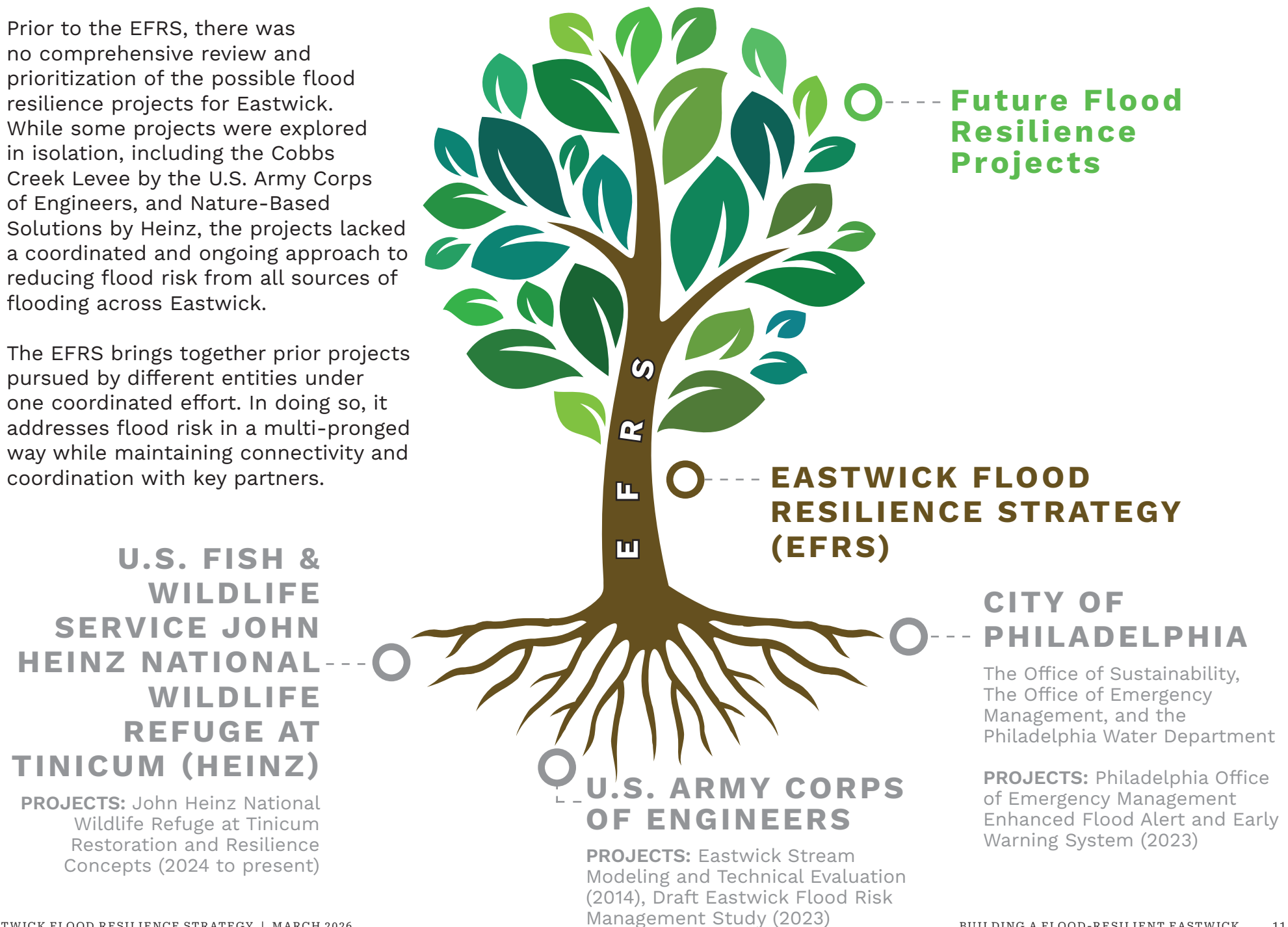


While less common than the other types of flooding, intense rainfall can overwhelm local drains, leading to localized flooding after heavy storms.

An Ever-Growing Effort!

Prior to the EFRS, there was no comprehensive review and prioritization of the possible flood resilience projects for Eastwick. While some projects were explored in isolation, including the Cobbs Creek Levee by the U.S. Army Corps of Engineers, and Nature-Based Solutions by Heinz, the projects lacked a coordinated and ongoing approach to reducing flood risk from all sources of flooding across Eastwick.

The EFRS brings together prior projects pursued by different entities under one coordinated effort. In doing so, it addresses flood risk in a multi-pronged way while maintaining connectivity and coordination with key partners.



A Place-Based Approach to Flood-Resilience Planning

The EFRS is grounded in the concept of place-based work. The Strategy aims to tackle the complex challenges that Eastwick faces in a comprehensive and cohesive way. The core principles of this approach include considering the history that has caused environmental harm and distrust, understanding the present context of how environmental justice persists, and empowering residents and local leaders to develop solutions towards a shared vision by building their capacity to lead and sustain collective action in advancing the community's goals toward revitalization.

The EFRS place-based approach was achieved by bringing together stakeholders early and often, and working with residents and local leaders to develop comprehensive solutions and address multiple issues at once, in contrast to the previous piecemeal approach of focusing on a single issue or problem at a time.

Eastwick has been studied for decades without follow-up implementation that has improved resilience. However, the many planning and research exercises have informed this Strategy. The EFRS is intended, by contrast, to have tangible and near-term impacts. The Four Pillars of Place-Based Work are listed below and provided the foundation for the EFRS process.



01

Creating a Shared Understanding of the Issues

Bridge information gaps by bringing together technical assessments and community perspectives.



02

Strengthening Partnerships and Collaboration

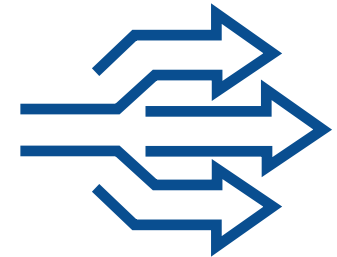
Center community leadership, deepen engagement, and coordinate with ongoing city, state, and federal efforts.



03

Co-Developing Actions that Build a Resilient Future

Grow adaptive capacity, build on lived experiences, and identify resident-supported solutions.



04

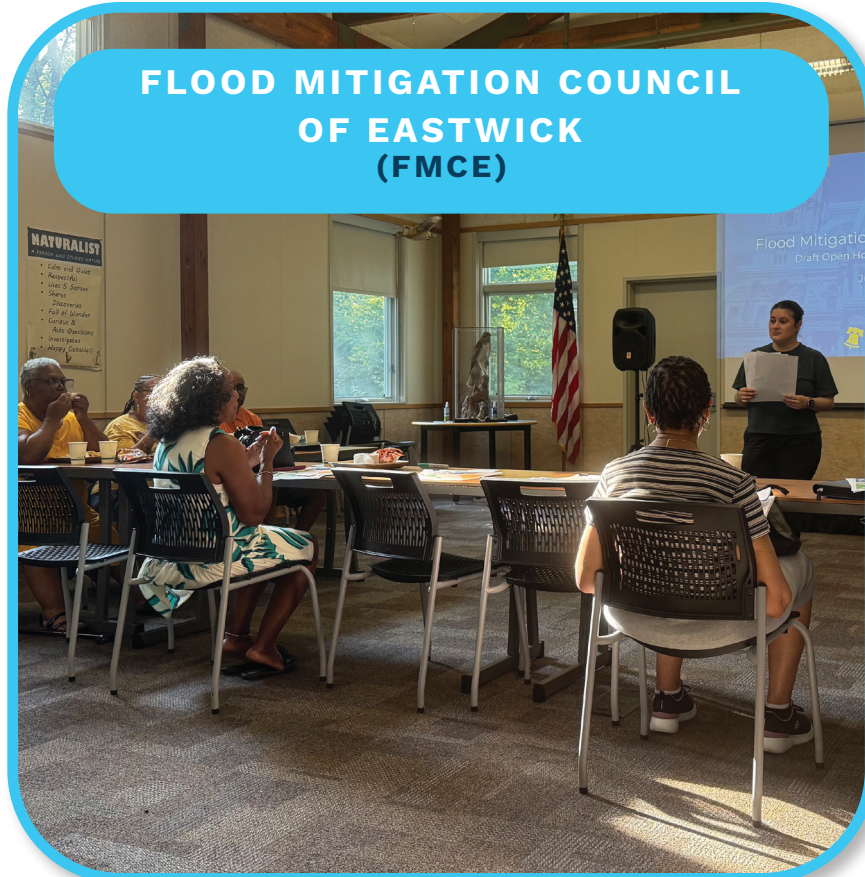
Sustained Transformation Initiatives

Build partnerships, secure funding, and accelerate implementation.

A Community-Driven Plan

From reviewing the request for proposal to engage consultant support for this project, to defining the final strategy, this plan has been driven by the community of Eastwick. The FMCE provided steady leadership throughout the process, while robust community engagement provided opportunities to hear from a wide set of voices.

The FMCE is made up of 10 Eastwick residents who represent different areas of Eastwick, from the Planet Streets, to “Old Eastwick” (portions of the neighborhood that withstood the Urban Renewal plan and have older homes, more typical of an older Philadelphia rowhome), to the neighborhood adjacent to Heinz. The Council was co-convened by OOS and Heinz to inform both this EFRS and the Heinz Nature-Based Solutions Feasibility Study. During monthly meetings, the Council guided the EFRS through identifying the flood risk reduction, putting projects together, advising community engagement, educating neighbors and friends, and co-designing the final strategy.



FLOOD MITIGATION COUNCIL OF EASTWICK (FMCE)

January 2025 FMCE Meeting



COMMUNITY-WIDE ENGAGEMENT (EVENTS)

- December Open House
- Quarterly Town Halls
- Chat and Chews
- Eastwick Community Day
- July Open House

July 2025 Eastwick Open House

Flood Risk Safety in the Meantime

The Eastwick Flood Resilience Strategy holistically addresses flood risk in the long-term. In the meantime, there are various projects in the pipeline that will help reduce flood risk in Eastwick in the near-term.

The Heinz Refuge has restoration projects within the refuge (in orange on this map) at different stages of design and construction. These projects will help store floodwaters during smaller, more frequent events.

The City of Philadelphia has initiated an Eastwick-specific alert system, paired with flood monitoring technology throughout Darby Creek and Cobbs Creek. The City is also designing an interim flood barrier.

These are important projects to reduce flood risk in Eastwick. However, for larger, catastrophic flooding events, longer-term investments as described in this strategy are needed.

Near-Term Flood Barrier (in design):
An interim flood barrier to reduce riverine flood risk.

84th Street Floodplain Restoration (entering design):
Floodplain restoration and connection to provide more space for floodwater to spread out and infiltrate into the ground, reducing floodwater volume and energy in the Darby Creek.

Impoundment Tidal Marsh Restoration (in design):
Restoring a large portion of the impoundment back into freshwater tidal marsh, creating over 100 acres of tidal marsh and water storage, reducing tidal flooding impacts in the Lower Darby Watershed.

Turkey Foot Marsh (recently completed construction):
Restored 4 acres to tidal marsh by improving tidal connectivity and creating intertidal habitat to increase water storage.

Henderson Marsh Wetland Restoration (entering construction):
Improving tidal flow in about 100-acres of tidal marsh by creating a new connection with Darby Creek, dredging new channels, and widening existing channels to create more water storage.

Woodland Loop Trail (entering design):
Lowering the elevation of the wetland and creating channels throughout the 40-acre site to allow for better drainage and inundation of restored wetland.

Eastwick Near-Term Flood Barrier Project:

OOS is working with City departments to design and construct a near-term flood barrier in Eastwick. The barriers would be comprised of wire-framed boxes lined with a geotextile fabric, filled with soil. The barriers will be installed on city parkland near Cobbs Creek and the Planet Streets, following a similar alignment as the USACE's levee in the levee feasibility study. These barriers would offer a quicker, lower-profile alternative to a levee and serve as an interim solution while the longer-term flood resilience measures in the Eastwick Flood Resilience Strategy are further developed in collaboration with residents, community groups, and government agencies. The design phase is underway this year, with funding support from FEMA, PEMA, and the CDBG-DR program following Hurricane Ida. The City expects installation to occur in 2027.



Demo barriers on display at Eastwick Community Day (above left) and an example of barriers stacked for flood protection (above right)
Source: HESCO Bastion, Inc.



In October 2025, OOS brought Eastwick residents and city departments to see New York City's interim flood barriers

Office of Emergency Management - Enhanced Flood Monitoring and Eastwick Alerts:

ReadyPhiladelphia: Eastwick Alerts is a pilot, place-based messaging system developed by Philadelphia's Office of Emergency Management (OEM) to provide real-time severe weather and flood notifications specifically for Eastwick residents and businesses. Integrated with the ReadyPhiladelphia emergency alert platform, it informs subscribers of upcoming storms that may result in flooding, notify them when flooding does occur, when the storm has passed, and any recovery information. Developed in collaboration with local stakeholders and supported by a city Operations Transformation Fund grant, the system aims to provide the community storm and flooding related information to help them make informed decisions to reduce the impacts of flooding. Residents can easily enroll online at phila.gov/ready for tailored flood alerts, which are only sent when there is an actual flooding threat, ensuring timely and relevant information to support preparedness, response, and recovery. Additionally, OEM is installing cameras and flood gauges in Philadelphia, including the Eastwick area and Darby and Cobbs Creeks to provide the public with access via a public website to real-time water level information. The website will be available to the public in Spring 2026. Data from this gauge network will be used to further tailor the Eastwick Alert system.



OEM outreach about Eastwick alerts at Eastwick Community Day (above right) and a gage recently installed in Eastwick (above left)



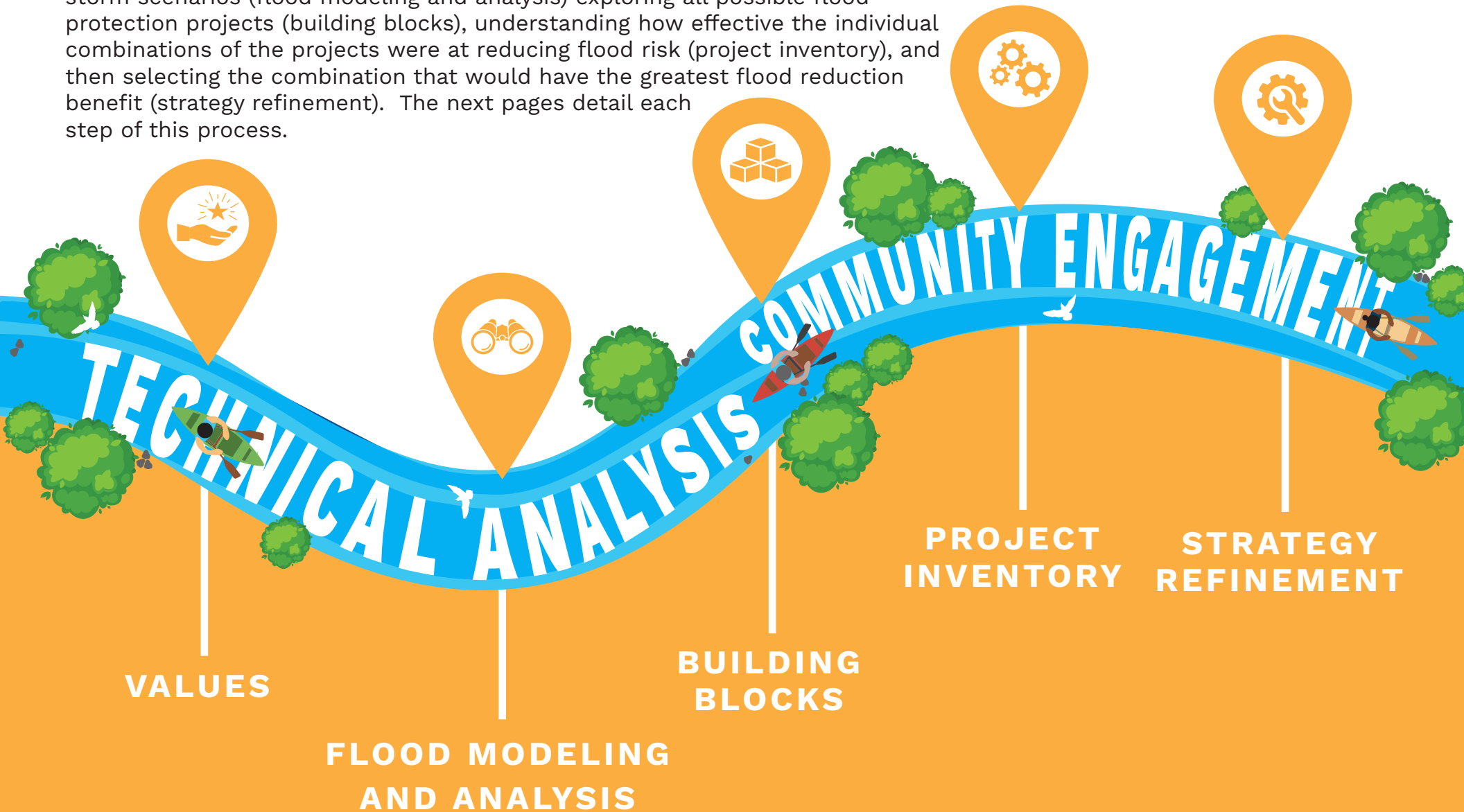
02

Creating the Strategy

July 2025 Eastwick Open House

Come with Us on the Journey to Flood Resilience!

To build the EFRS, the FMCE, OOS, and the project team followed a process that embedded technical analysis and community engagement every step of the way. This process included developing community values, defining future storm scenarios (flood modeling and analysis) exploring all possible flood protection projects (building blocks), understanding how effective the individual combinations of the projects were at reducing flood risk (project inventory), and then selecting the combination that would have the greatest flood reduction benefit (strategy refinement). The next pages detail each step of this process.





Starting with Our Values

The values driving the EFRS reflect what the community wants Eastwick to look like into the future. Community values were considered equally alongside the technical criteria when evaluating which flood protection projects would work in Eastwick. For more information on the community engagement process and timeline, please see Appendix B.

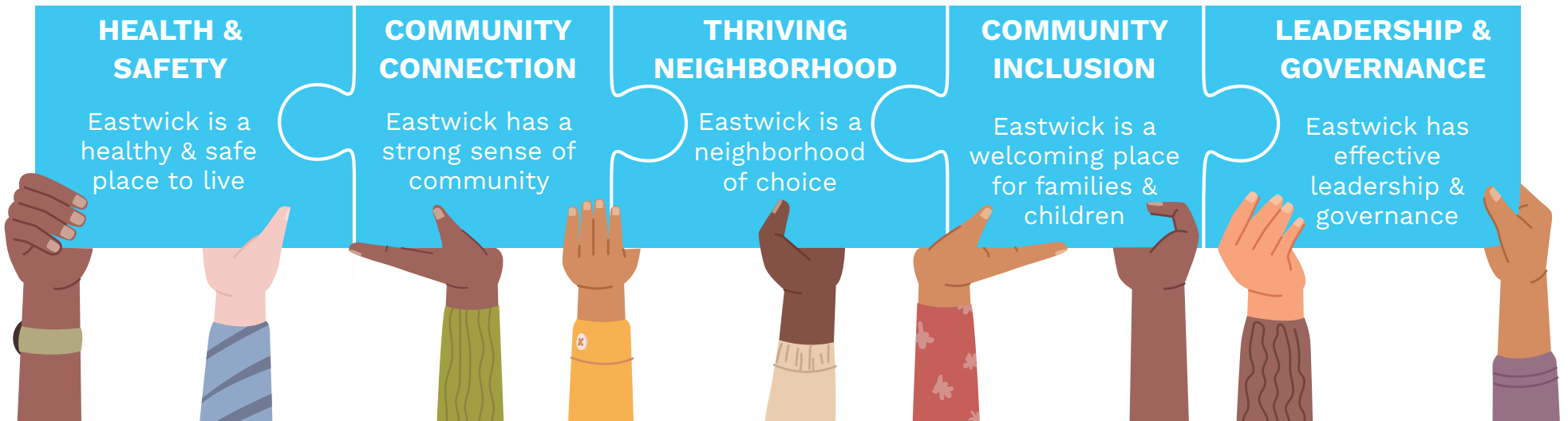


Saturn Place, "Planet Streets"

COMMUNITY ENGAGEMENT CALL-OUT

Empowering residents in decision-making starts by embedding the values of residents in the evaluation process. The FMCE defined these community values that guided how projects were identified and evaluated for incorporation into the EFRS. When pieced together, these values can help the Eastwick community overcome past challenges and trauma and make the community feel whole.

