



Walkable Watershed

healthy waters : healthy communities

Petersburg Community Meeting
April 12, 2016



Mission:

To be the guardian of the James River.

To provide a voice for the river and take action to promote conservation and responsible stewardship of its natural resources.

Core programs:

Watershed Restoration
Education
Community Conservation
Advocacy
Riverkeeper





Partners and Funding

- Partners



- Funding





Overview

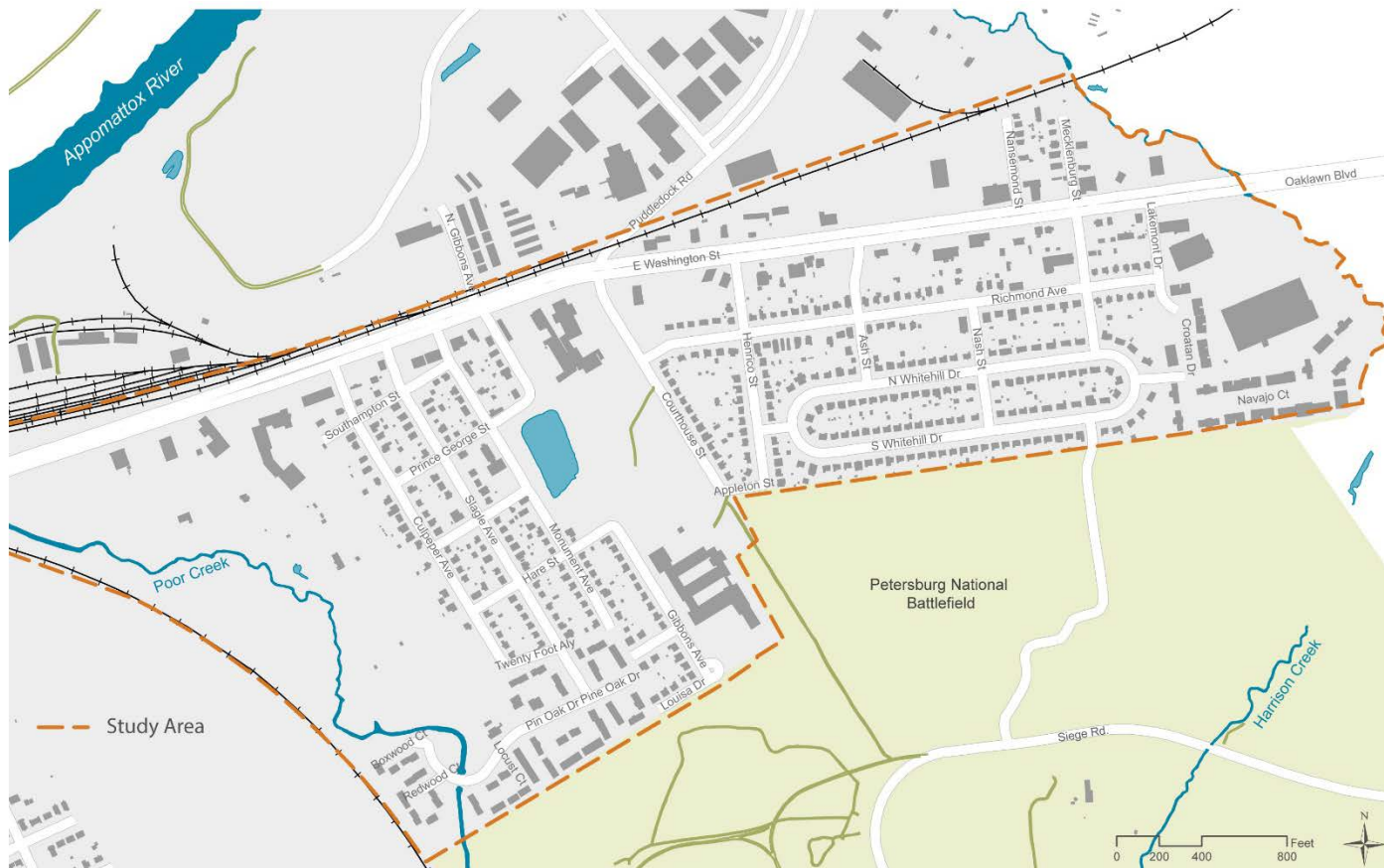
- Purpose and Goals
- Neighborhood Conditions
 - Assets
 - Challenges
 - Flooding + Stormwater
 - Walkability
- Opportunities
- Group Discussion





Purpose

Develop a shared vision and set of strategies to address flooding and improve quality of life.





The Concept

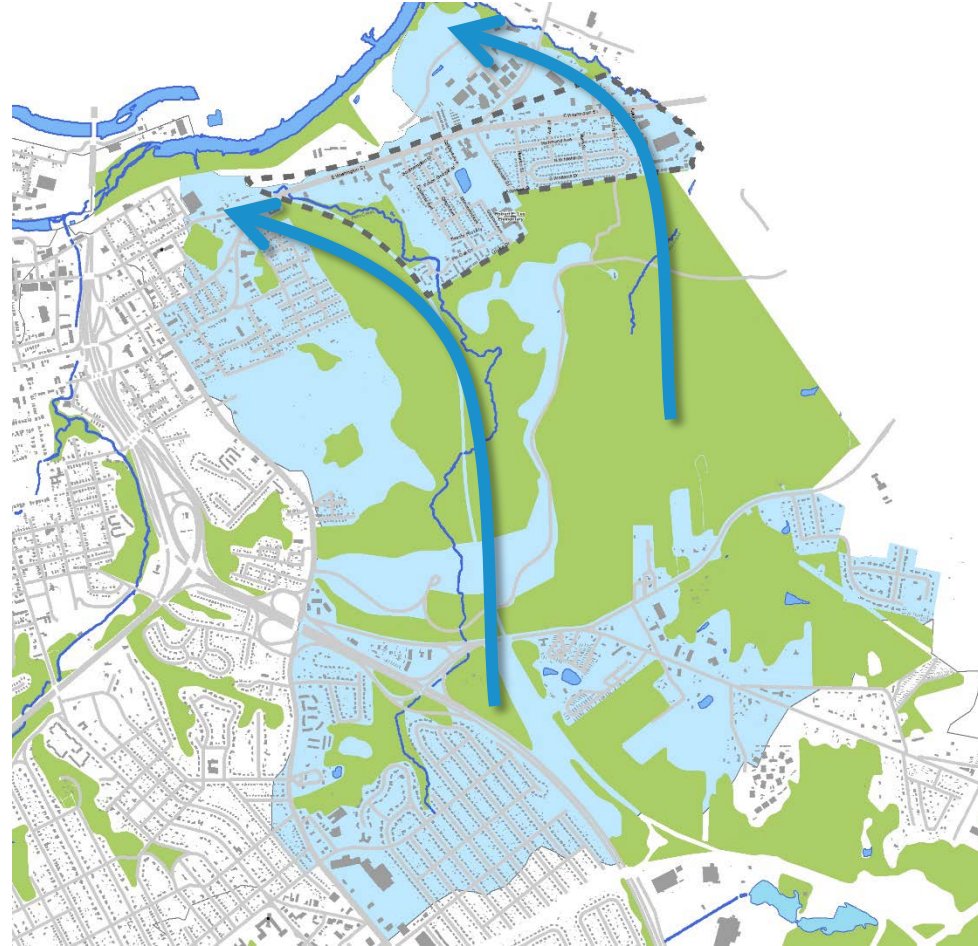
A Walkable Watershed integrates the flow of **water** and **people** into a cohesive strategy to improve the overall health of a community and the surrounding watershed.