COMMUNITY VALUES





Flood Modeling and Analysis

Flood modeling uses data to create water simulations which predict how water flows and spreads. Models use information such as rainfall amounts, land elevations and form, and drainage systems to create maps showing where flooding is most likely to occur. While models are very helpful for showing us where flooding is more likely to occur, it is still impossible to predict exactly where floodwaters will go. By understanding these risks in Eastwick, the EFRS was designed to protect people and buildings, improve drainage, and prepare emergency response efforts. More information on flood modeling results is provided in Appendix A.

COMMUNITY ENGAGEMENT CALL-OUT

The project team shared modeling results early and often with the community. FMCE and community members identified areas of flooding not noted in the model. This helped the project team recalibrate the model to reflect authentic flooding conditions.

The team evaluated flooding using four different types of storm events:

- 1 RIVERINE FLOODING STORM**
More water coming from Cobbs and Darby Creeks
- 2 COASTAL FLOODING STORM**
More water coming from the Delaware River via tidal Darby Creek and Schuylkill River
- 3 EXTREME PRECIPITATION STORM**
More rain coming down directly over Eastwick
- 4 RIVERINE AND COASTAL STORM**
A combination of more water coming from creeks and tidal rivers

METHODS

COLLECT DATA

Gathered data on rainfall quantities, sea level rise, landforms, and the drainage system.



BUILD THE MODEL

Built and ran the model to determine how each of the four storm events impact Eastwick.



ADD PROJECTS

Added the flood mitigation projects to the model to see potential flood mitigation benefits.



INTERPRET

Reviewed and revised flood mitigation projects to achieve the highest reduction in flood risk.



The Building Blocks and the EFRS Process

The FMCE worked with the project team to identify four major strategies or “building blocks” for managing flooding. Water is not going away, but there are ways to provide protection from the water. The building blocks below show the different ways we can reduce flood risk in Eastwick.



BLOCKING WATER

(Levees, Berms, and Barriers)



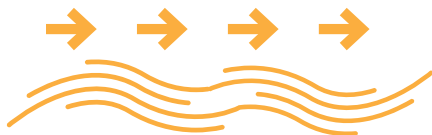
STORING WATER

(Nature-Based Solutions)



MOVING AWAY FROM RISK

(Voluntary Assisted Relocation)

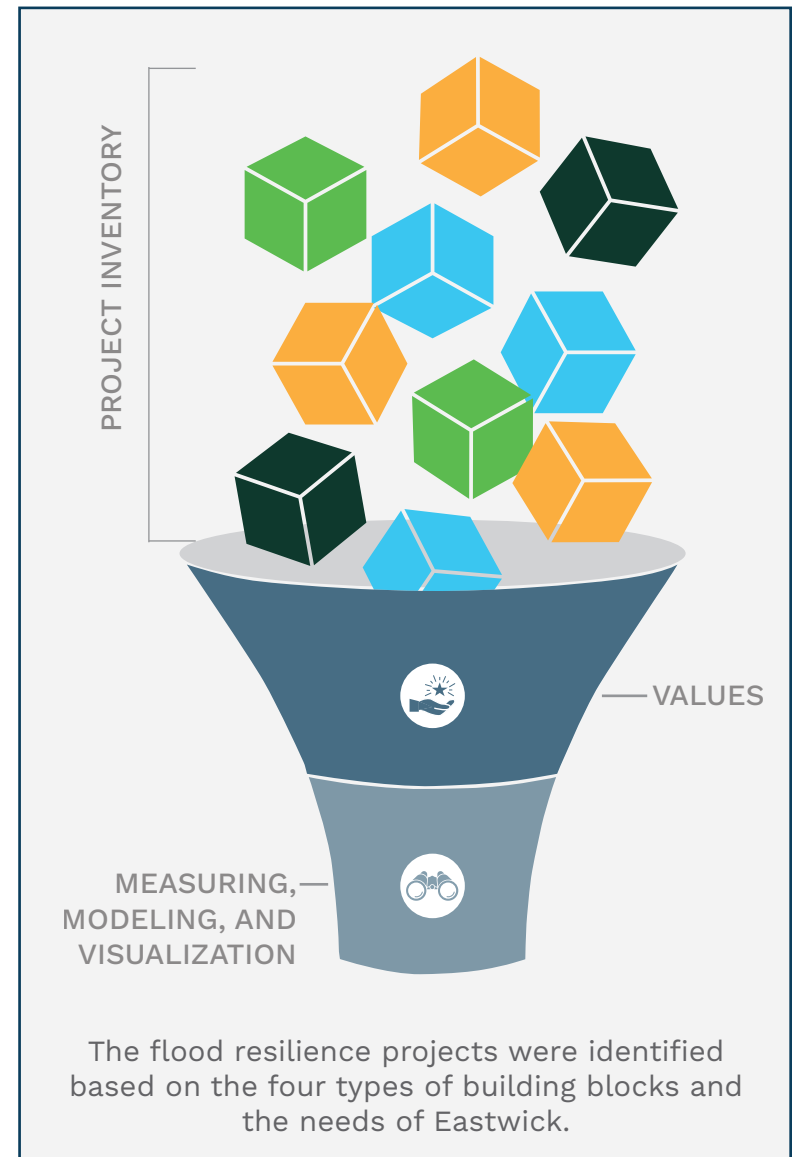


MOVING WATER

(Stormwater Infrastructure Improvements)

COMMUNITY ENGAGEMENT CALL-OUT

The project team, with input from OOS and the FMCE, evaluated the projects based on the values and modeling results. Community members reviewed the list of refined projects at an Open House.





Project Inventory

Once the building blocks were defined, the FMCE worked with the project team to develop an exhaustive list of potential projects for further evaluation.

COMMUNITY ENGAGEMENT CALL-OUT
Community members were involved throughout the selection process for which flood resilience projects would be included within the EFRS. Through FMCE meetings, Town Halls, and the Small Community Meetings, the community's valuable input helped define which flood protection projects were to be included.



1.0 BLOCKING WATER

- 1.1 Cobbs Creek Levee
- 1.2 Longer Levee with Auxiliary Channel
- 1.3 Floodplain Benching Upstream & Downstream 84th Street
- 1.4 Complementary Berm at Downstream End of Landfill
- 1.5 Blocking of 86th Street Overflow
- 1.6 Levee Adjacent to SEPTA Line
- 1.7 Blocking of Coastal Flooding Route by SEPTA Corridor



2.0 STORING WATER

- 2.1 Wetland South of Railroad
- 2.2 Active Recreation and Wetland Storage at former Pepper School site
- 2.3 Wetland Creation in City-Owned Land South of 84th Street
- 2.4 Tank Farm Wetland Restoration
- 2.5 Heinz Berm and Breach



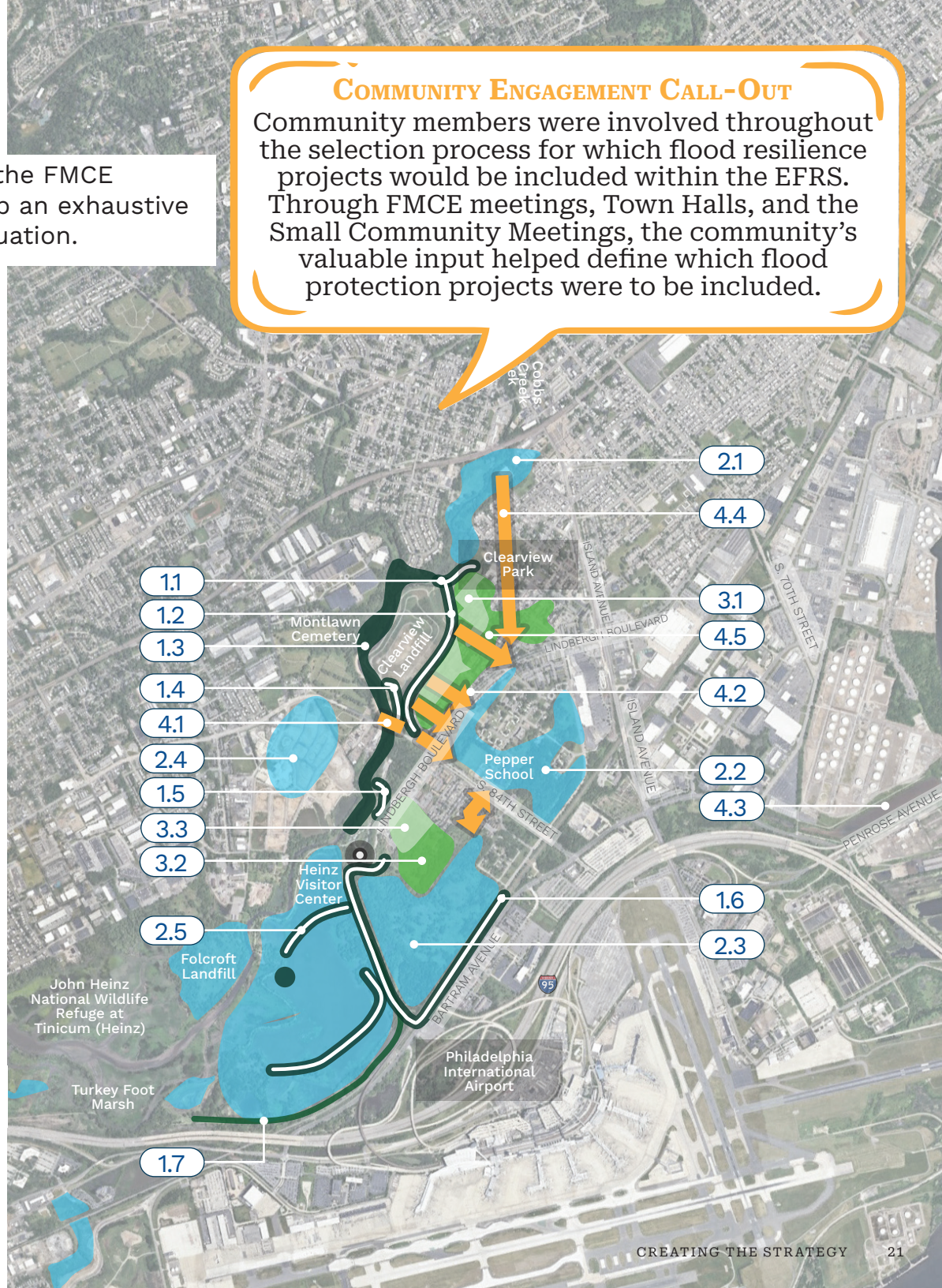
3.0 MOVING AWAY FROM RISK

- 3.1 Voluntary Buyouts
- 3.2 Large Landswap
- 3.3 Small Landswap



4.0 MOVING WATER

- 4.1 Enlarge 84th Street Bridge
- 4.2 Upsize Stormwater Conveyance System in Eastwick
- 4.3 Add Capacity to Mingo Creek Pumping Station
- 4.4 Tunnel Conveyance from Creek to Pepper Bowl
- 4.5 Cloudburst Streets through Eastwick along 78th, 82nd, etc.



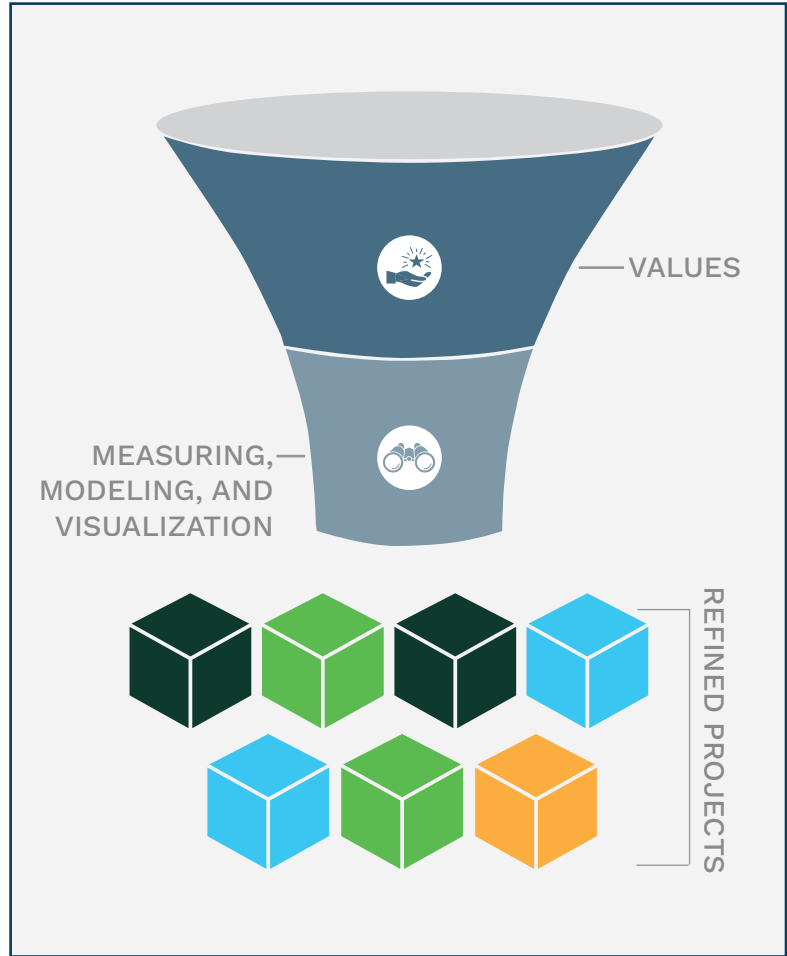


Strategy Refinement

After all possible projects were identified, the project team worked with the FMCE and the community to refine the list of flood resilience projects that, when combined, would have the greatest flood risk reduction benefit and align best with the community’s values.

The team began with more than 20 potential projects for evaluation. Through technical analyses (including hydraulic modeling, conceptual grading, and regulatory/maintenance considerations) and extensive discussions with the technical team and agency stakeholders, the list was narrowed to an interim set of about 12 projects. Using these projects as building blocks, the team developed three scenarios for further discussion with FMCE, supported by additional hydrologic and hydraulic modeling. Each scenario offered a distinct package of benefits. Public input on the scenarios was gathered at an open house. Following feedback and further dialogue among FMCE members, a preferred design option was selected. The preferred option was then advanced through additional technical analysis, agency stakeholder reviews, and FMCE discussions.

*“We cannot eliminate flooding, but we can reduce the risk to the people and important places in Eastwick.”
- Donna Johnson*





John Heinz National Wildlife Refuge at Tinicum (Heinz)

03

The Eastwick Flood Resilience Strategy



The Eastwick Flood Resilience Strategy

Of the 20 projects identified in the project inventory, 7 were chosen for further assessment. These flood resilience projects that will have the greatest flood risk reduction benefit for Eastwick. The Strategy describes the projects, their benefits, and the structure for implementing these projects.



The Eastwick Flood Resilience Strategy



BLOCKING WATER

Cobbs Creek
Horizontal Levee*



STORING WATER

Pepper School*

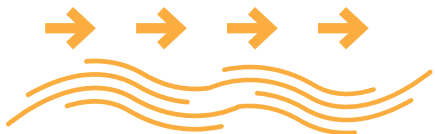
“The Parcel”*



MOVING AWAY
FROM RISK

Voluntary Assisted
Buyout and Relocation*

Elevate 84th Street/
Hook Road



MOVING WATER

Regional Coastal
Protection

Mingo Creek Pump
Station Enhancements

*Priority Projects that focus on mitigating riverine flooding impact and can be advanced by OOS and Heinz. The remaining projects are led by other entities and/or require additional development.

Feasibility Considerations

A variety of factors affect how complicated it would be to build different flood protection projects. The following terms are used in this section to explain the key considerations affecting project complexity in Eastwick.



Key Feasibility Issues: Practical problems such as technical, financial, legal, or environmental concerns that must be addressed to help the project move into the design and construction stages.



Cost: A rough estimate of how much the project would cost across all phases of implementation.



Funding: The main viable sources of funding that are secured or could be secured to pay for the project. The typical federal funding landscape is changing. Some funding sources that are listed may not currently be available.



Partners: The departments and organizations that would lead and support the project through implementation.



Timeline for Implementation: An estimate of how long it would take for the project to be put into place.

Key Acronyms and Abbreviations

- BRIC:** Building Resilient Infrastructure and Communities (federal grant program to reduce risk from natural hazards)
- CDBG-DR:** Community Development Block Grant Disaster Recovery (federal grant program that helps communities rebuild post-disaster)
- DCED:** Pennsylvania Department of Community and Economic Development
- DNCR:** Pennsylvania Department of Conservation and Natural Resources
- EFRS:** Eastwick Flood Resilience Strategy
- FEMA:** Federal Emergency Management Agency
- FMA:** Flood Mitigation Assistance (federal grant program to reduce or eliminate flood risk to buildings insured by the National Flood Insurance Program)
- FMCE:** Flood Mitigation Council of Eastwick
- FHWA:** Federal Highway Administration
- HMGP:** Hazard Mitigation Grant Program (federal grant program that helps communities develop hazard mitigation plans and mitigate risk post-disaster)
- HUD:** U.S. Department of Housing and Urban Development
- NFWF:** National Fish and Wildlife Foundation
- OEM:** City of Philadelphia Office of Emergency Management
- OOS:** City of Philadelphia Office of Sustainability
- PADEP:** Pennsylvania Department of Environmental Protection
- PEMA:** Pennsylvania Emergency Management Agency
- PennDOT:** Pennsylvania Department of Transportation
- PHDC:** Philadelphia Housing Development Corporation
- PNDI:** Pennsylvania Natural Diversity Inventory
- PROTECT:** Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation Program (federal grant program for transportation resilience)
- PWD:** Philadelphia Water Department
- SLR:** Sea Level Rise
- SHPO:** State Historic Preservation Office
- USACE:** U.S. Army Corps of Engineers
- USDA:** U.S. Department of Agriculture
- USDOT:** U.S. Department of Transportation

Key Terms

Below is a list of key terms used across the next set of pages.

Acquisition: Purchasing properties that are needed to implement the project

Basin: Large storage area for water to collect

Combined Sewer Overflow: The discharge of untreated combined sewage (containing a mixture of stormwater and wastewater) to waterbodies during flood events.

Controlled Discharge: Intentional and designed release of stored water.

Controlled Overflow: Managing stormwater runoff that can lead to Combined Sewer Overflows.

Convey: Moving water, typically through a below ground pipe or an above ground channel

Culvert: A below-ground tunnel-like structure that moves water.

Deployable: A tool that can be temporarily put in place in advance of an anticipated flooding event

Dredging: Digging up sediment or material to increase storage capacity

Fill: Soil or other materials placed to elevate sites or fill in low areas in the landscape.

Floodplain: Land next to a waterbody where water flows during flood events

Floodplain Grading/Terracing: Lowering the ground in flood-prone areas to increase the storage of floodwater.

Ground Floor: The first occupied floor in a property, or “first floor.” Most homes in Eastwick do not have basements, so this term refers to the floor that sits directly on the ground.



Horizontal Levee: A gently-sloping embankment that blocks water from moving into flood-prone areas, covered with grass or other vegetation.

Impoundment: In this report, refers to the large wetland at Heinz.

Induced Flooding: Any increase in flooding due to installation of the flood protection feature, including worsening existing flooding or creating flooding in a new place.

Inlet: A way for surface water, typically on a roadway, to get into an underground water conveyance system

Levee/Berm: A raised strip of land designed to block floodwater and protect the land behind it from flooding.

Municipal Separate Storm Sewer System (MS4): A network of pipes, channels, drains, and other infrastructure that collect, convey and manage stormwater within regulated urban areas.

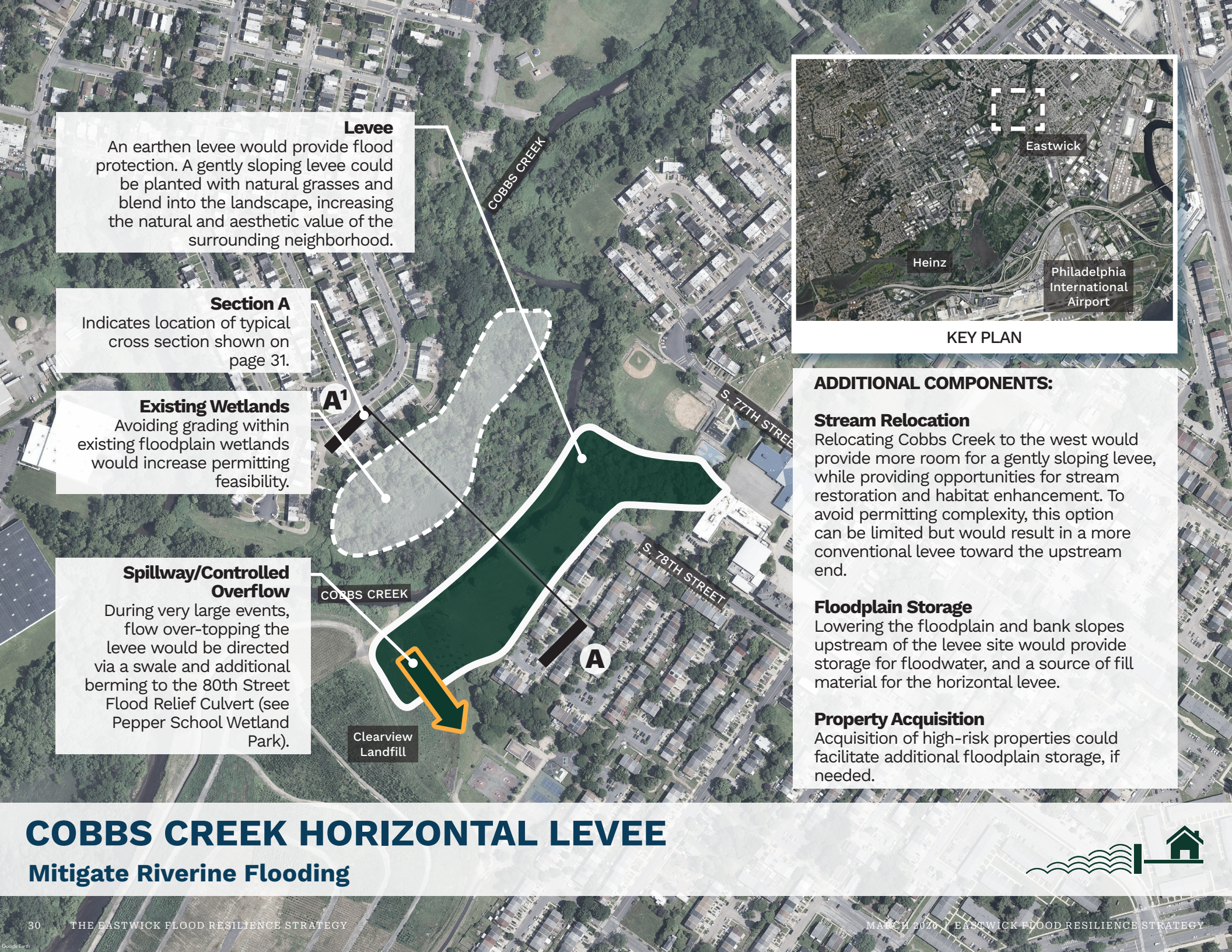
Spillway: An engineered, stabilized area where flood water overtops a levee, dam or other structure in a controlled manner.

Swale: A shallow, above-ground channel typically planted with grasses and other plants which can move and filter water.

Wetland: Areas where standing water covers or is near the surface of the soil for significant portions of the year and that supports water loving plants.

Wetland Bank: A site or sites where wetlands are restored, created, enhanced, or preserved, to compensate for impacted wetlands in other areas.

American Bar Association Service Visit March 2025



Levee
An earthen levee would provide flood protection. A gently sloping levee could be planted with natural grasses and blend into the landscape, increasing the natural and aesthetic value of the surrounding neighborhood.

Section A
Indicates location of typical cross section shown on page 31.

Existing Wetlands
Avoiding grading within existing floodplain wetlands would increase permitting feasibility.

Spillway/Controlled Overflow
During very large events, flow over-topping the levee would be directed via a swale and additional berming to the 80th Street Flood Relief Culvert (see Pepper School Wetland Park).

Clearview Landfill



KEY PLAN

ADDITIONAL COMPONENTS:

Stream Relocation
Relocating Cobbs Creek to the west would provide more room for a gently sloping levee, while providing opportunities for stream restoration and habitat enhancement. To avoid permitting complexity, this option can be limited but would result in a more conventional levee toward the upstream end.

Floodplain Storage
Lowering the floodplain and bank slopes upstream of the levee site would provide storage for floodwater, and a source of fill material for the horizontal levee.

Property Acquisition
Acquisition of high-risk properties could facilitate additional floodplain storage, if needed.

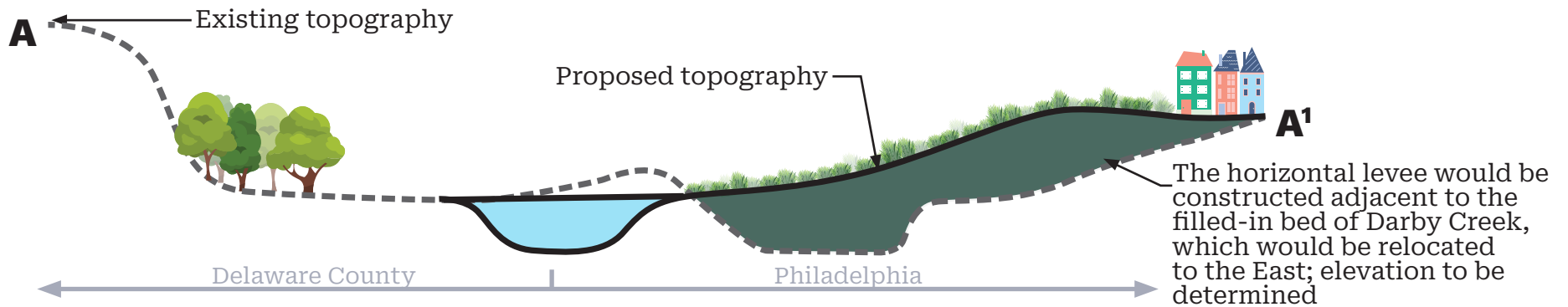
COBBS CREEK HORIZONTAL LEVEE

Mitigate Riverine Flooding



What is the Horizontal Levee and how does it help Eastwick?

The Cobbs Creek levee is an effective flood defense measure, helping to direct floodwaters from the Darby and Cobbs Creeks away from Eastwick. The US Army Corps of Engineers has proposed an earthen (soil) embankment levee in this location. The EFRS envisions a gently sloping levee (also called a Horizontal Levee) that blends into the surrounding landscape and supports surrounding habitat. Due to site constraints and to ensure flooding is not increased elsewhere, the height of the levee could be right-sized and include additional elements. Measures such as upstream floodplain terracing, property acquisition of high-risk properties, and stream relocation could allow additional space for a horizontal levee and create flood storage space to mitigate flooding elsewhere. Over time, the levee height could be increased as needed to allow for increased levels of protection as sea level rise increases. Opportunities to create floodplain and upland habitat as well as connections to regional trails would be incorporated to create a multi-functional project.



The **Horizontal Levee** would provide a gently sloped land form that would block floodwaters from entering Eastwick. The USACE berm height is still to be determined; however, this concept could work with any berm height USACE designs.

Traditional Levee	Gently-Sloping Levee
<p>USACE has developed a proposed plan for building a levee to block flow from Cobbs Creek from flooding Eastwick. Moving forward, designing the proposed feature as a gently sloping levee rather than a traditional levee can provide some important benefits, while providing the same level of flood protection.</p>	
<ul style="list-style-type: none"> • Aesthetics: Gentle slopes blend into the landscape and look more like fields than built structures, reducing visual impact. • Safety: Shallow slopes lower the risk of falls and are safer for children and older people. • Usable Area: Gradual slopes create space that can be used for walking, biking, picnics, and other outdoor opportunities • Habitat: The levee surface can be planted like a meadow to support pollinators, birds, and other wildlife. • Reliability: Gentler slopes are less likely to erode if water flows over them, which helps the levee hold up better. 	



Project Challenges and Opportunities

Evaluating a Horizontal Levee – To date, USACE studies have focused on a taller and more narrow earthen berm. A horizontal levee could offer the same level of flood control while allowing additional flood storage space.

Preventing Induced Flooding - Levees can cause other areas to flood, which could be offset by lowering design heights and/or increasing floodplain storage. Finding this balance would be critical for the final design.

Right-Sizing the Floodplain Grading Area - Depending on the feasibility of property acquisition and/or floodplain grading upstream on both sides of the Cobbs Creek (including in Delaware County), floodplain grading could be increased or decreased.

Timeline for Design and Construction – The timeliness of delivering the levee would be critical to provide near-term flood protection for the most at-risk residents. Alternative delivery and funding strategies should be explored to the extent they can expedite construction.

Coordination with Delaware County – Buy-in from and co-leadership with Delaware County and neighboring municipalities would be needed to ensure project success.

Suitability of Floodplain Fill for Horizontal Levee Construction – The cost effectiveness of the project relies on reusing fill from the floodplain excavation from the floodplain grading area as suitable fill for the levee. Early geotechnical testing would be critical for confirming the feasibility of building the horizontal levee using excavated floodplain material.

Permitting – Relocation of the existing stream could create permitting challenges. A pre-application conference with USACE and PADEP would help to clarify the permitting feasibility. Early screening for PNDI and SHPO would also assist in identifying permitting challenges relating to threatened and endangered species and historical/archaeological resources.



Cost **\$23-\$66 million**



Timeline

Funding/Planning	2 years
Design/Permitting	1 year
Construction	2 years



Partners

Lead: U.S. Army Corps of Engineers (USACE)

Non-Federal Sponsor: City of Philadelphia

Key Stakeholders: Delaware County,
Colwyn Borough



Funding

Project funding for design and construction has been appropriated through Section 205 of the Flood Control Act of 1948. Project funding for design and construction up to \$22 million has been appropriated through Section 205 of the Flood Control Act at a 65/35 cost share. The City as the non-federal sponsor would have to secure the 35% cost share and any exceedance over the \$22 million limit. Incorporating nature-based solutions could provide additional funding sources such as NFWF, etc. Specifically:

- **State Revolving Funds (SRF) can provide zero-or low-interest loans for infrastructure projects.**
- **State programs such as Growing Greener have funded stream restoration projects and should be considered for design funding.**

Partner Spotlight: U.S. Army Corps of Engineers



For more than a decade, the U.S. Army Corps of Engineers (USACE) has partnered with the City of Philadelphia to understand and address flood risk in Eastwick. The collaboration began with USACE’s “Federal Interest Determination” in 2014, which evaluated the feasibility of constructing a levee to protect Eastwick from riverine flooding caused by Cobbs and Darby Creeks. Under this initial work, USACE conducted hydraulic modeling, preliminary geotechnical investigations, and environmental reviews. This work has been important for developing future flood mitigation strategies.

In 2023, USACE released the Draft Integrated Feasibility Report and Environmental Assessment for public review. The report identified a tentatively selected plan (TSP) featuring a 1,370-foot levee along Cobbs Creek. This milestone reflects years of study, technical modeling, and public engagement.

This work has been important for developing future flood mitigation strategies and has required a phased approach of levee height optimization to address the impacts of any induced flooding in the larger regional area.



Picture of Cobbs Creek close to overtopping near ‘Planet Street’ homes

Spillway/Controlled Overflow From Horizontal Levee

During very large events, flow overtopping the Cobbs Creek Horizontal Levee would be directed via a swale and additional berming to the 80th Street Flood Relief Culvert (see Cobbs Creek Horizontal Levee).

Enhanced Inlets

Installing new and larger inlets within key areas would intercept and convey floodwaters into the large flood relief culvert.

Underground Flood Relief Culvert

Large box culverts under 80th Street would convey flood waters to a downstream wetland site.

Above-Ground Designed River Channel/Canal

A surface water channel would move flow from the flood relief culvert to the main wetland complex.

Roadway Crossing

Roadway elevations and culverts would convey flow across local roadways.

Trail Connections

Connections to Heinz and existing trail system near Clearview Landfill would create passive recreation opportunities.

Active Recreation

Ball fields, courts and other active recreation would maintain community amenities.

Controlled Discharge

Controlled Discharge to Heinz supports hydrology for future wetlands located on "The Parcel."



KEY PLAN

Perimeter Berming

Perimeter berming along the north and east sides of the Pepper School site would provide enhanced flood protection for adjacent homes, while increasing storage capacity.

Wetland Storage

Lowering the elevation of the Pepper Middle School site would provide flood storage and ecological enhancement. The grading extents could be adjusted based on required storage, tree removal, phasing of building demo, etc. Open water, low marsh and high marsh zones would create visual and ecology diversity.

Building Demolition

Full demolition of the former Pepper Middle School would maximize wetland storage potential.

Additional conveyance options and further details are dependent on review by and coordination with PWD

PEPPER SCHOOL WETLAND PARK

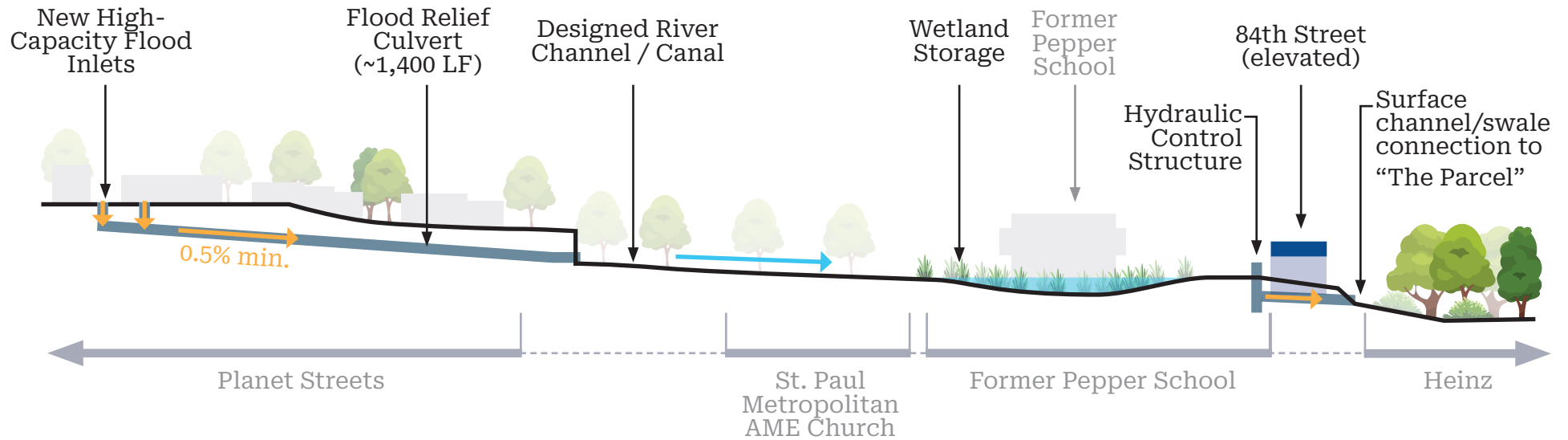
Mitigate Coastal, River, and Stormwater Flooding



What is a Wetland Park and why does Eastwick need it?

During a flood event, uncontrolled flood waters devastate Eastwick. The wetland park measure would help direct the flow where it wants to go - the Pepper School area. The Pepper School Wetland Park project would use a system of connected culverts and swales to move floodwaters from the “Planet Streets” to a wetland complex at the former Pepper Middle School, and

ultimately to “The Parcel”, a large open space owned by the Philadelphia Housing and Development Corporation. The concept envisions the demolition of the former Pepper Middle School to create an extensive wetland storage complex fed by floodwater. Opportunities to create passive and active recreation throughout the complex would also be incorporated.



Timeline

Funding/Planning	5 years
Design/Permitting	6 years
Construction	5 years



Cost

Cost in Review



Partners

Lead: City of Philadelphia

Collaborating Organizations: The Nature Conservancy, Heinz

Key Stakeholders: School District of Philadelphia, Kingdom Hall Jehovah’s Witnesses, St. Paul Metropolitan AME Church, Philadelphia Water Department, Philadelphia Streets Department, Philadelphia Parks and Recreation.



Project Challenges and Opportunities

Land Acquisition/Control - Much of the land that would be required for the wetland project is publicly-owned. The former Pepper Middle School building property was owned by the School District of Philadelphia and will be transferred to the City's Department of Public Property. Other surrounding areas are owned by the Philadelphia Redevelopment Authority and St. Paul Metropolitan AME Church. As such, coordination with these entities would be key to moving forward with the project.

Road Raising - Elevation of portions of 80th Street from Pompey Place through Lindbergh Boulevard would be needed to provide adequate cover over the flood relief culvert.

Community Amenities - Incorporating trails and active recreation would enhance the function of the site as a community amenity, connecting to nearby trail networks along Cobbs Creek and Heinz.

Phasing - Phasing would allow early projects to move forward as funding is available. As one example, wetland creation in certain areas could precede the demolition of the Pepper School, if funding is available.

Right Sizing - The wetland storage area could be made smaller or larger based on the depth to groundwater, trees, dedicated space for active rec/parking, etc.

Sediment and Debris Control - Sediment and debris carried by floodwaters would necessitate enhanced pre-treatment, easy and frequent access to the culvert for cleaning, and a rigorous inspection and maintenance within the flood relief culvert.

Tree Removal - Significant tree removal would be required to create and maximize floodplain storage. A tree stand inventory should be performed to identify and protect high quality stands, if present. Wetland storage could be right-sized to limit tree removal and limit disturbance of high quality trees. Tree planting in other portions of the neighborhood could offset any loss of tree canopy.

Grading Feasibility - Gentle slopes and low elevations create challenges in moving water. Large utilities running perpendicular to the culvert along Buist, Pompey Place and particularly Lindbergh Boulevard may also pose feasibility challenges. A utility survey should be performed as a near term action step to evaluate these issues further.

Maintenance - Proximity and potential connection to "the Parcel" makes Heinz a potential maintenance partner.

Monitoring Equipment - Installing monitoring equipment could compare pre- and post-construction water levels and modeling results.

Demolition of Pepper Middle School - The middle school, built in the 1960s, likely has environmental challenges that would make demolition and hauling costly. Brownfield remediation programs may be a potential funding source.

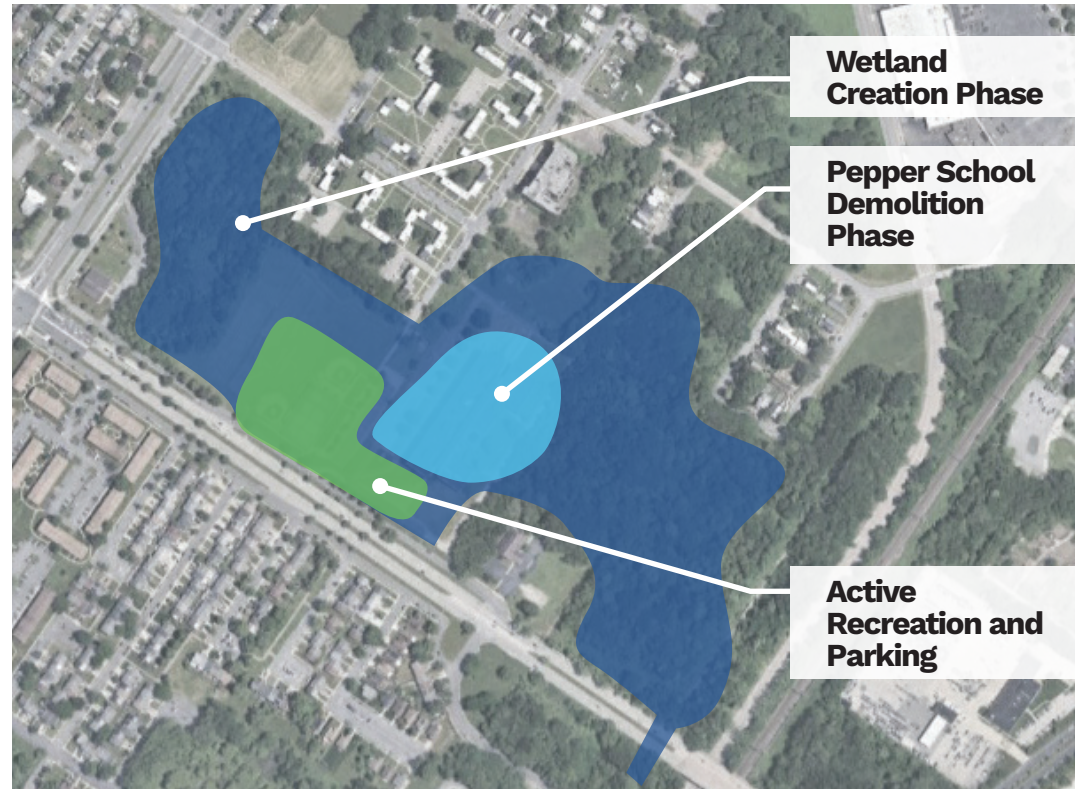
Ownership of Conveyance/Flood Relief Culvert - There is no precedence for this type of flood control infrastructure in Philadelphia. An entity would need to be established or identified to own and maintain this infrastructure.