Watershed

- A watershed is all the land area that drains to a waterbody (such as Poor Creek).
- The Poor Creek Watershed includes Petersburg National Battlefield, the railroad and neighborhoods to the south.
- Stormwater in this area flows to the creek, and eventually the Appomattox River.





Healthy watershed function

How do we make this...



function like this?





Study Area



- Quiet residential area – Robert E Lee neighborhoods
- Neighborhood is somewhat isolated by:
 - Washington Street
 - Petersburg National Battlefield
 - Railroad
 - Topography (Poor Creek)
- Appomattox River runs just north of neighborhood



Community Assets

- Quiet residential neighborhood
- Robert E Lee Elementary School
- Faith & Hope Temple, Emmanuel Apostolic Church, Lake Mont Baptist Church
- Restaurants and businesses along Washington
- Neighborhood Watch Association
- Harrison Creek and Poor Creek
- Proximity to Appomattox and other natural areas





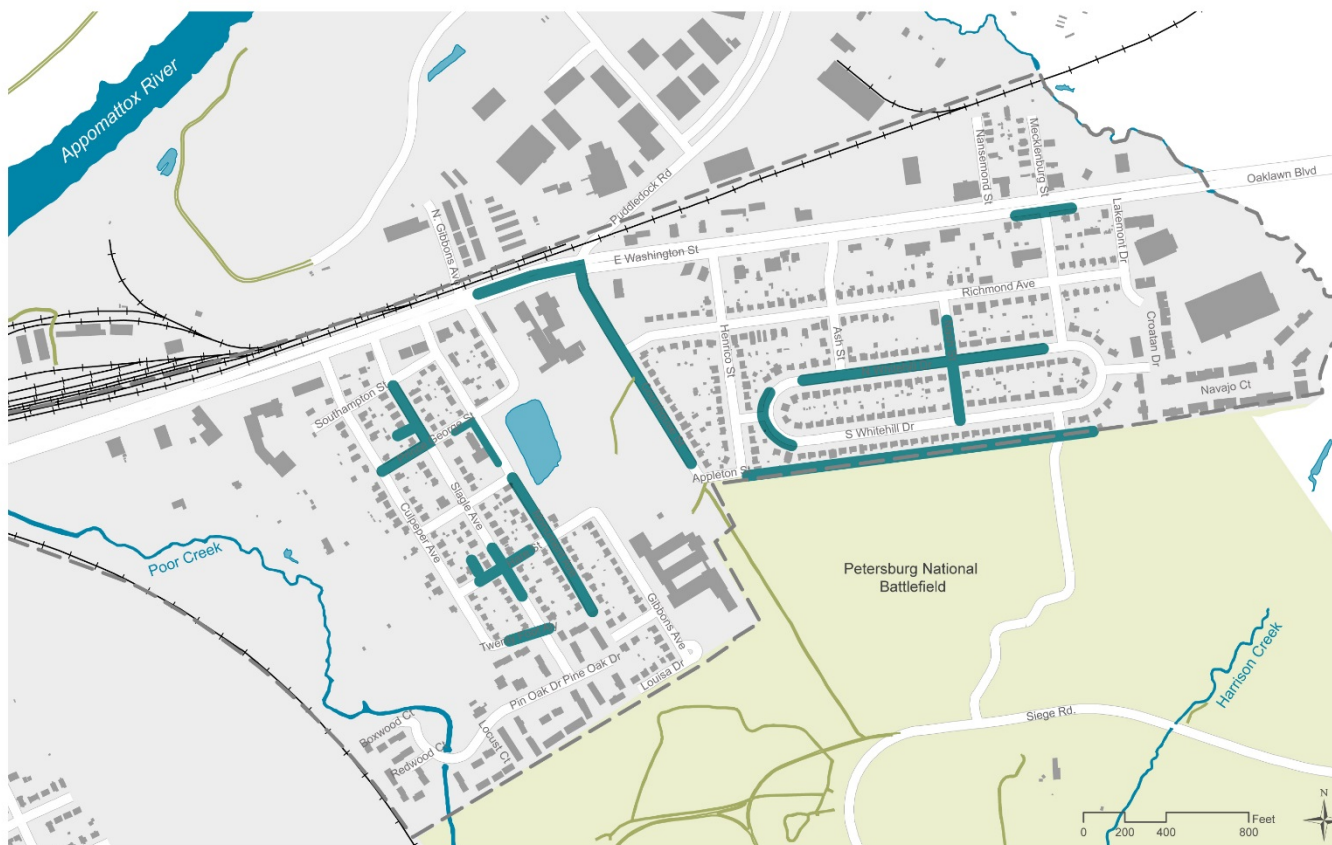
Challenges

- Very few sidewalks
- Flooding on streets and in homes/yards
- Littering along streets
- Few areas to walk/interact with nature and creeks
- People may be unaware there is a creek or see the creek as a nuisance
- Crime and safety
- Speed of traffic
- Lack of public community gathering spaces