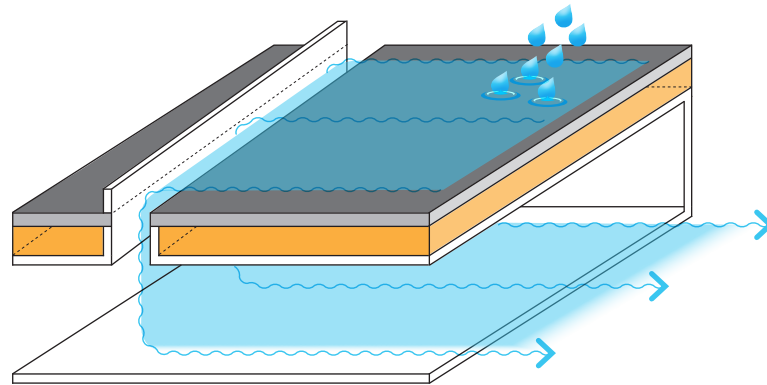
Funding

A wide variety of funding sources, including grants and philanthropic support, are potentially available to support this work:

- **Wetland Mitigation Credits** – creation of wetlands on-site could be partially funded by the creation of a wetland bank.
- **Local Philanthropy** - philanthropic funds could provide seed money.
- **State Revolving Fund (SRF)** - funding through PennVest, administered through the Commonwealth Department, could provide zero-or low-interest loans for stormwater infrastructure projects.
- **National Fish and Wildlife Foundation and similar grants** – NFWF provides funding for a variety of ecological restoration projects in the region.
- **PADEP and Similar State Funds** - The PADEP Growing Greener grant program and similar DCED and DCNR programs fund open space, water quality, and ecological restoration work throughout the Commonwealth.
- **City Funding** – PWD could evaluate how this project would contribute to meeting regulatory requirements and how this project could be funded including joint grant applications. Additional discussions with PWD are needed to assess this potential.



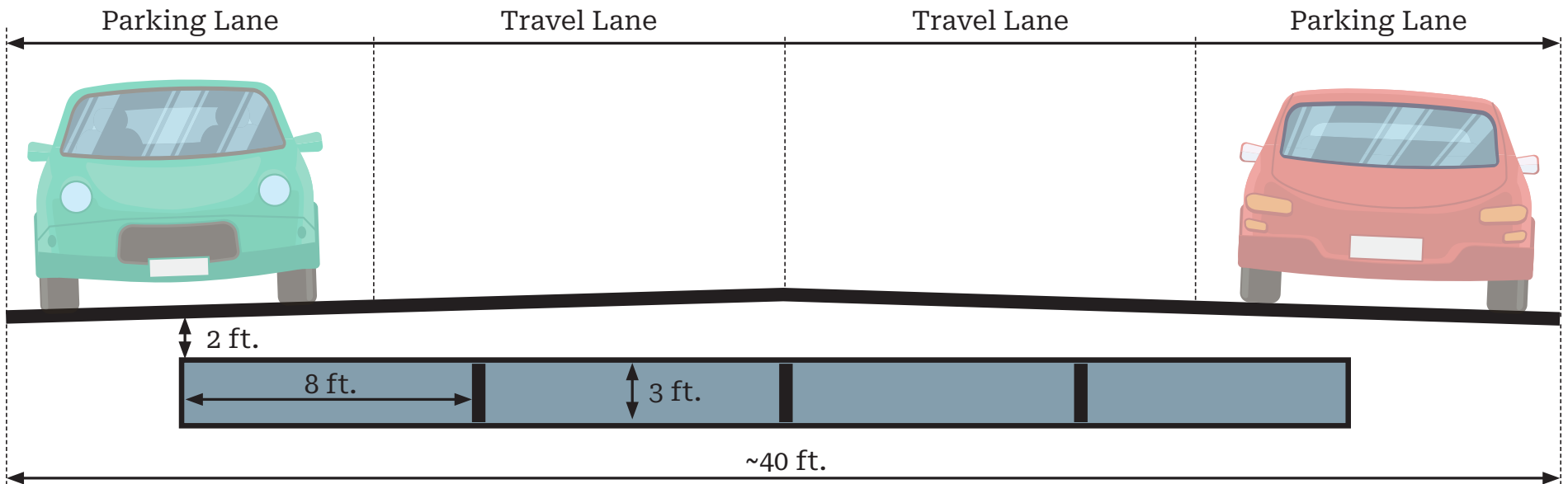
Building in Phases - Wetland creation could be phased to allow for a future demolition of the former Pepper Middle School as funding allows.



High-Capacity Inlets - Inlets that span the full width of the road would open during flood events to bring floodwaters into subsurface culverts. These structures would double as access ports, facilitating inspection and sediment removal following flood events. Alternatively, large capacity inlets could be located along the gutter line.

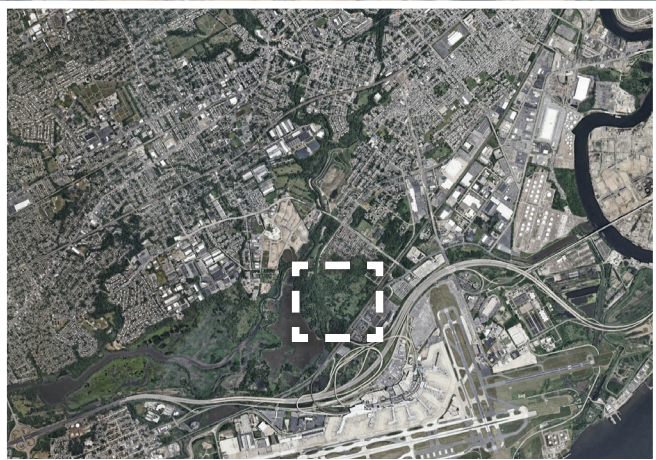
Moving Flood Water to the Pepper School Wetland Park

High-Capacity Culverts - A series of subsurface concrete box culverts would convey floodwater under 80th Street to the Pepper School wetland site. These should be centrally located within the roadway section to avoid utility conflicts.





Pepper Middle School



KEY PLAN

Existing Berm
There is an existing berm here that would get fortified to the appropriate height.

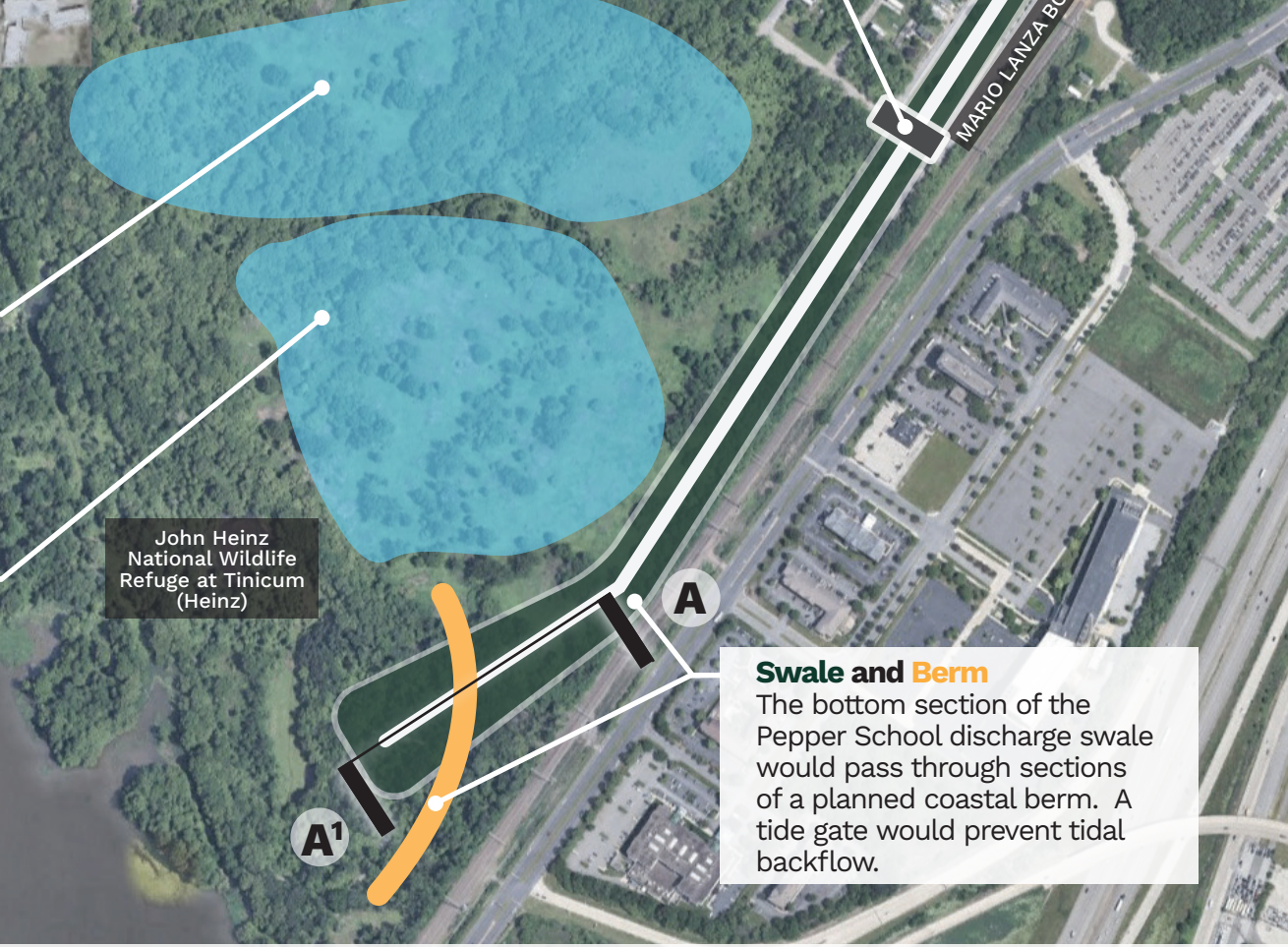
Roadway Crossings
The discharge swale from the Pepper School Wetland Park would cross under Crane Street and S. 86th Street, requiring culvert installation and likely road elevation to allow for appropriate land cover.

Upland Restoration

Impoundment Reconfiguration
As Heinz evaluates restoring a portion of the Impoundment to a tidal wetland, there is an opportunity to connect these wetlands.

Proposed Wetlands
Discharge from the Pepper Wetland Complex would provide hydrologic inputs for a future proposed wetland within "The Parcel."

Please note: the swale and berm alignments are conceptual, and additional studies will be needed to determine where they would be located.



Swale and Berm
The bottom section of the Pepper School discharge swale would pass through sections of a planned coastal berm. A tide gate would prevent tidal backflow.

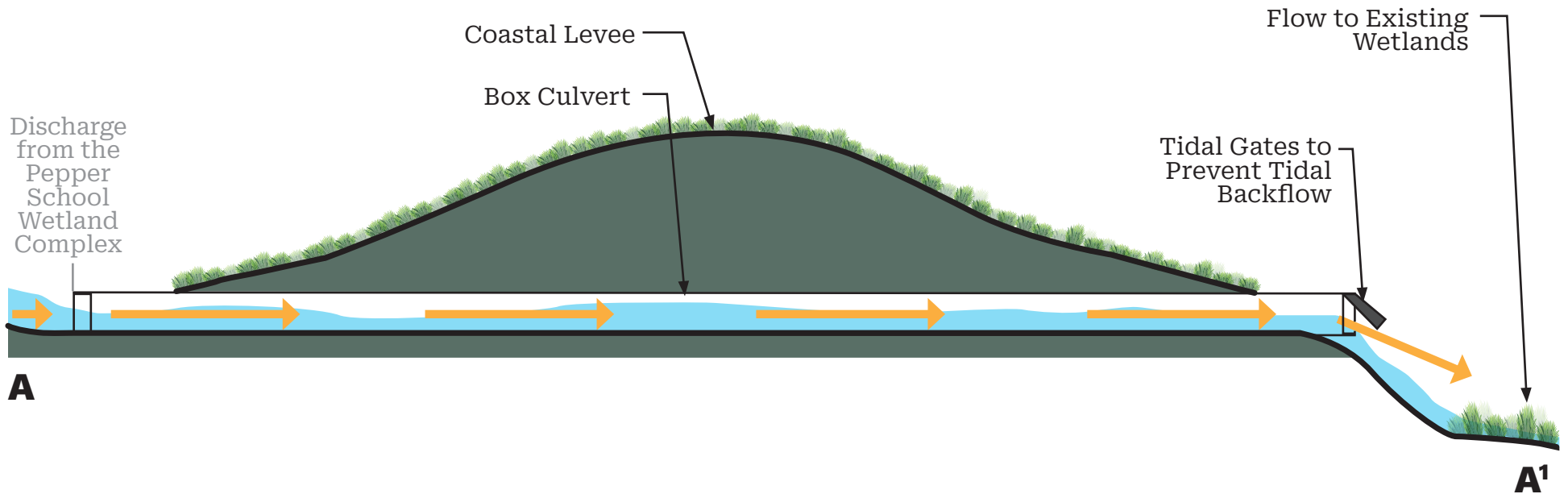
“THE PARCEL”

Mitigate Coastal and Riverine Flooding



What is “The Parcel” and how does it help Eastwick?

“The Parcel” is a site owned by the Philadelphia Redevelopment Authority and has previously been referred to as “the 128”, or the “124.5” due to the size of parcel (124.5 or 128 acres, depending on which pieces were included). To simplify and reduce confusion, it is called “The Parcel” in the EFRS. It sits adjacent to residential housing, 84th Street, Lindbergh Boulevard, and Heinz. This project would restore and expand existing wetland and provide an outlet for water coming from the Pepper School Wetland Park into the Wildlife Refuge’s tidal wetlands. The Parcel would act as a two-way control valve by providing an outlet for riverine and stormwater flow from the Pepper School wetland complex while protecting Eastwick from future coastal flood risk.





Project Challenges and Opportunities

Connectivity Under 84th Street - For this site to serve as an outlet, flow must be conveyed under 84th Street. The design needs to provide for continuous movement of water with only a minimal drop in elevation coming from the Pepper School into “The Parcel.”

Land Ownership - “The Parcel” is owned by the Philadelphia Redevelopment Authority. The City of Philadelphia and the John Heinz National Wildlife Refuge at Tinicum (Heinz) would need to advance the transfer of ownership of “The Parcel.”

Connectivity With the Coastal Berm - While “The Parcel” would operate as a wetland, it would need to intersect with the Coastal Berm to release water into the refuge impoundment area while preventing the tidal water from moving through the wetland and into Eastwick. Additional planning would help to refine design strategy for this component of the project.

Material Disposal - The wetland restoration project at “The Parcel” would likely require the removal of a considerable amount of fill. Fill removal can be costly; however, creative solutions like finding local fill needs can help reduce costs.



Cost

Cost in Review



Timeline

Funding/Planning	3 years
Design/Permitting	4 years
Construction	3 years



Partners

Lead: John Heinz National Wildlife Refuge at Tinicum (Heinz)

Key Stakeholders: City of Philadelphia OOS, Philadelphia Redevelopment Authority (PRA)



Funding

This project would be eligible for a diverse set of funding sources given its ability to serve water quality improvement and ecological restoration functions. Key funding sources may include non-profit sources like:

- **National Fish and Wildlife Foundation Grants**
- **Wetland Mitigation Credits**



Partner Spotlight: US Fish & Wildlife Service, John Heinz National Wildlife Refuge at Tinicum (Heinz)

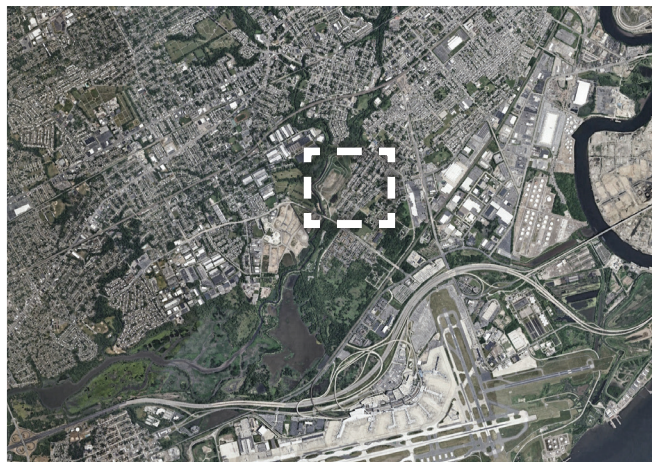
The John Heinz National Wildlife Refuge at Tinicum (Heinz) is situated in the Eastwick Community and provides tremendous natural resources to the community. The U.S. Fish and Wildlife Service (USFWS) owns and operates the Refuge, which includes tidal wetlands, freshwater wetlands, visitor resources, walking trails, and other amenities to the Eastwick Community and beyond. The USFWS has a mandate to protect the biodiversity and ecological integrity of critical natural habitats.

As part of this mandate, the USFWS has been a critical partner to the City and the Eastwick Community in identifying opportunities on and around Refuge land to improve ecosystem health, while reducing flood risk for the community. The

Refuge's wetlands provide crucial ecosystem services for storing, moving, and filtering water.

As part of the EFRS, the City has grown its partnership with Heinz to investigate and invest in community-and nature-centered approaches to reducing flood risk and restoring ecosystems in a heavily urbanized region. The EFRS, co-convened by Heinz, is working in close alignment with the Refuge's ongoing Nature-Based Solutions Study and investment strategy to ensure projects are coordinated and that they would have maximal benefit to the community and to the native ecosystems in the Refuge.





KEY PLAN

Lower Risk Areas

Lower risk areas were identified by those with a flood depth less than 4 feet under the future riverine storm.

Highest Risk Areas

Highest risk areas were identified by those with a flood depth greater than 4 feet under the future riverine storm. A first phase of the program would focus on targeted relocation opportunities for these areas.

Clearview Landfill

82ND STREET

80TH STREET

LINBERGH BOULEVARD

VOLUNTARY ASSISTED BUYOUT AND RELOCATION

Mitigate Coastal, Riverine, and Stormwater Flooding



What is a Voluntary Assisted Buyout and Relocation Program and why does Eastwick need it?

The EFRS honors Eastwick residents' values of creating a community of choice, which may include choosing to relocate to an area with less flood risk, despite the ongoing structural flood mitigation work. Some residents have already expressed this interest. For those interested in relocating, the City should actively develop a Voluntary Assisted Buyout and Relocation (VABR) program. A VABR program can take place in the form of single home buyouts, relocation efforts within or out of Eastwick, or other projects. Properties participating in the VABR

program cannot be resold; structures cannot be built on the properties, and the space would be converted to publicly-owned green space. The VABR program would be implemented in two phases. The first phase should prioritize the most at-risk households and provide resources needed to help interested residents relocate in the short-term. The second phase would realize a longer-term vision for the integration of a VABR program into overall flood resilience for the neighborhood.



Buyout Consistent with EFRS Values

A buyout program should help reduce risk for those at the greatest risk of flooding.



Buyout Inconsistent with EFRS Values

To maintain a vibrant Eastwick, the buyout program should limit adverse economic impacts..



Project Challenges and Opportunities

CDBG-DR Program Alignment - After Hurricane Ida, Philadelphia received CDBG-DR funding. This funding could be used for planning and implementing a short-term buyout program in Eastwick.

Outreach and Input - Additional education and input is needed from the community to understand interest in a VABR program. Engaging with residents in the “Planet Streets” could help define the VABR program.

Project Priority Area(s) - The City could identify highest priority properties based on existing flood risk.

Incentive Structure - The City could use incentive structures based on factors such as relocating within the neighborhood or relocating within the city.

Attached Home Considerations - Eastwick’s dominant housing typology is rowhomes. Structural analysis and conversations between City stakeholders are needed to determine feasible structural and policy solutions for relocating residents in attached homes.

Develop an End-Use Strategy - Properties bought through a VABR could be adaptively used. The land could provide public benefits as park spaces or stormwater management facilities.



Cost

Up to \$10 million, depending on the number of interested households (for short-term program)



Timeline

Funding/Planning	2 years
Program Implementation	1 year
Construction	2+ years



Partners

Lead: City of Philadelphia

Funding Partner: U.S. Department of Housing and Urban Development, FEMA

Coordinating Partners: Philadelphia Housing Development Corporation, Department of Housing and Community Development



Funding

To support Hurricane Ida recovery and promote increased resilience to future disasters, the City of Philadelphia received funding through the U.S. Department of Housing and Urban Development’s Community Development Block Grant - Disaster Recovery (CDBG-DR) program. CDBG-DR funds are currently supporting the planning of a buyout program and builds off of the recommendations of the EFRS.

The City should explore funding through FEMA’s Flood Mitigation Assistance program and USDA’s Watershed Improvement Program. Other creative funding mechanisms are a Transfer of Development Rights (TDR) program to concentrate development in Eastwick in safe growth areas, or a community land trust to steward vacated areas for community amenities.



KEY PLAN

Clearview
Landfill

During large flooding events **overland riverine flooding** restricts the southern portion of the “Planet Streets” from accessing higher ground to the north, necessitating a new evacuation route to the south and west.

Early Warning

Flooding in Eastwick can happen quickly, often not allowing time for proper evacuation. The Office of Emergency Management is piloting an Eastwick-specific warning system with flood monitoring technology. This new text-based warning system will give residents advance notice of a potential flood, allowing more time for evacuation.

Roadside Berming

Roadside berming on the North side of Hook Road could provide an alternative to roadway elevation. However, the proximity to Mount Lawn Cemetery may restrict the space available for berming.

During **Tropical Storm Isaias** portions of 84th Street/Hook Road flooded on both sides of Darby Creek restricting evacuation routes.

Storm 1 Extent

HOOK ROAD

Roadway Elevation

Roadway elevation would allow residents in the southern portion of the “Planet Streets” to safely evacuate over Darby Creek and into Delaware County in the event of a large flood.

LINDBERGH BOULEVARD

Additional Right Of Way (ROW) Connection

An additional public roadway connection, accessible only during flood events, would provide direct access to the “Planet Streets” without needing to access Linbergh Avenue.

Culverts

Culverts through the existing embankment would provide additional flow capacity needed to offset increases in flooding due to the roadway elevation work.

S. 84TH STREET

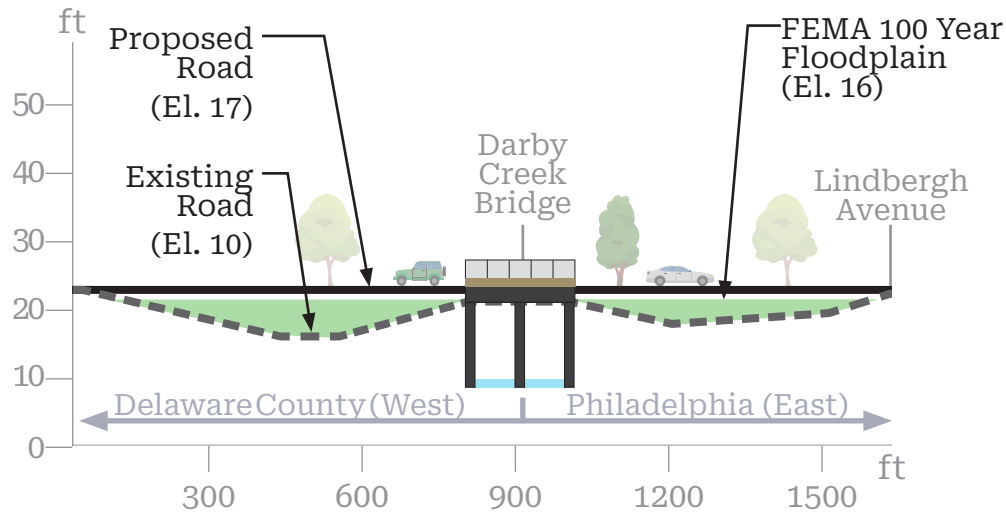
ELEVATE 84TH STREET / HOOK ROAD

Mitigate Riverine Flooding



What is 84th Street/Hook Road Elevation and how does it help Eastwick?

Residents of the southern end of the “Planet Streets” do not have a safe evacuation route in the event of a major flood. The elevation of portions of 84th Street between Linbergh to the East and portions of Delaware County provide a new emergency evacuation route. The Office of Emergency Management is developing a Citywide Flood Evacuation Plan, where this concept could be further explored.



Project Challenges and Opportunities

Additional ROW Connection – An additional, emergency-access-only connection is needed to provide direct access to 84th Street. This could be provided using an emergency-use-only connection.

Induced flooding – Roadway elevation may cause some induced flooding, necessitating the need for additional flow capacity via auxiliary culverts located on the right bank of Darby Creek. Floodplain benching at Heinz will mitigate some induced flooding.

Traffic Calming – Traffic calming concepts previously developed by DVRPC could be incorporated into the project, extending project benefits for the community.



Cost **\$22 million**



Timeline

Funding/Planning	1 year
Design/Permitting	1 year
Construction	1 year



Partners

Lead: PennDOT and City of Philadelphia
Collaborating Organizations: Delaware County



Funding

A wide variety of funding sources, including grants and philanthropic support, are potentially available to support this work:

- PennDOT, including formula funding, liquid fuels tax and competitive programs (multimodal transportation fund and transportation alternatives set-aside program may be used if new pedestrian facilities are included).
- Federal Transportation Grants, including USDOT’s Better Utilizing Investments to Leverage Development (BUILD), which funds major planning and construction projects, and FHWA’s Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) program, which funds projects to improve resilience along the surface transportation network.
- FEMA/HUD Resiliency Grants, including the Building Resilient Infrastructure and Communities (BRIC) program, Flood Mitigation Assistance (FMA) program, and the Hazard Mitigation Grant Program (HMGP), which provide support to state and local governments to reduce hazard risk.

84th Street/Hook Road Elevation - Street Design

Elevating roads at specific sections of the street is necessary to maintain a consistent 17-foot minimum elevation. Detailed design would determine the most appropriate approach, but the current assumption is that a newly raised road would be constructed on a berm with a gentle slope to meet PennDOT safety requirement standards.

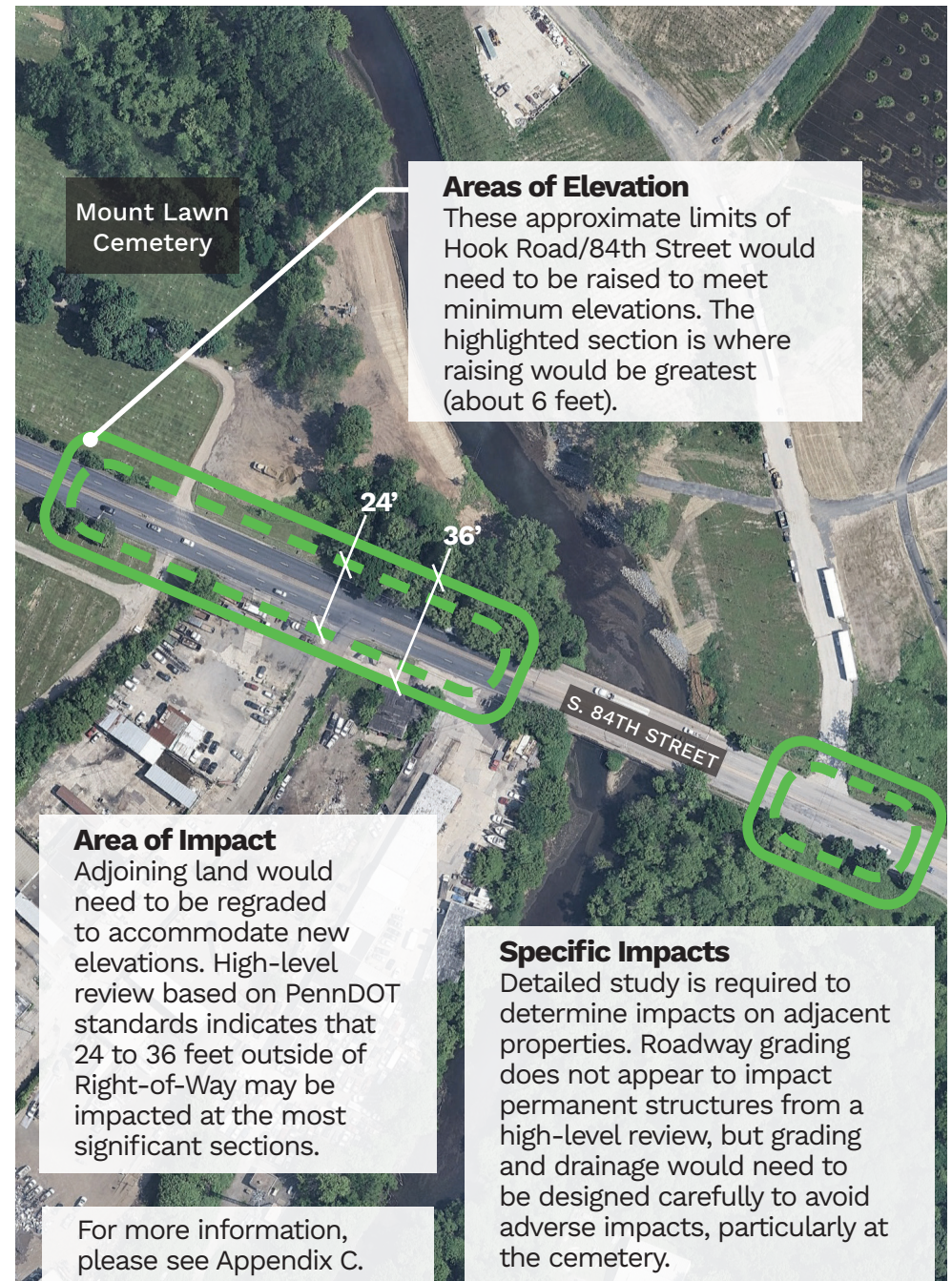
DESIGN CONSIDERATIONS

Missing Sidewalks – Neither 84th Street nor Hook road have sidewalks, yet it is evident that people walk and bike here due to “desire paths” or worn down pathways through the grass.

Road Diet Potential – Reduction of one moving lane and conversion of another to a turn lane (known as a 3-1 conversion) could reduce the overall width of the road and impacts of raising. This would require a traffic study, as average annual daily traffic is above 17,000 eastbound and over 14,000 westbound, making any reduction in capacity potentially feasible.

Meeting Safety Standards – Lane widths are inconsistent, ranging from 11 to 12 feet, with an irregular median. As a minor arterial, this road may need to be widened to meet PennDOT safety standards, further complicating a potential raising.

Project Limits – Given needs for safety, traffic movements, and multimodal facilities along these streets, limiting street reconstruction work strictly to these locations may be challenging. Potential “lighter touch” treatments using road repaving and alterations to street markings may be possible to limit extents of in-depth work.



Mount Lawn Cemetery

Areas of Elevation
These approximate limits of Hook Road/84th Street would need to be raised to meet minimum elevations. The highlighted section is where raising would be greatest (about 6 feet).

Area of Impact
Adjoining land would need to be regraded to accommodate new elevations. High-level review based on PennDOT standards indicates that 24 to 36 feet outside of Right-of-Way may be impacted at the most significant sections.

For more information, please see Appendix C.

Specific Impacts
Detailed study is required to determine impacts on adjacent properties. Roadway grading does not appear to impact permanent structures from a high-level review, but grading and drainage would need to be designed carefully to avoid adverse impacts, particularly at the cemetery.



Potential one-way, right-turn-only outlet at Chelwynde Avenue and 84th Street



Trail Access at S. 80th Street



Dead End of Chelwynde Avenue

84th Street/Hook Road Elevation - Trail Access



Residents of the southern end of the “Planet Streets” do not have a safe evacuation route in the event of a major flood. Linbergh Boulevard to the east is largely below flood elevation, making it unsuitable for safe flood evacuation. Additional flood evacuation options could be created with access along Cobbs Creek Trail and at Chelwynde Avenue and 84th Street.

DESIGN CONSIDERATIONS

Traffic Impacts - A new connection from Chelwynde to 84th Street could impact traffic conditions. Options to reduce impacts could include a signal control that only operates during emergencies. One-way movements out of the neighborhood out would also discourage neighborhood intrusion from non-local traffic, but signage would not guarantee compliance. Residents on Chelwynde would likely see an increase in local traffic. This concept needs additional community conversation and education to make sure it doesn't cause traffic confusion. An automatic gate could help ensure proper traffic flow.

Trail Impacts - While the Cobbs Creek Trail could provide a potential route out of the neighborhood above base flood elevation, some or all of the trail may need reconstruction to support heavier vehicles and require widened for safety (a potential issue given the very recent project work here). Barriers like the existing bollards would need to remain in place to prevent day-to-day vehicular intrusion. These bollards could be lowered or removed by Philadelphia Fire Department or Office of Emergency Management during emergencies but add an additional layer of planning complexity.



Cobbs Creek Trail



KEY PLAN

Low Existing Berm
Raising and extending this berm was considered in this Strategy, but was rejected because of its impact on urban connectivity.

Low-Lying Area
The Island Avenue underpass under I95 is a key pathway for coastal flooding to enter Eastwick. Regrading of Island Avenue and adjacent parking lots would provide a means to block this flow.

Low-Lying Area
Resilience measures would be needed to block flow in this area.

Low-Lying Area
Minor elevation within a portion of I95 right of way (ROW) could block flow.

Coastal Berm
Berms would block coastal flow coming from Darby Bay from flooding the SEPTA tracks and points south and east. These should be considered priorities for funding as they would provide immediate flood protection for smaller coastal events.

Low-Lying Areas
These areas will be addressed by future airport development projects including cargo expansion.

Tincum Island Road
Recently reconstructed, this roadway acts as a partial barrier to block flow from the Delaware River.

Note: Arrows roughly show the major vectors of coastal flooding from the Darby Bay/Heinz, Delaware River, and Schuylkill River.

REGIONAL COASTAL PROTECTION

Mitigate Coastal, River, and Stormwater Flooding



What is Coastal Protection and why does Eastwick need it?

Coastal flooding, although a less severe threat to Eastwick than riverine flooding in the short term, will become increasingly severe due to the risks of climate change. Philadelphia International Airport (PHL), is located to the south of Eastwick along the Delaware River, making it vulnerable to future coastal flooding in the face of stronger

storms and sea level rise. The Philadelphia Department of Aviation has completed studies of stormwater management and flood potential, and is improving its infrastructure to minimize flood risk. Strategic installation of a berm within Heinz would block the major route of flooding via the Darby Bay. Additional areas of roadway and land regrading are needed to complete the regional strategy.



Project Challenges and Opportunities

Building a Regional Solution - A regional approach is needed to protect Eastwick, the airport, the SEPTA train tracks and other nearby properties. A collaborative approach would ensure no entity is adversely impacted.

Building Berms in Heinz - Heinz is evaluating restoring portions of the impoundment to tidal wetland. As part of this design, elevating an existing berm to provide coastal protection is being considered.

Island Avenue - The regrading work at Island Avenue is key to blocking coastal flooding in Eastwick and areas north of the community but would leave areas south unprotected.

Coordination with PHL - Coordination with airport staff would be needed to implement several elements of the strategy, particularly for low-lying areas within the airport property. This work should be optimized to maximize benefit for PHL as well as Eastwick residents.



Funding

A wide variety of funding sources, including grants and philanthropic support, could support this work:

- **Philanthropy** – Continued work on refining berm alignments and conducting feasibility studies for individual segments can be a good fit for philanthropic funding sources.
- **USACE** – Given the USACE longstanding involvement in levee construction, obtaining funding through an additional or broader USACE appropriation, such as a general investigation through the Water Resources Development Act, could be a strong route for accessing federal funding.
- **City Capital Funding** – Funding sections of the levee using city capital funding may be an option. However, the City does not currently have a dedicated funding source or entity to manage and operate coastal flood resilience projects.
- **John Heinz National Wildlife Refuge at Tinicum (Heinz)** - Design and construction of the berm sections within Heinz could potentially be funded by incorporating this work into ecosystem restoration work planned by Heinz.



Cost

\$46 million



Timeline

Funding/Planning	5 years
Design/Permitting	6 years
Construction	5 years



Partners

Lead: City of Philadelphia

Collaborating Organizations: John Heinz National Wildlife Refuge at Tinicum (Heinz), Philadelphia International Airport, USACE, PennDOT

Key Stakeholders: Delaware County, Tinicum Township, SEPTA



S. 70TH STREET

ESSINGTON AVENUE

Schuylkill River Tank Farm

Pump Station
Optimized pump capacity would provide capacity to maintain free-flowing conditions during major riverine floods.

PENROSE AVENUE

Primary Basin Dredging*
Dredging could extend to portions of the primary basin where sediment build up is visible.

Maintenance Dredging of Secondary Basin*
Accumulated sediment is visually evident and substantially reducing available stormwater storage.

SCHUYLKILL RIVER

* Additional studies are needed to determine the amount of dredging that is feasible to implement without disrupting the existing basin ecology.



KEY PLAN

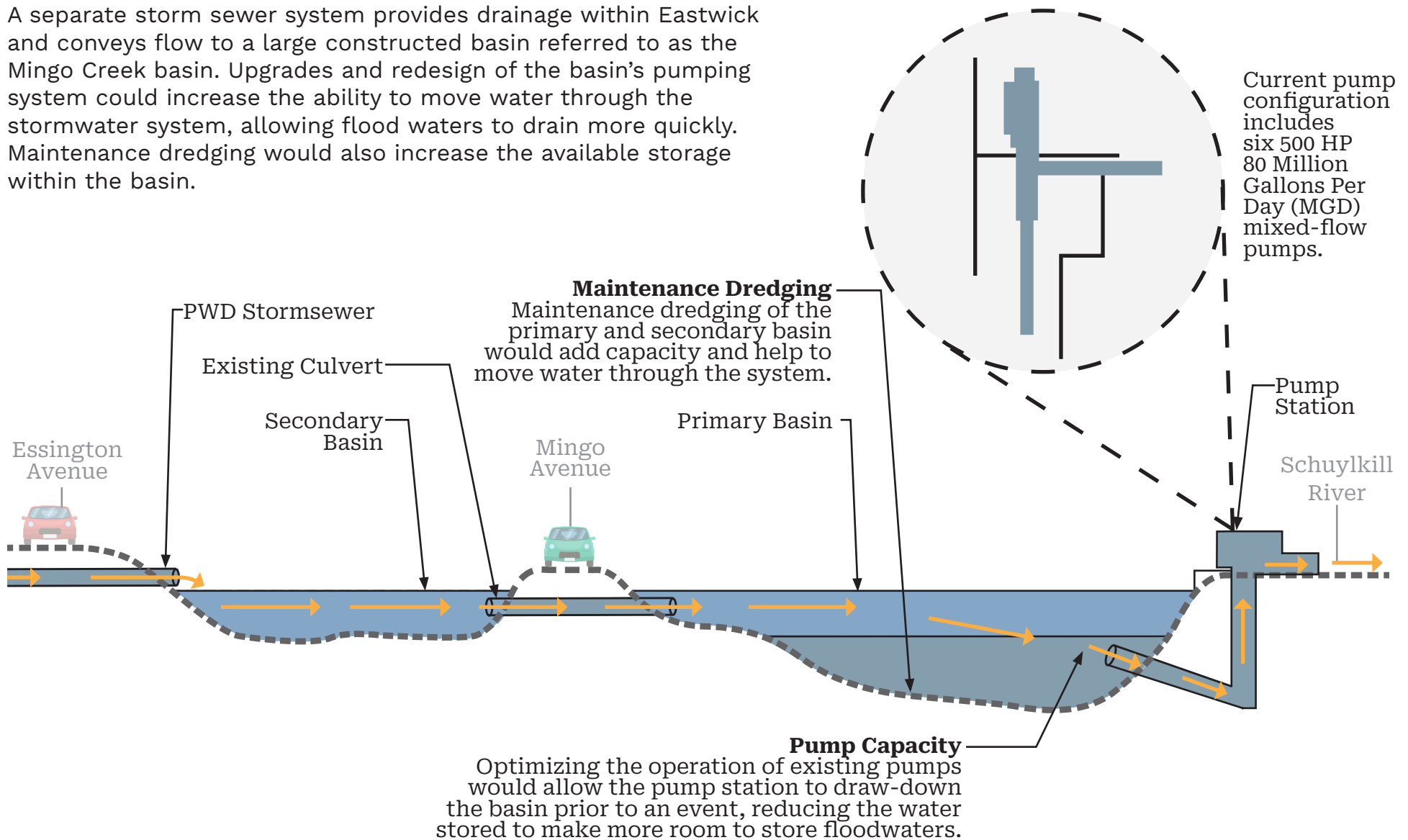
MINGO CREEK PUMP STATION ENHANCEMENTS

Mitigate Coastal and Riverine Flooding



What is it and why does Eastwick need it?

A separate storm sewer system provides drainage within Eastwick and conveys flow to a large constructed basin referred to as the Mingo Creek basin. Upgrades and redesign of the basin's pumping system could increase the ability to move water through the stormwater system, allowing flood waters to drain more quickly. Maintenance dredging would also increase the available storage within the basin.