Neighborhood Flooding

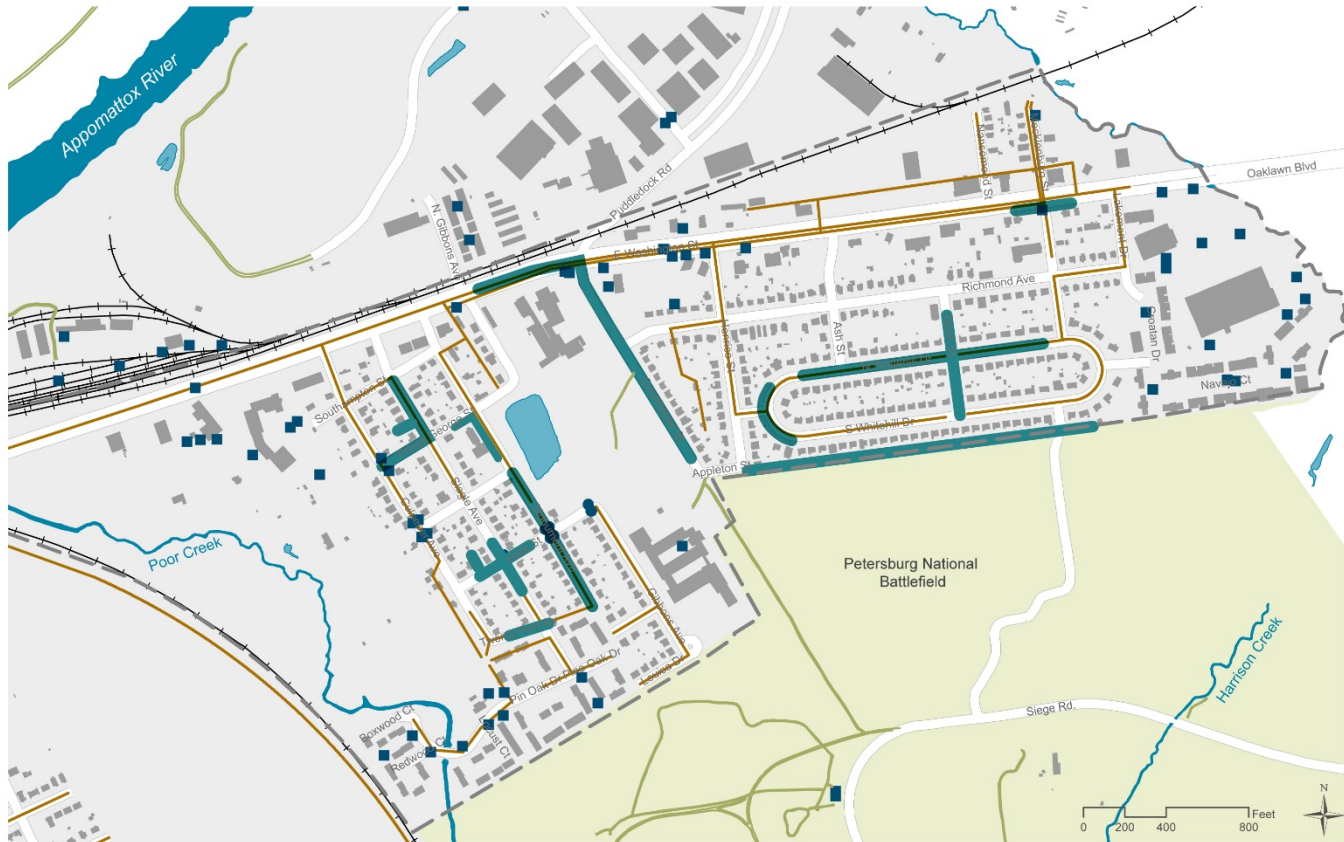


Stormwater and Flooding
Petersburg Walkable Watershed
Robert E Lee Neighborhood

Resident Reported Flooding



Stormwater Infrastructure



Stormwater and Flooding
Petersburg Walkable Watershed
Robert E Lee Neighborhood

 Resident Reported Flooding

Stormwater Infrastructure (Mapped)

 Catch Basin

 Storm Inlet

 Sewer Main



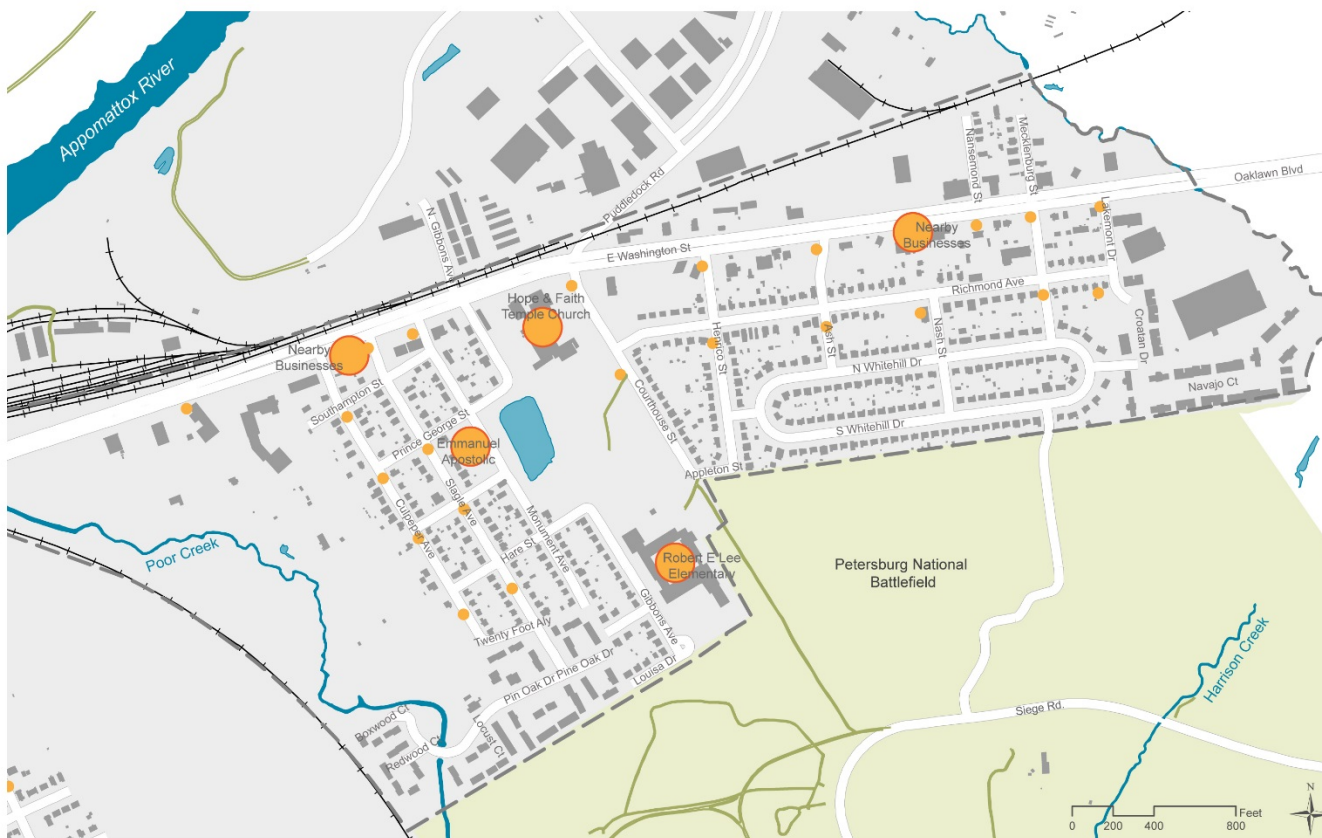
Water flow challenges



- Local flooding
- Litter and debris blocking drains
- Topography and high water table
- Insufficient storm water infrastructure