Note: The pump station recently underwent electrical upgrades to streamline the transition to higher capacity pumping during a storm event.



Project Challenges and Opportunities

Maintenance Dredging – Sedimentation within Mingo Creek basin is likely to substantially reduce the volume available in the basin for flood storage. Dredging this area can create significantly more volume for stormwater storage.

Pumping Capacity – Studies performed by PWD show that increasing the pumping rates at the Mingo Creek basin can help move water more quickly and help the existing stormwater system move more flow. However, increased pumping would flood the adjacent rail tracks, so optimizing existing capacity is needed instead of adding capacity.

Engagement with PWD – PWD recently applied for federal funding to perform a study to enhance the resilience of the Mingo Creek pumping station. This study may provide an opportunity to incorporate a more in-depth analysis of how the pumping station could be improved to lessen the effects of flooding in Eastwick.

Operational Improvements – Improving the operation of the pumps could result in some near-term improvements in storm water conveyance. For instance, the basin could be lowered through increased pumping in advance of a storm, providing additional storage capacity. These changes should be explored with PWD in the near term.



Funding

- **Philadelphia Water Department** - Through its budget, PWD may choose to undertake improvements, and could seek outside funding sources. Maintenance dredging and increase pumping capacity could be integrated into PWD’s capital planning process, particularly if benefits to PWD operations can be established.



Cost

Cost in Review



Timeline

Funding/Planning	1 year
Design/Permitting	1 year
Construction	2 years



Partners

Lead: Philadelphia Water Department

Key Stakeholders: Pennsylvania Department of Environmental Protection



*Mingo Creek Basin
and Pumps*



04

Implementing the Strategy

July 2025 Eastwick Open House

Implementing the Strategy

The EFRS builds the foundation for individual projects to move through the phases of implementation. Each phase builds upon the previous phase. Collaboration with key stakeholders and the community helps ensure that the project meets community needs, achieves flood risk reduction goals, and delivers long-term benefits for Eastwick.

COMMUNITY ENGAGEMENT CALL-OUT

Throughout the Planning and Design Phases, the community would have opportunities to further shape where the projects go, what the projects look like, and how they operate. Each project would have its own engagement approach to take in feedback from the Eastwick community.

Step
01

PLANNING AND FUNDING

This phase sets the foundation for each project by clarifying community interests, refining the community's understanding of flood risks, outlining clear objectives, securing funds and defining the timeline for implementing the project.

Step
02

DESIGN AND PERMITTING

These phases take the ideas and goals from the Planning Phase and translate them into detailed, practical solutions, ensuring technical feasibility and community input are incorporated. Permitting focuses on securing the needed regulatory approvals and environmental clearances from relevant authorities to ensure the project complies with requirements prior to construction.

Step
03

CONSTRUCTION/ PROGRAM IMPLEMENTATION

This phase brings the project to life by building and installing the designed solutions or implementing the program, monitoring progress, and making adjustments as needed.

Moving the EFRS Forward Now

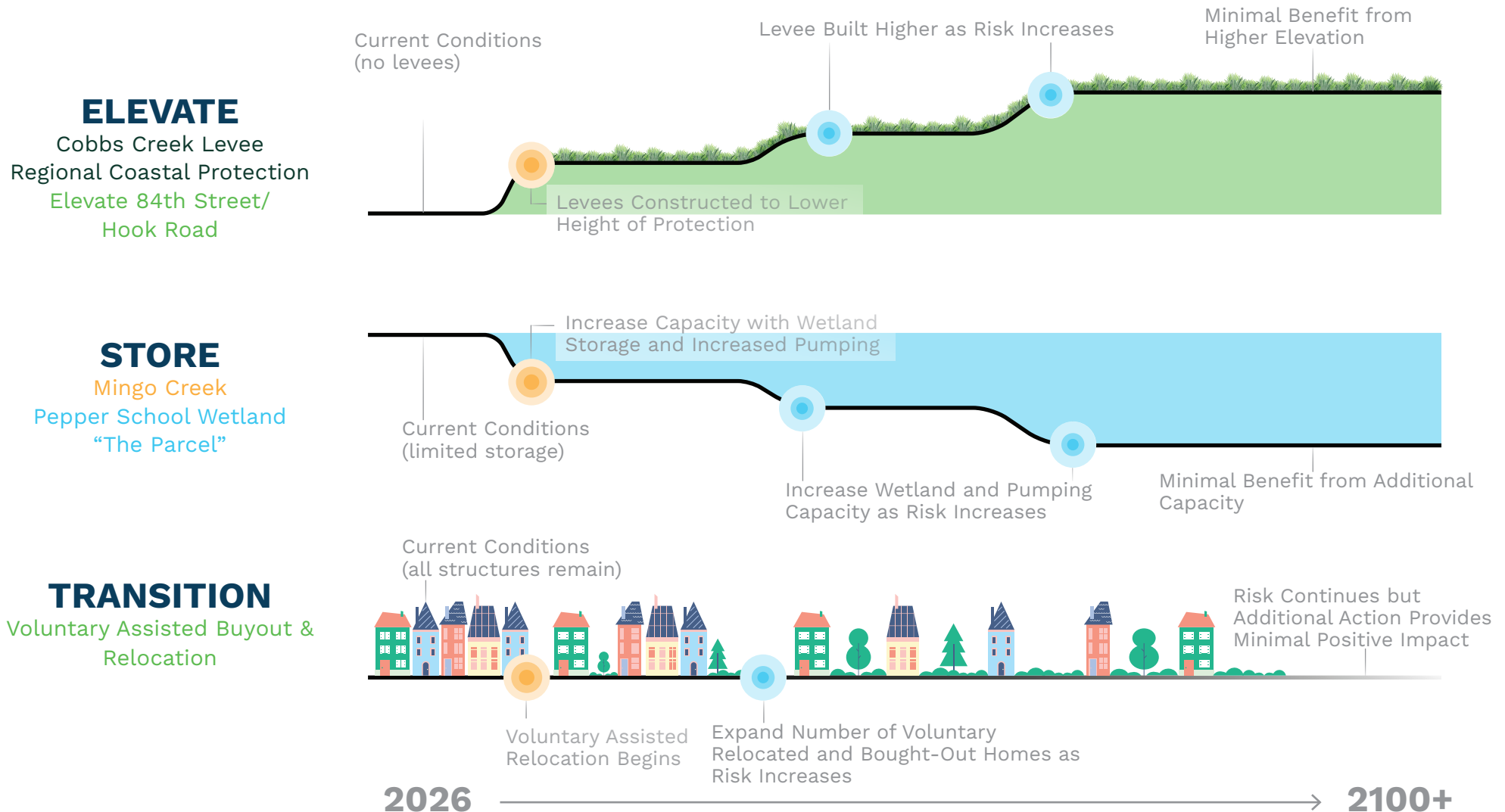
In the next six months, the project team could advance near-term actions to kick off the different projects. Below is a list of near-term actions for each project.

PROJECT	NEAR-TERM ACTIONS
COBBS CREEK HORIZONTAL LEVEE	<ul style="list-style-type: none"> • Model the horizontal levee with upstream floodplain grading • Coordinate with USACE and Delaware County on the alternative levee concept • Determine if alternative levee concept could be approved as a Locally Preferred Plan
PEPPER SCHOOL WETLAND PARK	<ul style="list-style-type: none"> • Develop funding plan to address Pepper School building • Engage with PWD to determine the potential for this project to contribute towards PWD regulatory goals and how to fund the project. • Conduct utility surveys to refine sizing and alignment of flood relief culvert
“THE PARCEL”	<ul style="list-style-type: none"> • Work with Heinz and Philadelphia Redevelopment Authority on land transfer process
VOLUNTARY ASSISTED BUYOUT & RELOCATION	<ul style="list-style-type: none"> • Develop a plan for using CDBG-DR funds for a pilot scale buyout program
ELEVATE 84TH STREET/ HOOK ROAD	<ul style="list-style-type: none"> • Engage with 84th Street Working Group to refine concepts • Engage with PennDOT and DVRPC to identify funding sources • Discuss road elevation with Delaware County
REGIONAL COASTAL PROTECTION	<ul style="list-style-type: none"> • Coordinate with Heinz to incorporate initial segments into the currently-funded impoundment project
MINGO CREEK PUMP STATION ENHANCEMENTS	<ul style="list-style-type: none"> • Discuss near-term operational improvements to lower water levels in the basin in advance of a storm coming, so the basin can hold more water and water can flow more freely into the basin.

Planning for Adaptation with Strong Partnerships

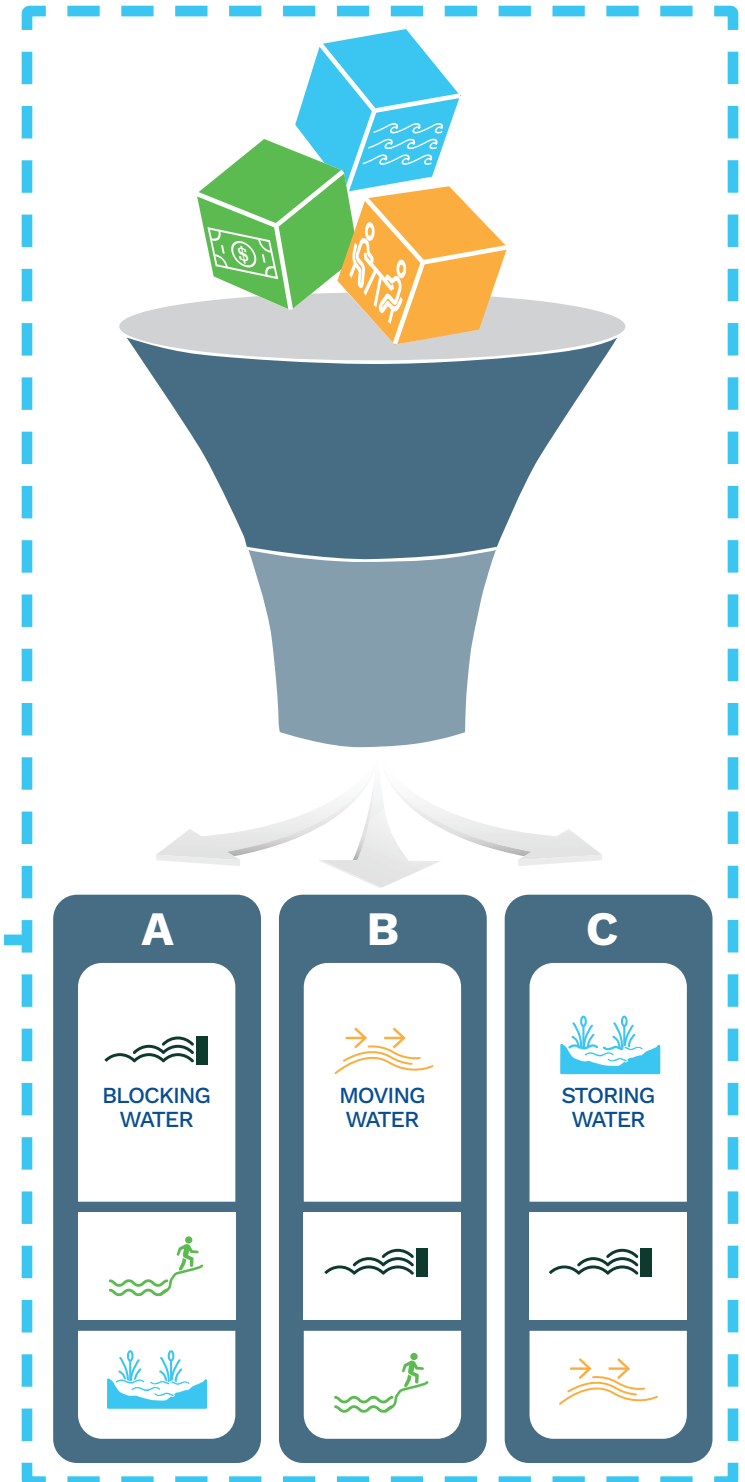
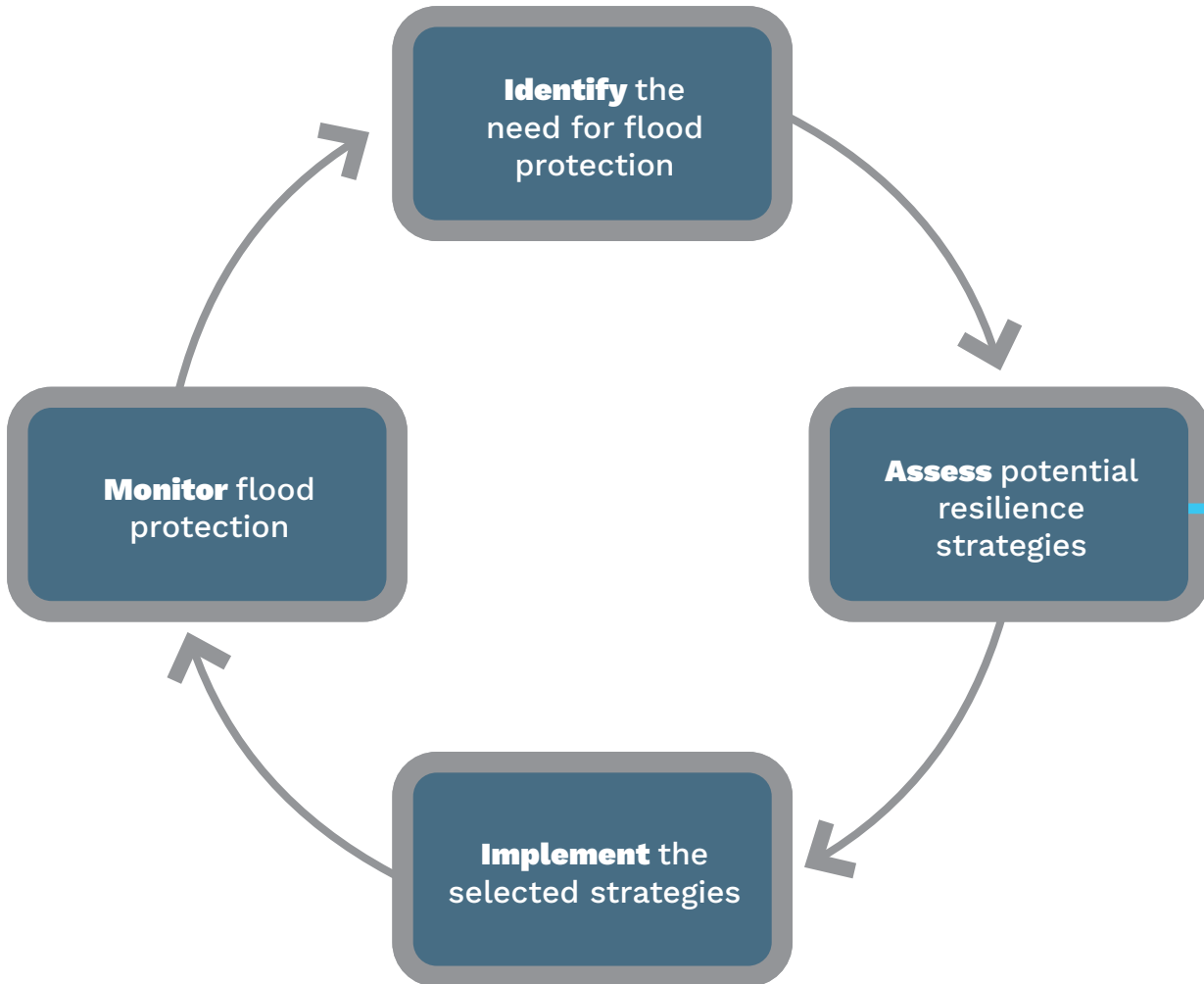
Phased adaptation provides a flexible, long-term approach for making sure the EFRS is implemented. A future Adaptation Pathways analysis could help phase and sequence the work; adaptation pathways outline multiple, sequenced options for implementing the different flood resilience projects as climate conditions and community needs evolve. This approach allows decision-makers to

adjust strategies over time, while still holding true to the intent and goals of the projects and overall strategy. Strong partnerships are essential throughout the individual resilience projects and overall strategy to deal with changing conditions as they arise. The EFRS should be revisited regularly to evaluate the current pathway and adjust as needed.



Iteratively Planning for Adaptation

Resilience projects can be added incrementally as flood risk necessitates additional adaptation. Projects can be added in different combinations to create the same level of protection. For example, having more storage and lower berm elevation can provide the same protection as having less storage and higher berm elevation. Decisions about which strategies are chosen are informed by community and decision-makers' preferences, funding availability, technical feasibility, and flood risk.



Building a Flood Resilient Eastwick

The EFRS is a true reflection of a highly collaborative and community-driven plan. Through deep community engagement, bringing together critical partners, advancing flood modeling, and imagining creative flood resilience projects, the EFRS would help Eastwick stay vibrant, now and into the future.

To continue implementing the plan, however, Eastwick residents and partners must remain engaged. The City, FMCE, other partners, and Eastwick residents would keep applying the four pillars of place-based work to carry out the strategy.



Eastwick Community Day 2023

05

Appendices



APPENDIX A: Flood Modeling

In the past, different groups studied flooding in Eastwick using their own methods and assumptions, which made it hard to get a clear and complete picture of the problem.

Leading up to the development of the EFRS, OOS convened an Eastwick Flood Model Coordination Group - a group of other entities studying flooding in the area - including Drexel University, the U.S. Army

Corps of Engineers, John Heinz National Wildlife Refuge at Tinicum, the Environmental Protection Agency, Philadelphia Water Department, and the Philadelphia Airport. This collaboration helped create a strong foundation for modeling efforts for the EFRS, incorporating valuable lessons learned and assumptions in the EFRS baseline flood model. The next section explains in more detail how the EFRS approached modeling flooding in Eastwick.



Flooding from Tropical Storm Isaias

Flood Modeling - MODELING STEPS

STEP 1: BUILDING THE MODEL

The team developed a computer model with the ability to simulate stormwater runoff generated in the larger the Darby-Cobbs watershed, Delaware River flow coming to Eastwick through the Heinz Wildlife Refuge during storm surges and high tides, and the resulting flow through Eastwick's storm drains and terrain. The model was developed with Personal Computer Storm Water Management Model (PCSWMM) software.

STEP 2: REFINING THE MODEL

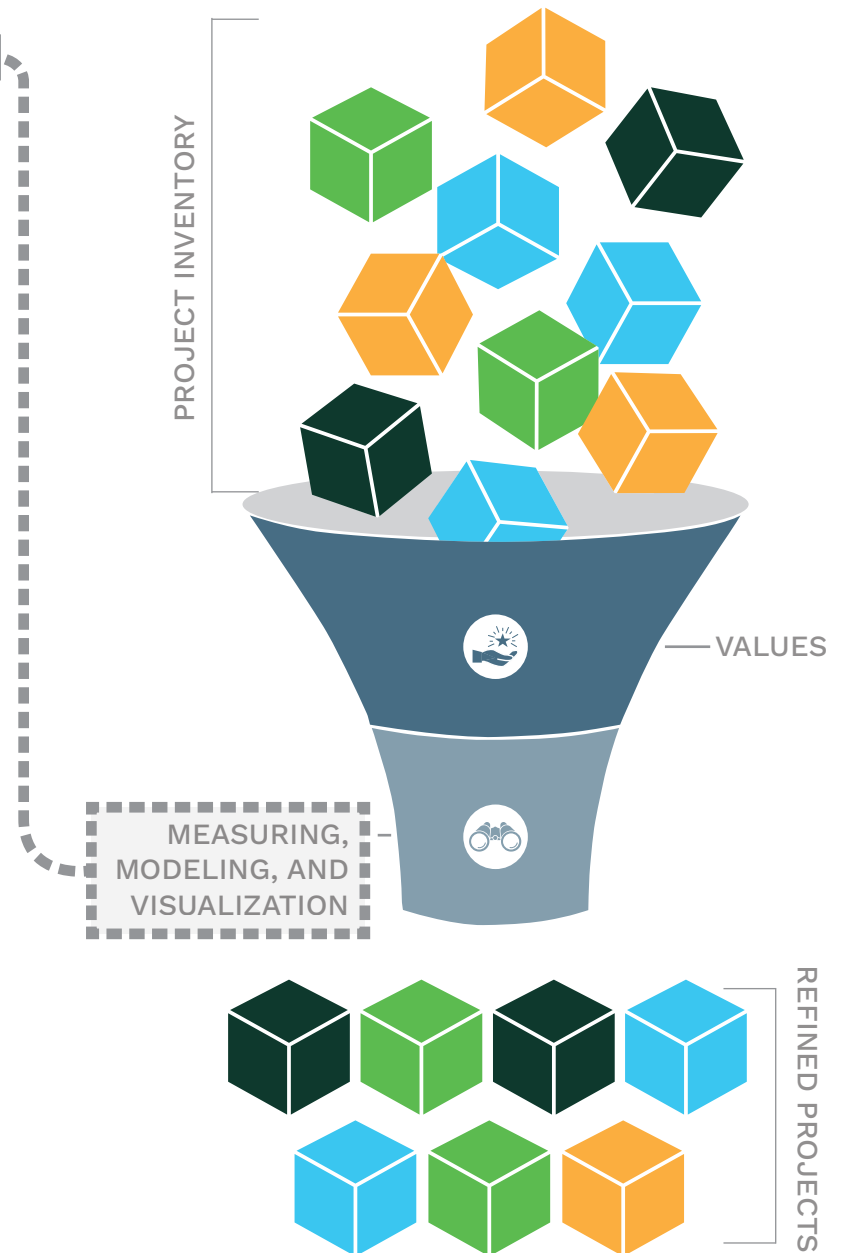
By improving the model's detail - especially based on community experience - the team ensured that all important features, like storm drains and streets, were accurately represented. This made the model reliable for assessing the effects of different flood protection ideas.