Community Destinations

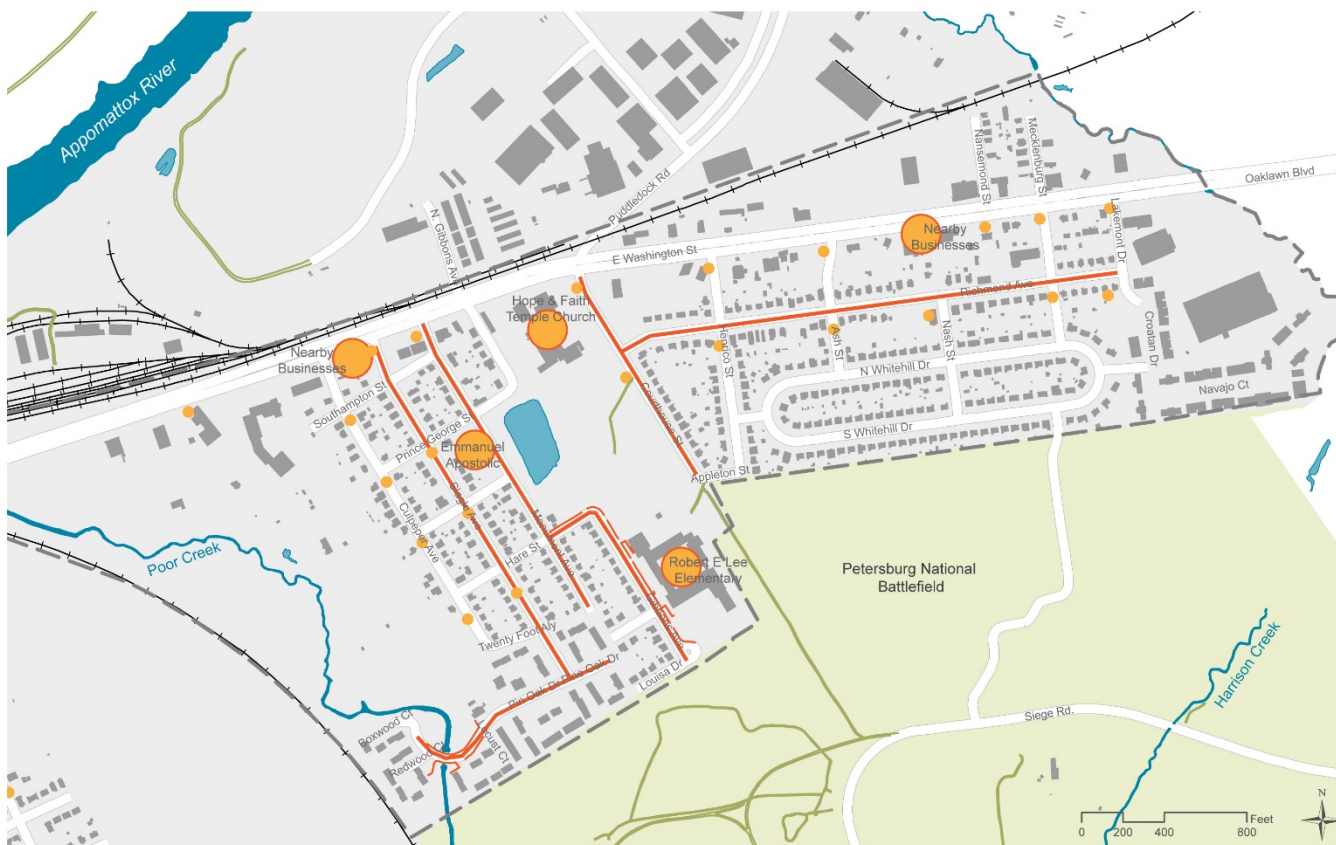


Community Destinations
Petersburg Walkable Watershed
Robert E Lee Neighborhood

- Community Destinations
- Transit Stops



Community Connections



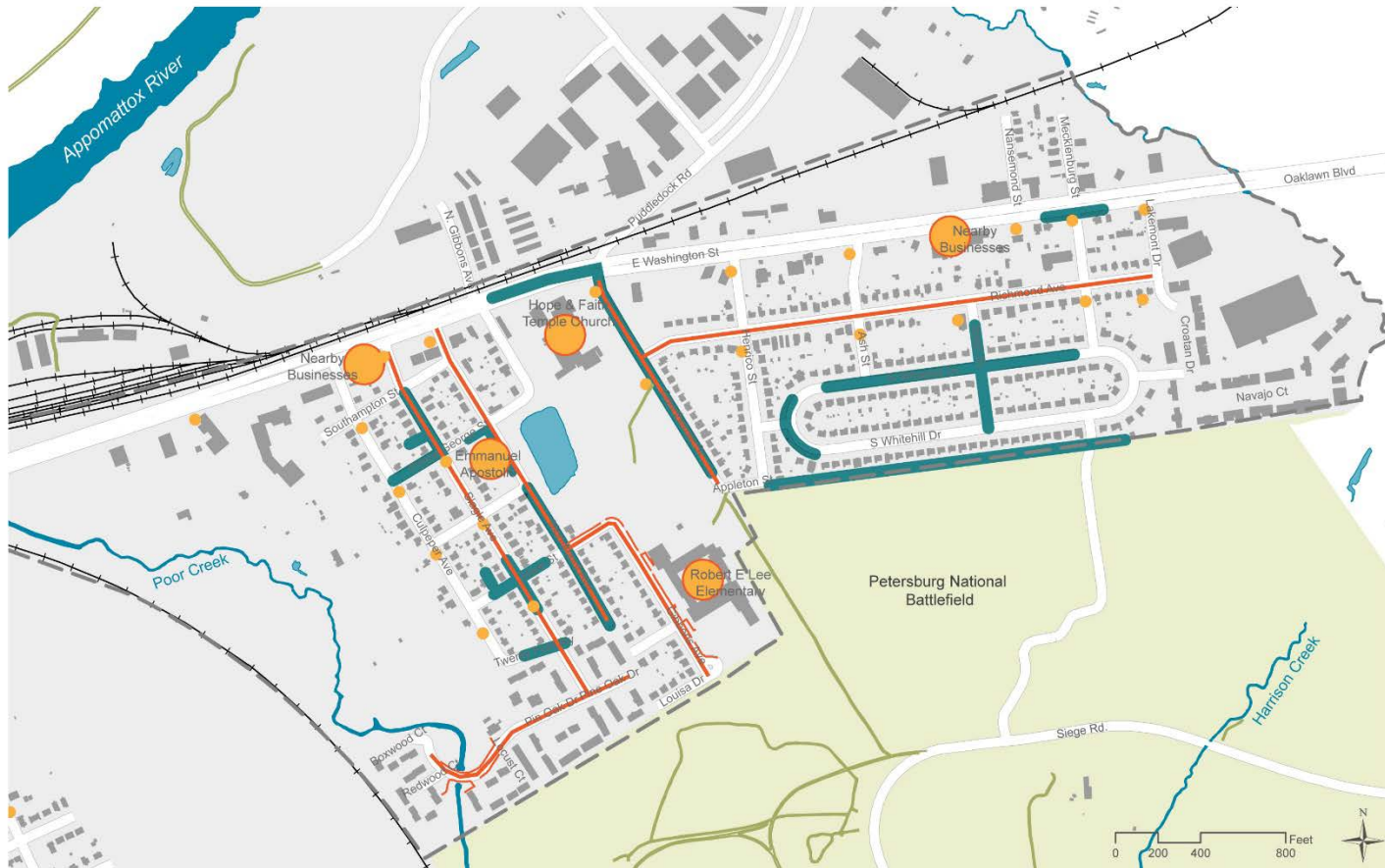
Community Destinations

Petersburg Walkable Watershed
Robert E Lee Neighborhood

- Community Destinations
- Transit Stops
- Primary Routes
- Existing Sidewalks



Existing Conditions



Existing Condition Analysis

Petersburg Walkable Watershed
Robert E Lee Neighborhood

-  Community Destinations
-  Transit Stops
-  Primary Routes
-  Existing Sidewalks

 Resident Reported Flooding

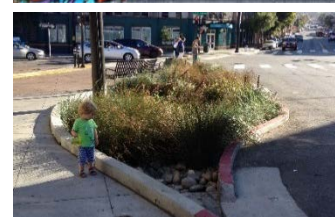
Opportunities

Projects that can address local flooding,
walkability, connectivity, and
stormwater management
simultaneously



Concept Plan Strategies

- 1. On-street Stormwater Flows –**
integrating natural drainage strategies into streets and infrastructure design to improve walkability and stormwater management (local flooding).
- 2. Safe Crossings –**
integrating stormwater treatment and traffic calming measures at strategic intersections to improve safety and stormwater management.
- 3. Off-Street Stormwater Flows –**
incorporating rain gardens or swales to capture unmanaged stormwater runoff.