STEP 3: ADDING IN THE PROJECTS

Using this approach the team was able to add different combinations of flood resilience projects to the simulation. This virtually "built" and tested how these projects would perform during the four simulated major storm events.

STEP 4: UNDERSTANDING THE OUTCOMES

The team ran the model under different storm scenarios to see how each flood resilience project changed the extent and depth of flooding. The results showed which solutions were most effective at lowering flood risk and protecting vulnerable areas.



Flood Modeling - MODELING RESULTS

To understand future flooding in Eastwick, the flood modeling makes projections based on possible conditions for four types of storms:

1. FUTURE RIVERINE FLOODING STORM

- » A 30% increase in Gauge Adjusted Radar Rainfall associated with Tropical Storm Isaias, plus sea level rise.

2. FUTURE COASTAL FLOODING STORM

- » No precipitation, the mean high water of the Delaware River with 4 feet of sea level rise plus 4.5 feet of storm surge (100-year storm surge).

3. FUTURE EXTREME PRECIPITATION STORM

- » 100-year, 1-hour precipitation (in Eastwick only) with mean high water of 4+ feet.

4. FUTURE COMBINED RIVERINE AND COASTAL STORM

- » Compound event of conditions from the Future Riverine Flooding Storm and Future Coastal Flood Storm.

After simulating these events under existing conditions, the project team concluded that the future riverine flooding storm and combined riverine and coastal flooding storm were reflective of the more impactful conditions in Eastwick. The future riverine flooding storm (storm 1) is reflective of the most likely type of flooding Eastwick will experience in the near-term, while the future combined riverine and coastal storm (storm 4) is the worst-case scenario. The focus of the flood resilience projects was on mitigating impacts from these two storms.

The images on the next few pages show flood extents and depths under two future storm conditions for both:

Existing conditions - Flood risk without flood resilience projects in place

Proposed conditions - Flood risk with flood resilience projects in place (Perimeter Defense modeling scenario).

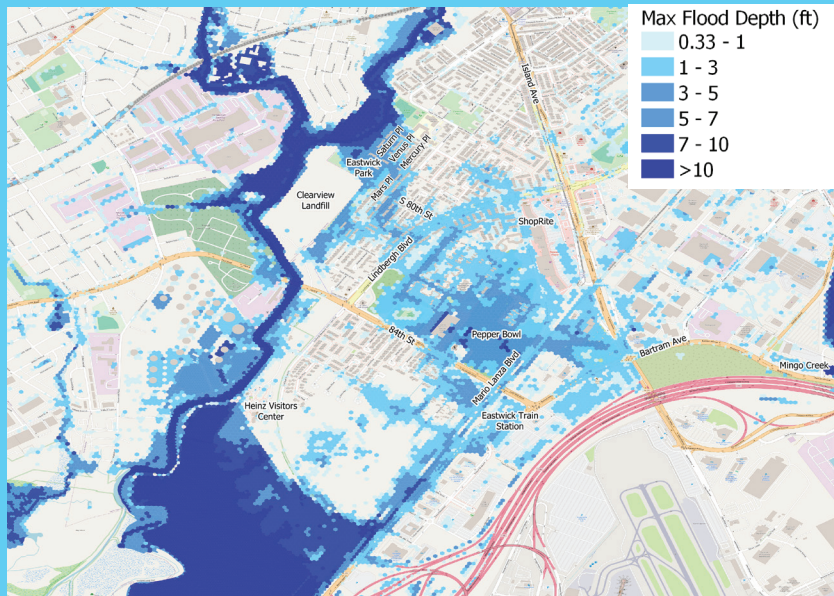
Difference maps show the flood reduction benefits, or the difference between existing conditions and proposed conditions with flood resilience projects in place. Areas in dark red show where the greatest flood risk reduction happens.

Disclaimers:

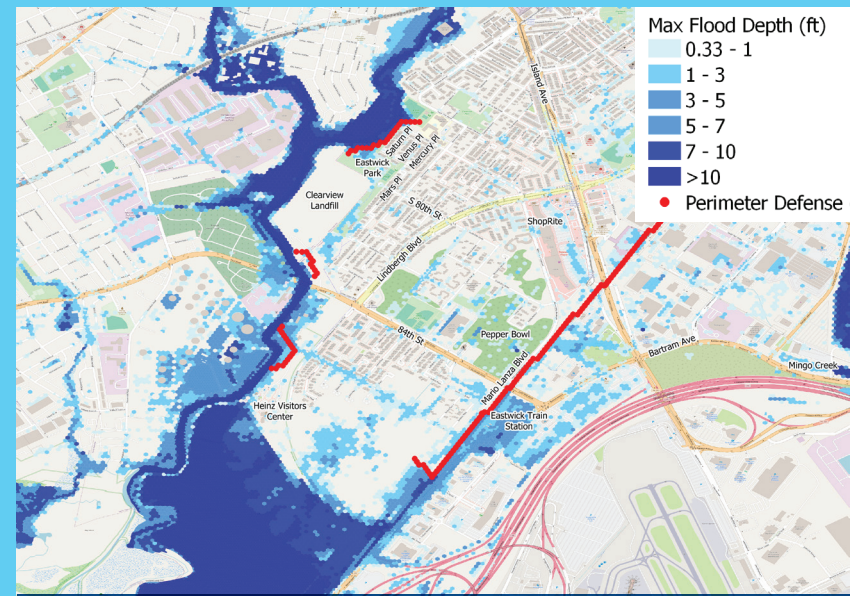
The flood modeling reflected an interim set of projects. Additional design development is reflected in the final project layouts but was not included in the final modeling results due to budgetary constraints. This work can happen under future efforts.

Modeling did not review sunny day flooding from SLR end of century with high emissions scenario.

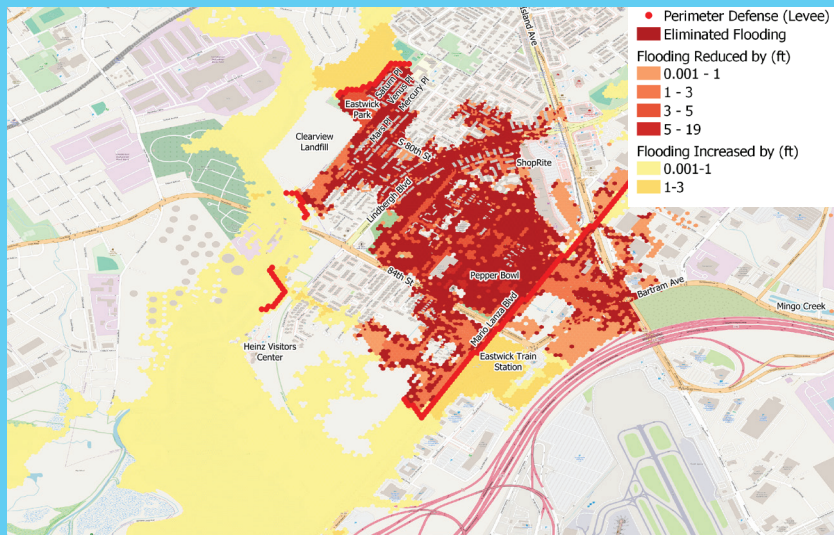
Flood Modeling - RESULTS FOR A FUTURE RIVERINE FLOODING STORM



Existing Conditions - with no projects in place



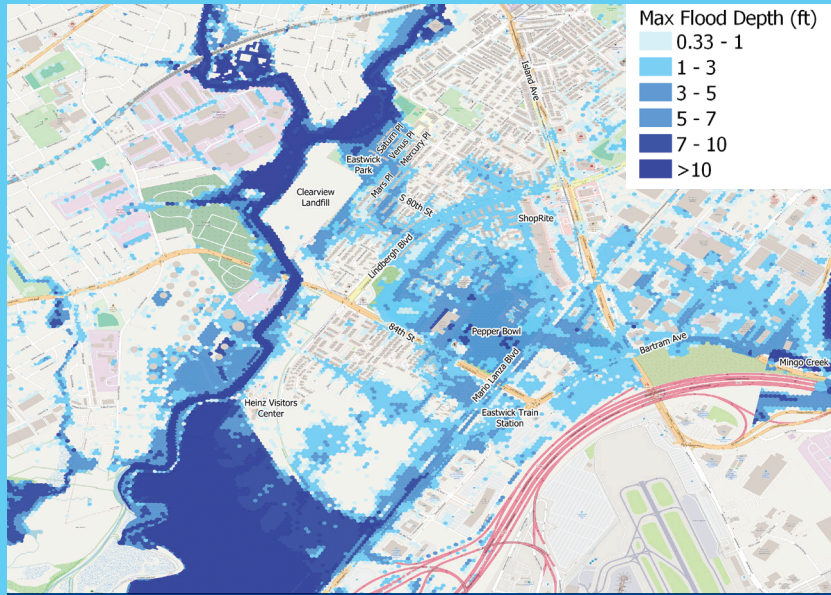
Proposed Conditions - with Perimeter Defense projects in place



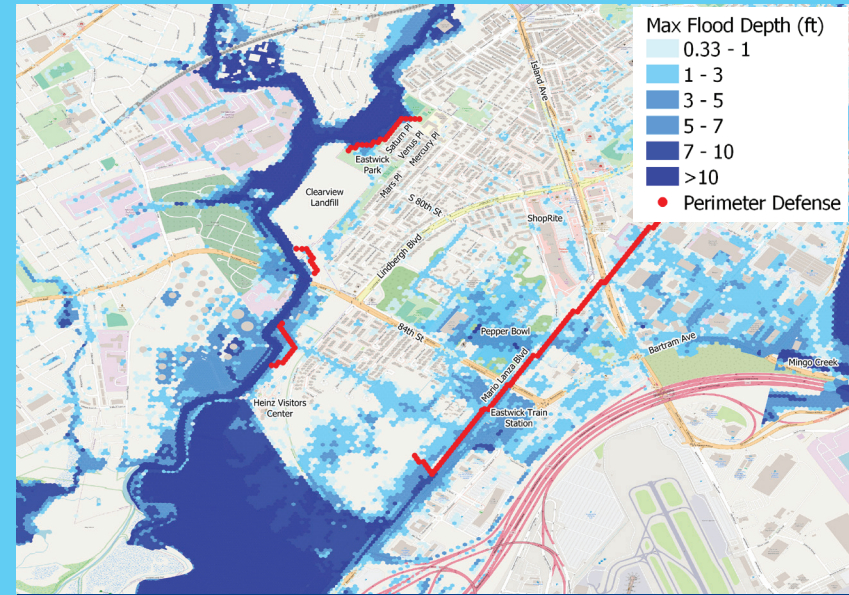
Difference Map - amount of flooding reduced when projects are in place

Future riverine flooding will continue to heavily impact the “Planet Streets” and flow into low lying places like the site of the former Pepper Middle School. With the preliminarily drafted projects in place, flood risk is significantly reduced throughout Eastwick.

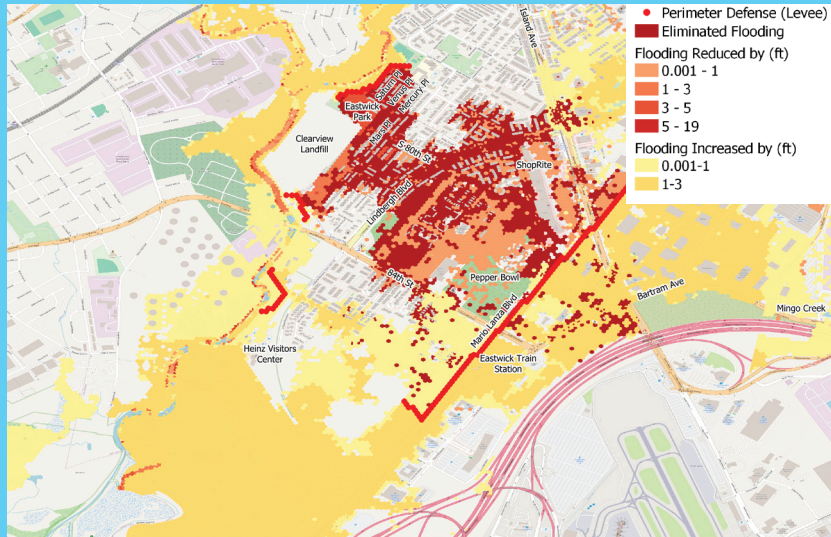
Flood Modeling - RESULTS FOR A FUTURE COMBINED RIVERINE AND COASTAL FLOODING STORM



Existing Conditions - with no projects in place



Proposed Conditions - with Perimeter Defense projects in place



Difference Map - amount of flooding reduced when projects are in place

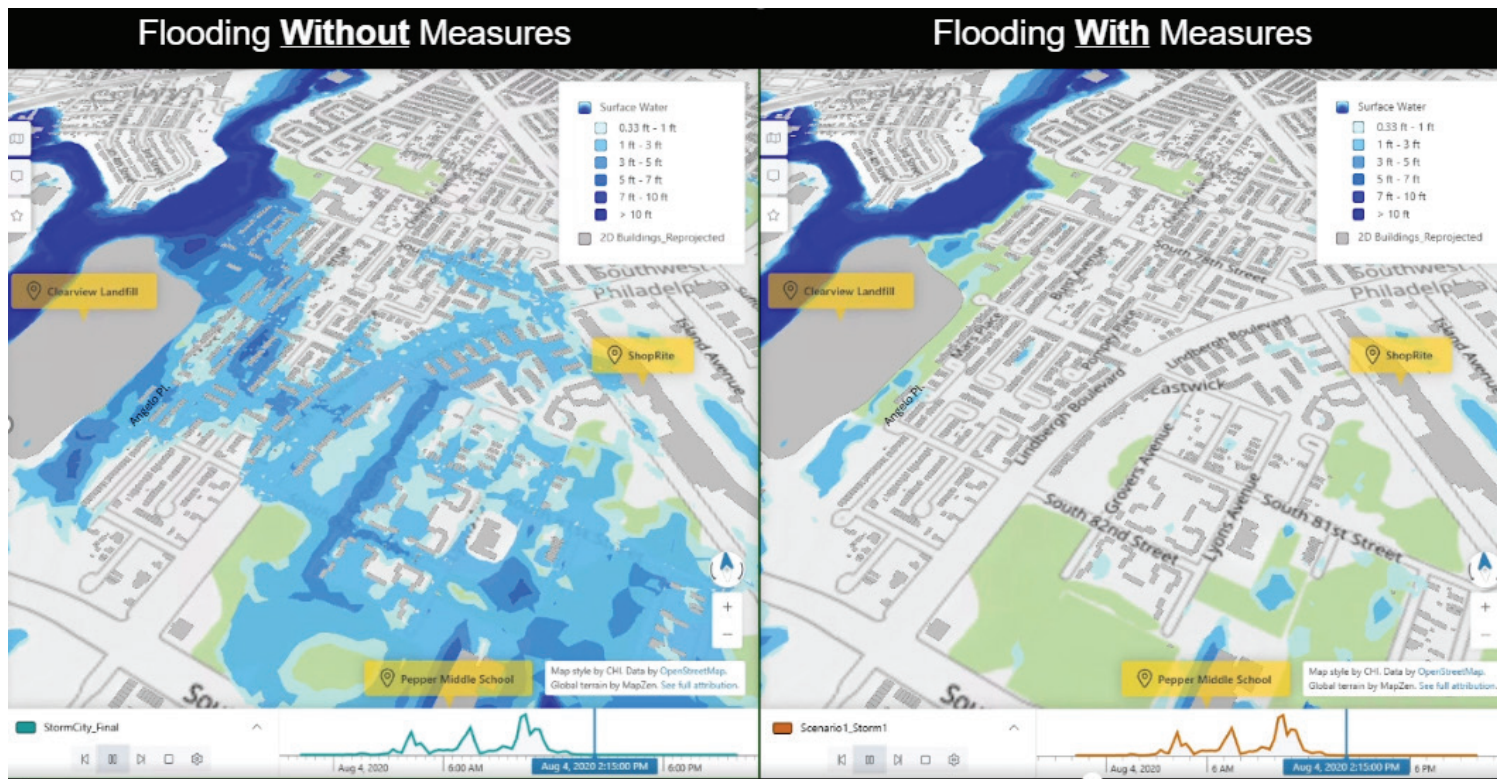
A combined future riverine and coastal flooding event would have wide-spread impacts in Eastwick, coming from Cobbs and Darby Creek, up through the Refuge, and over through the Schuylkill River. With the preliminarily drafted projects in place, flood risk is significantly reduced throughout Eastwick, with a few remaining spots that may experience flooding.

Flood Modeling - VISUALIZING FLOODING

To help Eastwick residents understand what these modeling outputs mean, the project team produced visualizations of flooding in addition to the flood maps that were produced.

StormCity allowed the project team to create videos and toggle in an interface to show how flood waters move throughout Eastwick when different storm events happen.

The flood modeling maps and StormCity are two ways to help the Eastwick Community understand both how flood risk will change in the community and how the flood resilience projects create real flood risk reduction impacts.



APPENDIX B: Community Engagement

This is a community-driven plan. Community involvement began with the review of the Request for Proposal Submission. Engaging the community in that process ensured that the consultant team selected to help guide this process aligned with the values and expectations of the community.

Once the project kicked off, the community and the Flood Mitigation Council of Eastwick (FMCE) acted as stewards of the plan. The FMCE engaged in deep learning alongside the project team to understand the causes of flooding in Eastwick and the possible ways to mitigate flood risk for Eastwick residents. Through learning more

about these causes and mitigation strategies, the FMCE helped educate the broader community through FMCE-led Chat and Chew meetings with small groups from the community. The FMCE also helped bring residents to the December Town Hall and the July Open House, to ensure that Eastwick residents remained engaged and offered input into the Eastwick Flood Resilience Strategy.

This report reflects the community-driven process of plan development. The EFRS engagement process is a model for how Eastwick would continue being engaged through the design and implementation of each of the flood resilience projects.



July 2025 Eastwick Open House

Community Engagement - TIMELINE

The community was engaged in different ways throughout the stages of developing of the EFRS. Each engagement opportunity was tailored to align with technical work - community insights informed the technical work, and the technical work was used to educate the community. Through an iterative process of community engagement and technical analysis, the EFRS process was able to both inform and be informed by the community.



VALUES

FMCE MEETINGS in September 2024, October 2024, and November 2024 helped the project team hone in on the values driving the EFRS.

FLOOD VISUALIZATION

In the **FMCE MEETING** in October 2024 the project team shared the first visualizations from the flood modeling. The FMCE shared feedback on where they know flooding was occurring, but was not represented in the maps, and where flooding was not happening, but was shown in the modeling diagrams. These insights helped the project team refine the model.



PROJECT INVENTORY

BUILDING BLOCKS

Starting with the **FMCE MEETING** in October 2024, the project team shared the types of flood resilience projects being explored in Eastwick. Based on feedback in this and subsequent **FMCE MEETINGS**, through the **DECEMBER 2024 TOWN HALL**, and the **CHAT AND CHEWS**, the project team refined the list of projects on the table for the EFRS.

Through **FMCE MEETINGS** in January 2025, February 2025, and March 2025, the FMCE worked with the project team to identify where flood resilience projects could be placed and what kinds of projects the community would like to see, to help reduce flood risk.