- 4. Trails and Greenways –**
establishing pathways to improve pedestrian access to open space areas.
- 5. Promote Learning and Stewardship –**
celebrating and promoting stewardship through action and creative features such as signage and public art.





Near- and Long-term Investments

Near term Investments:

\$ - Swales, Rain barrels

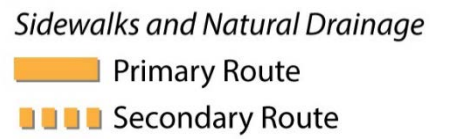
\$\$ - Rain gardens,
Walking trails in
open spaces

\$\$\$ - Grading
improvements

Long-term Investments:

\$\$\$ - Complete streets
including sidewalks

\$\$\$ - Stormwater
infrastructure
upgrades





On-Street Opportunities

Sidewalks and Natural Drainage

- Add sidewalks on one or both sides of the streets.
- Add natural drainage in planting strip between sidewalk and streets
- Narrower travel lanes help slow traffic
- Include on-street parking on one or both sides of street



Curb extension retrofit

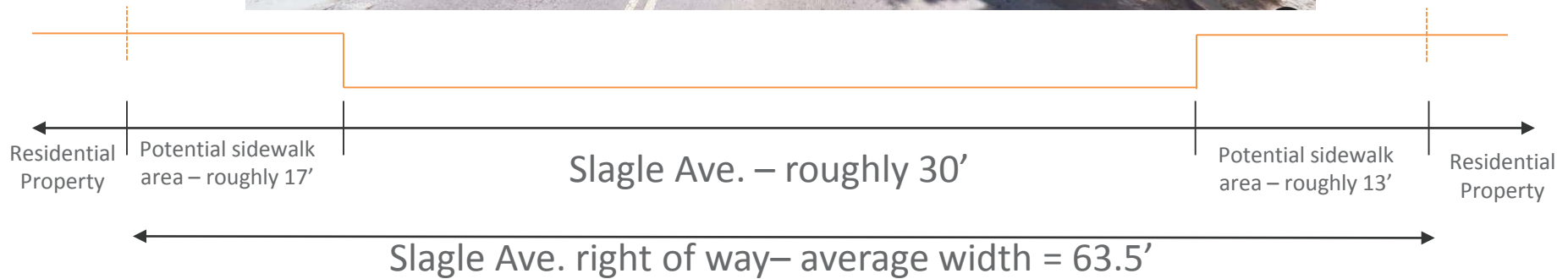


Water-filled planted swale during 25-year storm event

Swales are grassy or vegetated channels that safely hold and direct water from one place to another. They can be located adjacent to streets and parking lots to slow and clean the water before it flows to the creek.



Street Right of Way – Slagle Ave.





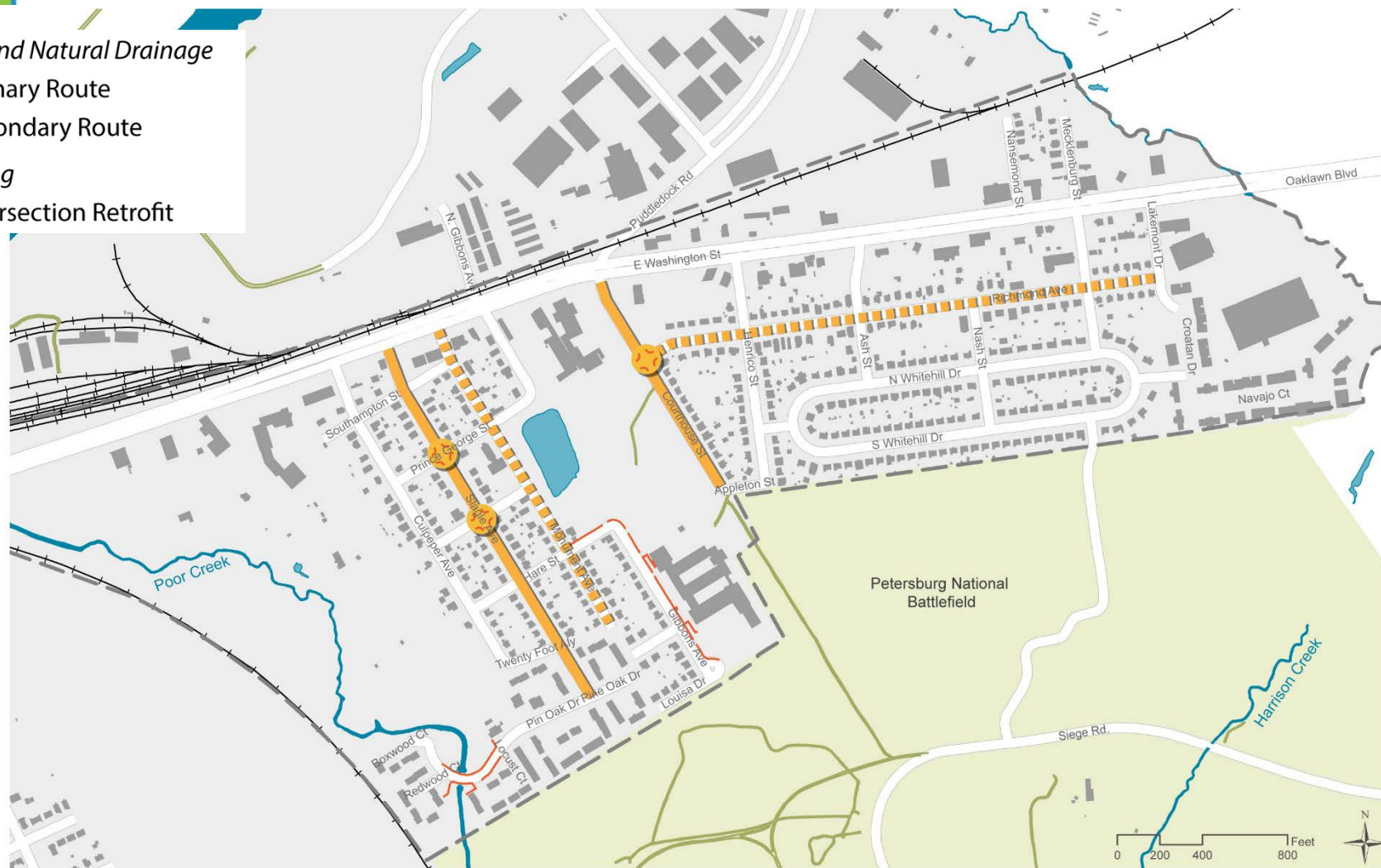
Green Complete Streets



Major
infrastructure
investment



Intersection Retrofit





On-Street Opportunities

Safe Crossing

Intersection retrofit:

- Add natural drainage strategies like a rain garden traffic circle or bioretention curb extensions.
- Integrate bus stop and amenities such as trash cans.
- Add crosswalks to slow traffic at intersections.





On-Street Opportunities

Sidewalks and Natural Drainage

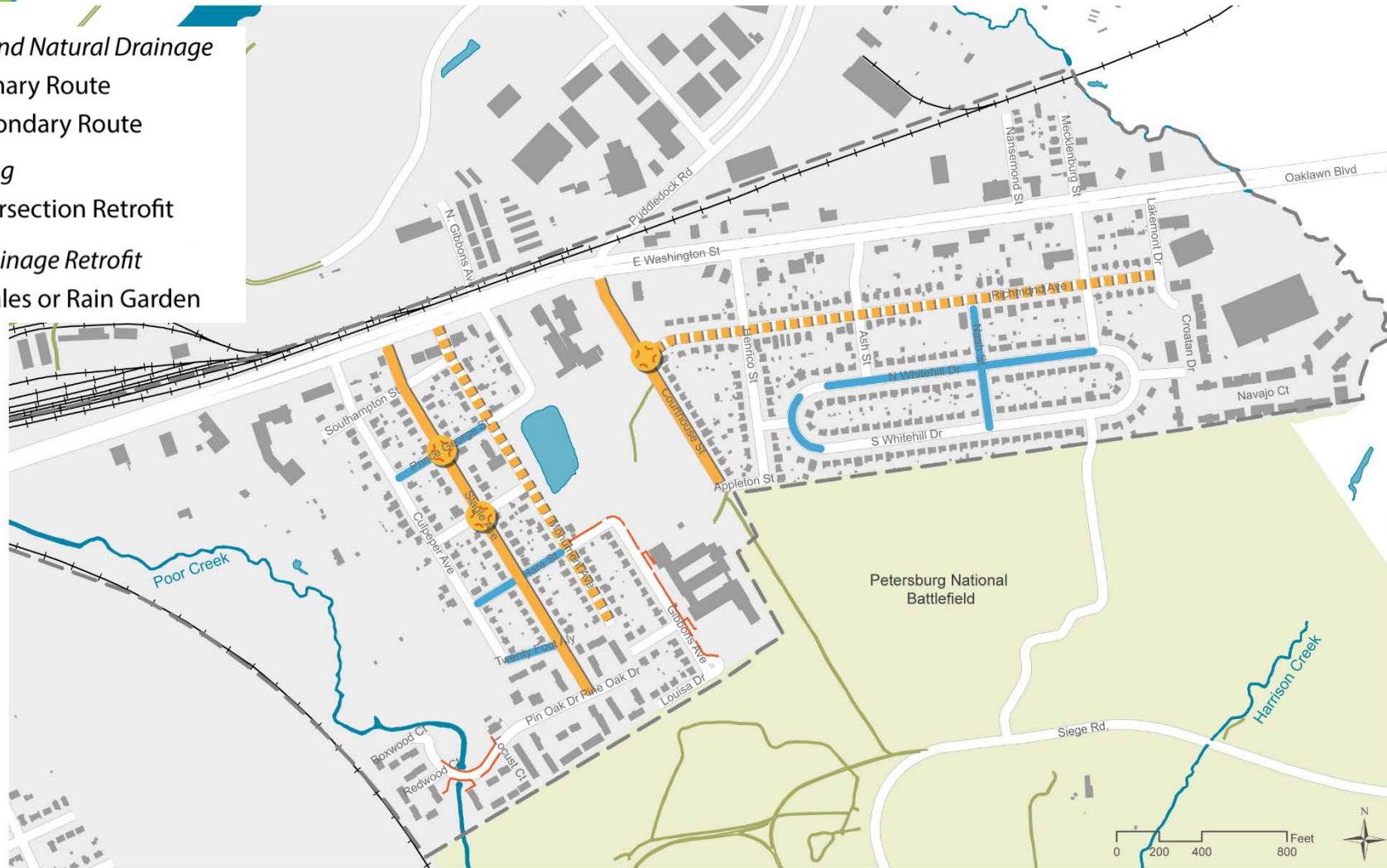
- Primary Route
- Secondary Route

Safe Crossing

- Intersection Retrofit

Natural Drainage Retrofit

- Swailes or Rain Garden





On-Street Opportunities

Natural Drainage Retrofit

Swales in street right-of-way (on streets not prioritized for sidewalks):

- Integrate or retrofit existing ditches to hold stormwater during rain events and reduce water ponding on streets.