REFINEMENT

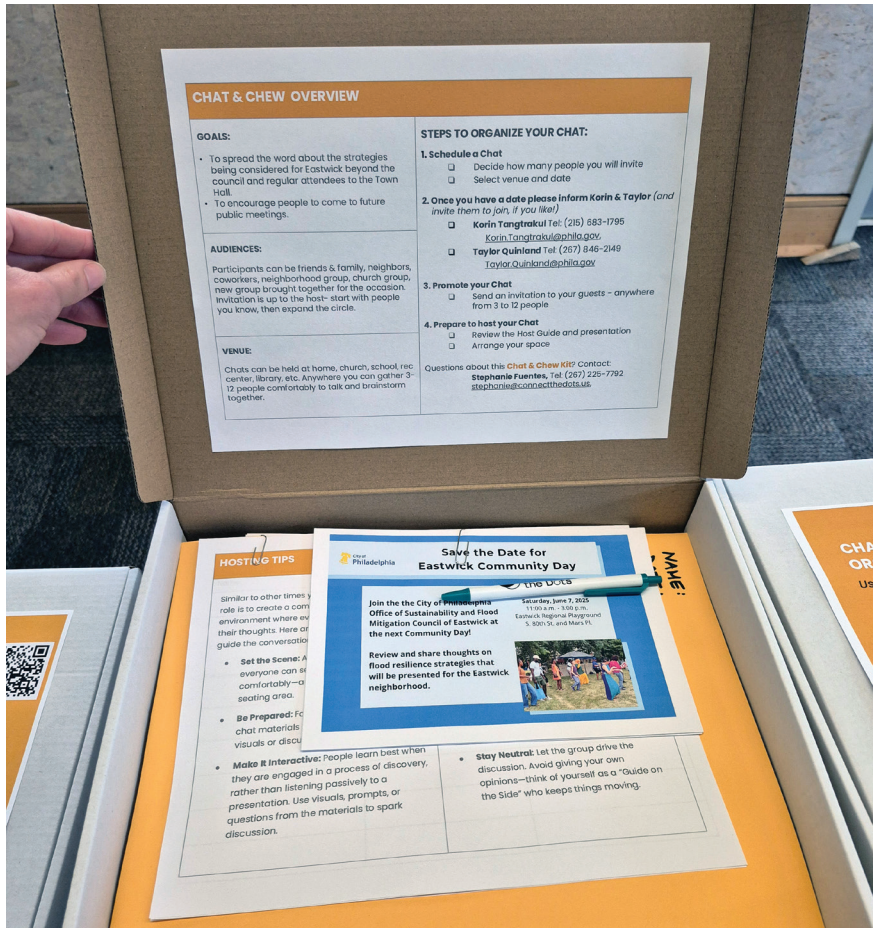
Based on the flood modeling, and with input from the **FMCE MEETINGS** and the **JULY 2025 OPEN HOUSE**, the project team refined the list of flood resilience projects to include in the final strategy.

Community Engagement - BY THE NUMBERS

- 12** Flood Mitigation Council Meetings.
- 2** Eastwick Community Days, with
- ~100** participants at each event.
- 2** Open Houses, with
- 50-70** participants at each event.
- 30** Participants in Small Community Meetings.



June 2025 FMCE Meeting

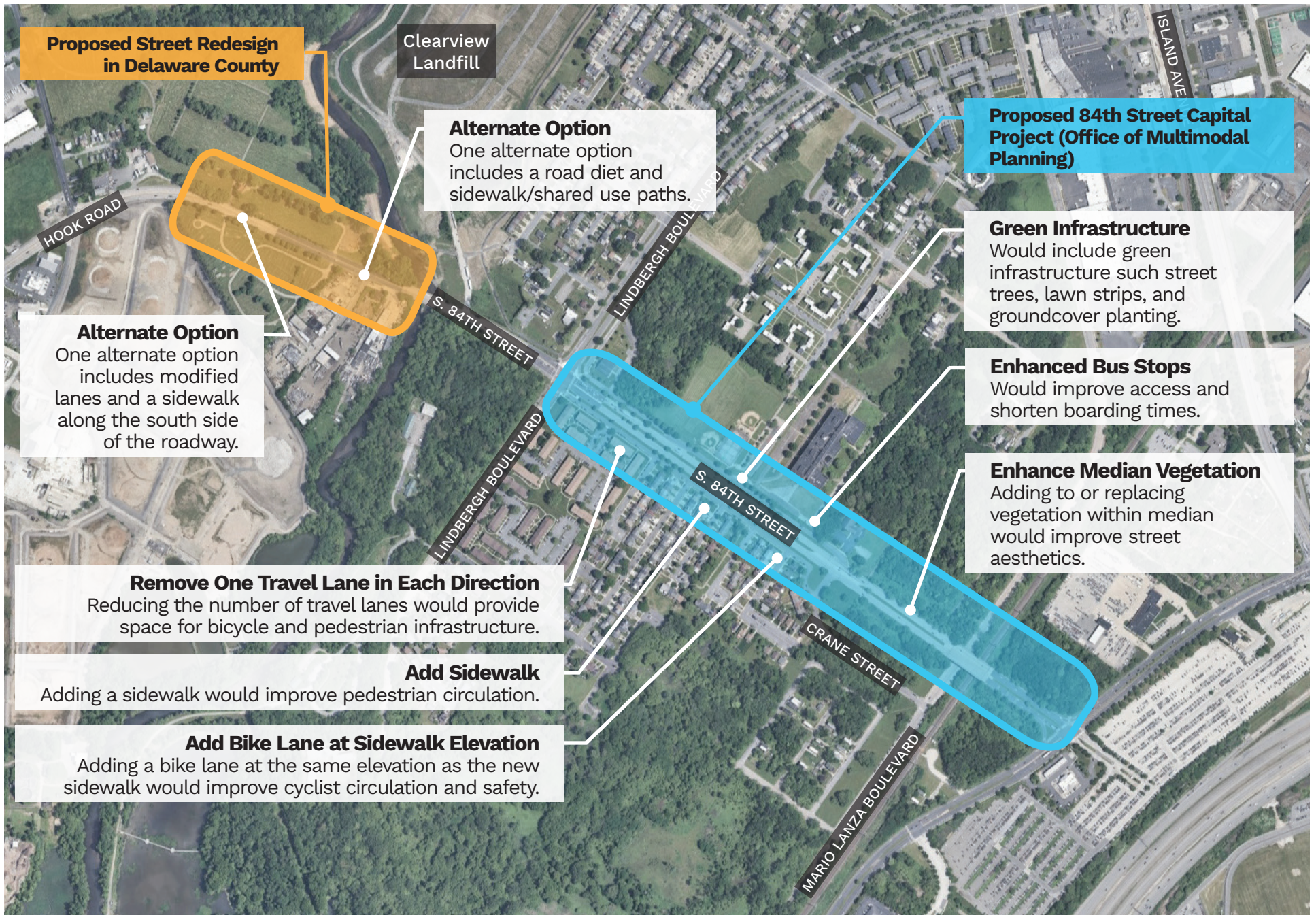


Small Community Meeting "Chat and Chew" Engagement Kits



Eastwick Community Day 2025

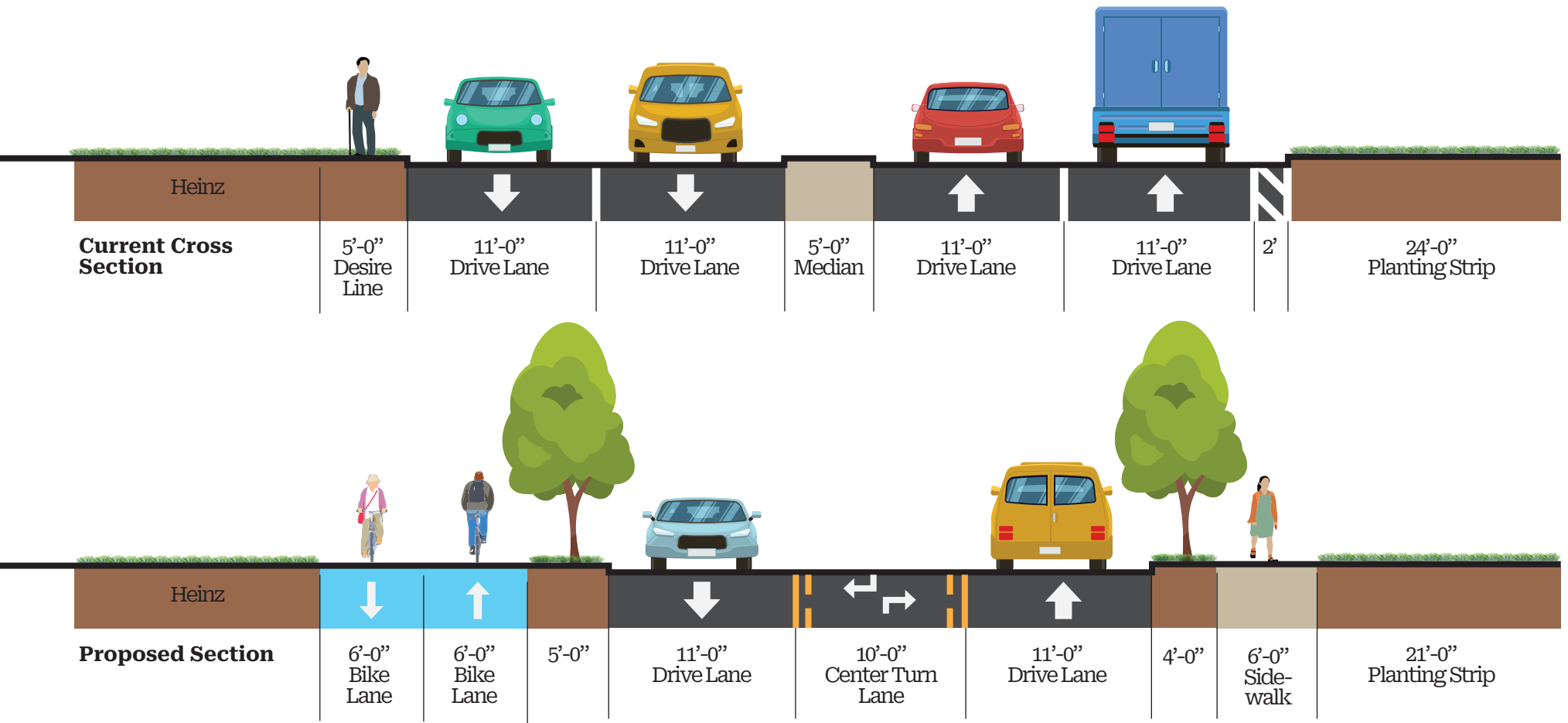
APPENDIX C: Current and Proposed Road Conditions (Hook Road)



Current and Proposed Road Conditions (84th Street)

Street raising is most likely needed adjacent to the Clearview Landfill access driveway. The existing roadway is a typical four-lane road. The street widens significantly at the intersection of Lindbergh Boulevard to include slip lanes and multiple turn lanes. The street is divided by a small median. There are no sidewalks, though there is a clear desire path adjacent to the south side of the street crossing from the sidewalk at Lindbergh across the Darby Creek Bridge.

The proposed section would repurpose a moving lane to establish a two-way shared path for pedestrians and cyclists on the south side of the street, and a potential (though not critical) sidewalk along the north side of the street. This “three-to-one” conversion would provide room for more multimodal facilities as well as trees to buffer and calm vehicular traffic.



84th Street Road Constraints

Traffic

According to PennDOT data, average annual daily traffic (AADT) volumes are roughly 29,000 vehicles on this stretch. This is on the high end for a road diet like this, and a detailed traffic study should be conducted to determine feasibility.

Road Alignment

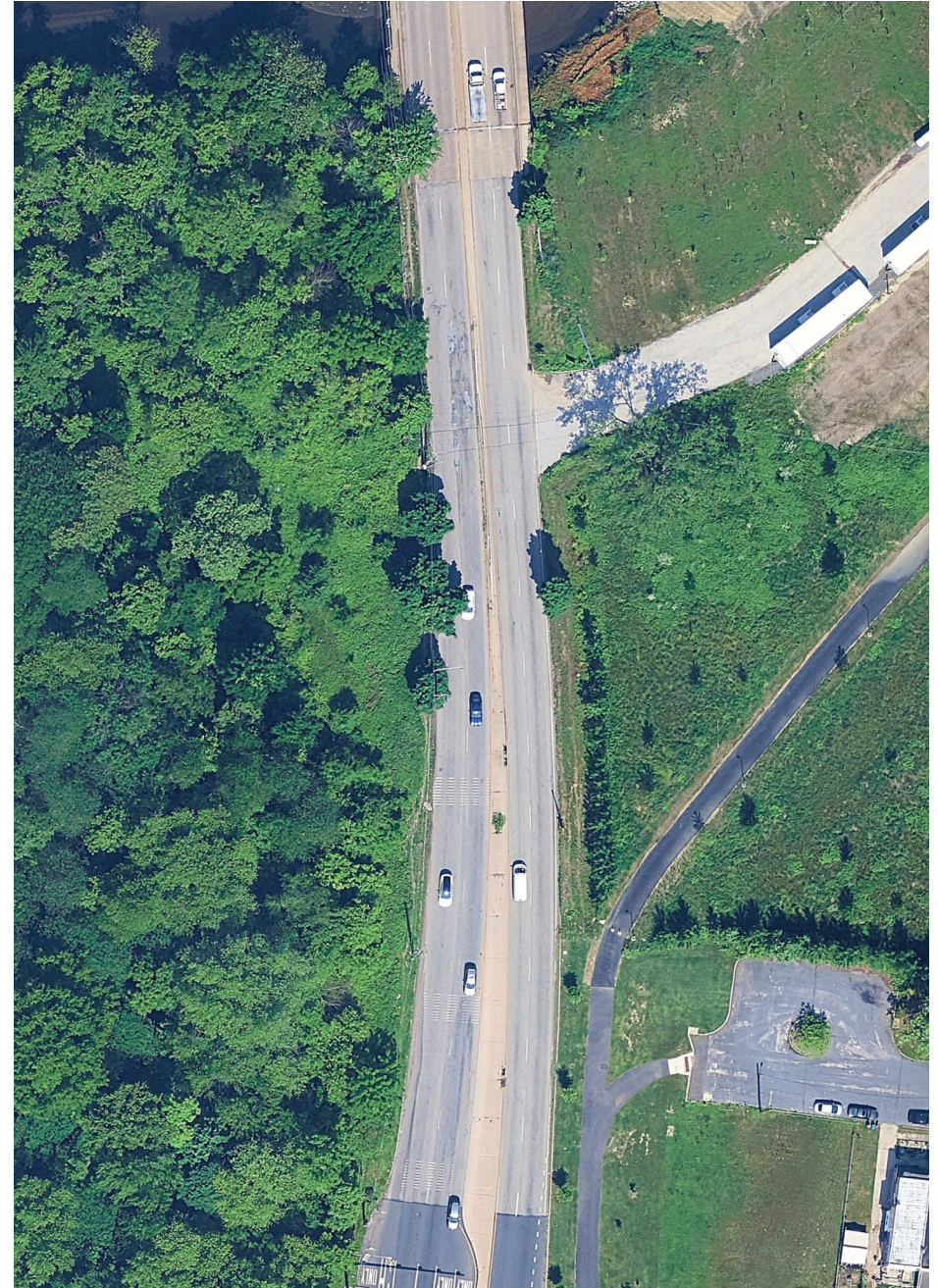
While there is ample right-of-way for expanding multimodal facilities without narrowing the road, most of the available space is on the north side of the street. The proposed two-way bike path further east on 84th Street, as well as the existing desire lines, make the south side of the street the most ideal place for a shared-use path. Without narrowing the road, the street would need to be shifted 10' or more north, which would introduce a large number of additional complexities to the project.

Darby Creek Bridge

The existing bridge, while elevated enough to prevent flooding, is too narrow to accommodate bike or pedestrian facilities. This challenge could be overcome in the short- and medium-term by demolishing the existing median, continuing the 4 to 3 conversion, and using paint and flexible bollards to delineate a shared-use path. This option is only feasible if the 3 lane design was feasible and implemented on the Philadelphia and Delaware County sides of the bridge approach. While safer than the current conditions, this temporary design would likely not be seen as comfortable by cyclists and may see less usage than a fully separated facility.

Existing Right of Way

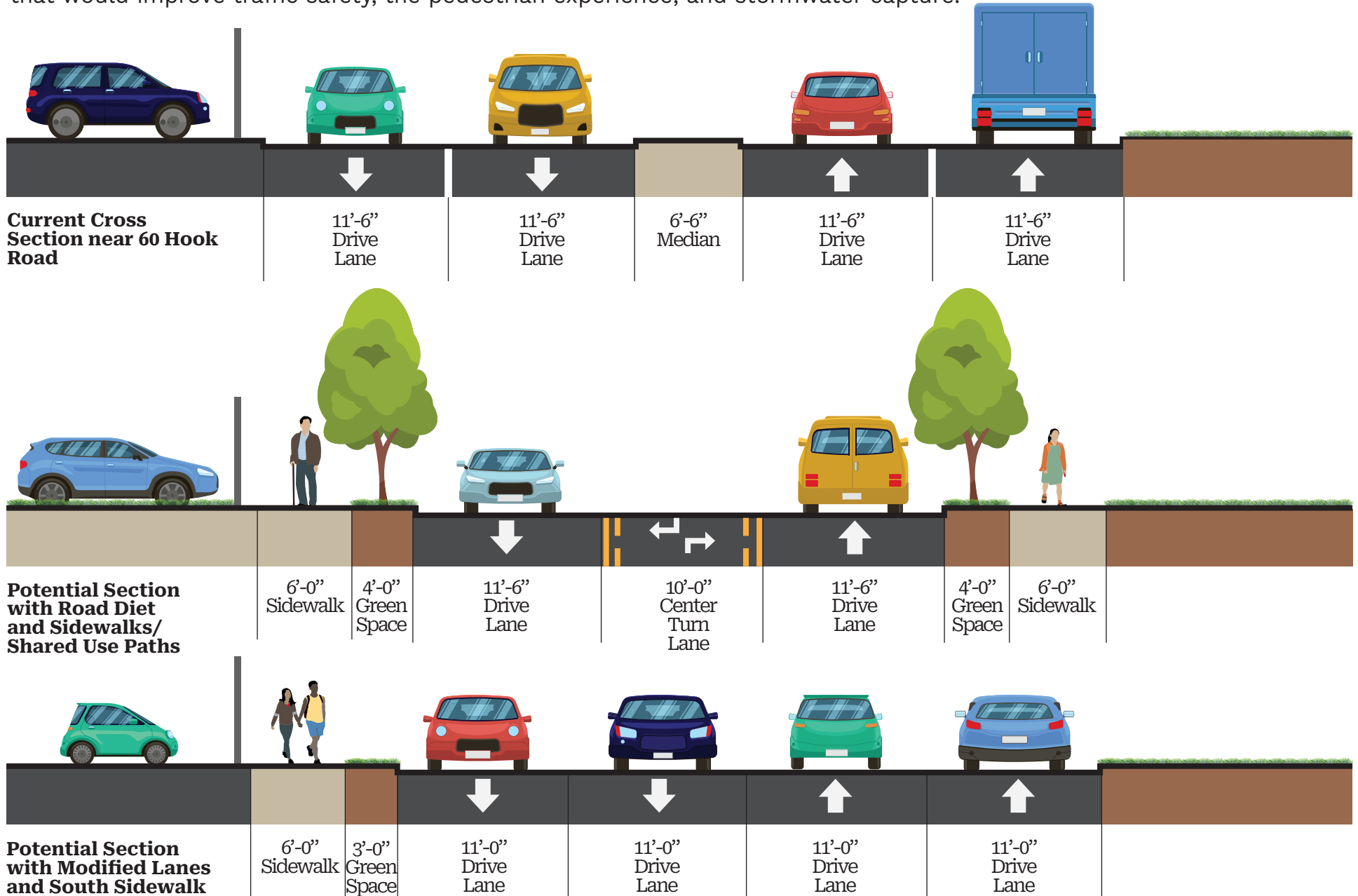
There is a very large amount of right-of-way available here, according to public records – about 200' wide. Most of the unbuilt portion of the right-of-way is adjacent to Clearview. See records below. This should make road raising simpler – acquisition will be less likely for the berm or whatever structure is designed for the new road



84th Street between Lindbergh and the Darby Creek Bridge.

Current and Proposed Road Conditions (Hook Road)

The cross sections below show existing road conditions and two proposed alternatives for the area near 60 Hook Road that would improve traffic safety, the pedestrian experience, and stormwater capture.





NATURALIST
A Patient and Street artist

- Calm and Quiet
- Respectful
- Uses 5 Senses
- Shares
- Discovers
- Full of Wonder
- Curious & Asks Questions
- Investigates
- Happy Outside!

2023 MWEE Partner of Excellence
Meaningful Watersheds
Educational Experiences

2025 Town Hall