On-Street Opportunities

Sidewalks and Natural Drainage

- Primary Route
- Secondary Route

Safe Crossing

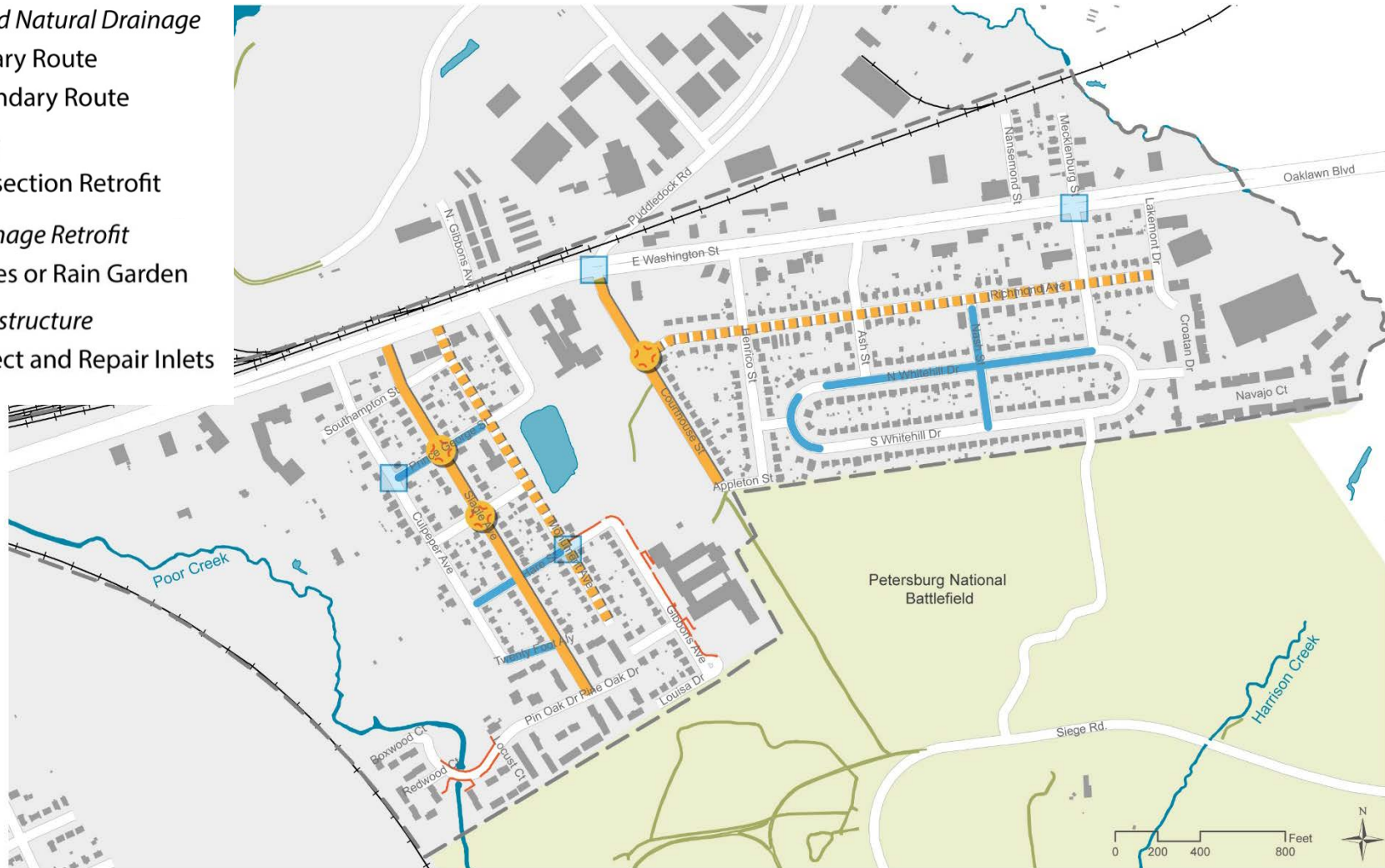
- Intersection Retrofit

Natural Drainage Retrofit

- Swales or Rain Garden

Existing Infrastructure

- Inspect and Repair Inlets





On-Street Opportunities

Existing Infrastructure

Inspect and repair inlets:

- Inspect inlets to determine if inlets are clogged or have settled
- Near-term opportunity to repair non-functioning inlets
- Residents can help maintain inlets by keeping inlets clear of trash and debris
- Mark drains to discourage trash in drain.





Off-Street Opportunities

Sidewalks and Natural Drainage

- Primary Route
- Secondary Route

Safe Crossing

- Intersection Retrofit

Natural Drainage Retrofit

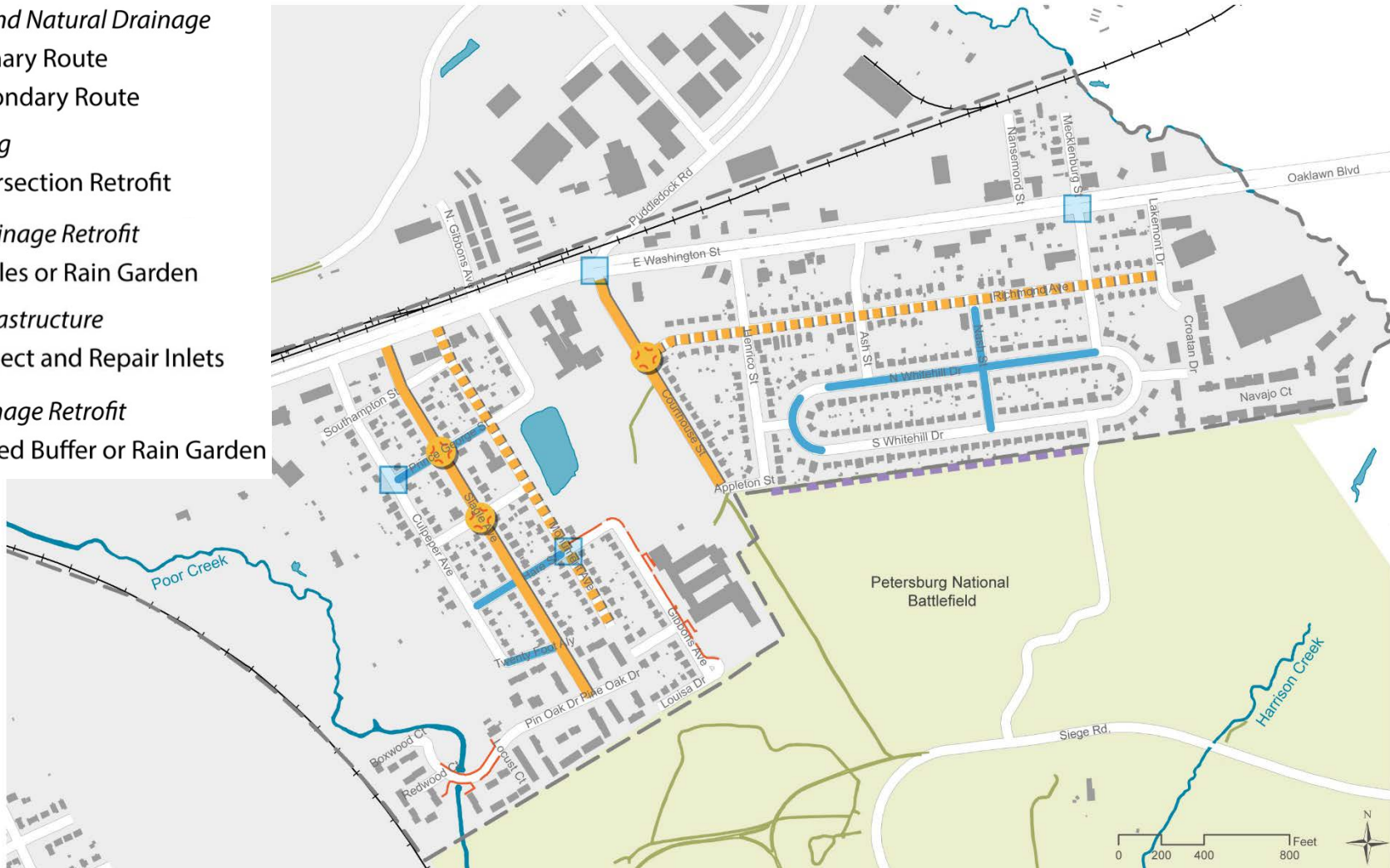
- Swales or Rain Garden

Existing Infrastructure

- Inspect and Repair Inlets

Natural Drainage Retrofit

- Planted Buffer or Rain Garden





Off-Street Opportunities

Natural Drainage Retrofit

Enhanced Swale or Planted Buffer



- Coordinate with National Battlefield (NPS) to install a swale or buffer to address flooding in backyards along Whitehill Drive.





Off-Street Opportunities


Sidewalks and Natural Drainage

-  Primary Route
-  Secondary Route

Safe Crossing

-  Intersection Retrofit

Natural Drainage Retrofit

-  Swales or Rain Garden


Existing Infrastructure

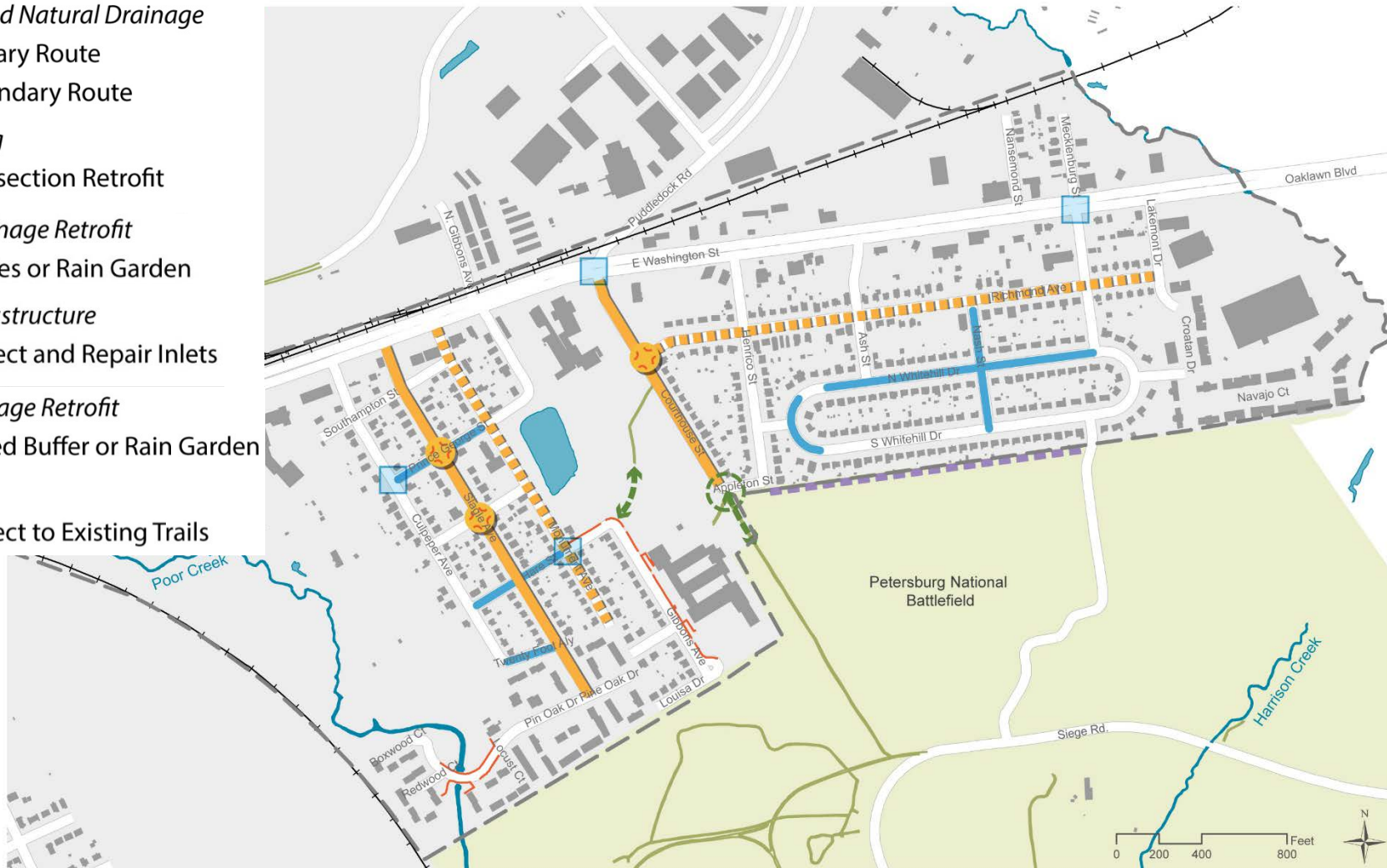
-  Inspect and Repair Inlets

Natural Drainage Retrofit

-  Planted Buffer or Rain Garden

Trails

-  Connect to Existing Trails





Off-Street Opportunities

Trails and Open Space

Explore opportunities for community gathering areas.

Connect to existing trails:



- Improve walkability and access to community amenities
- Explore opportunities to connect to other trails and creeks





Draft Concept Plan


Sidewalks and Natural Drainage

-  Primary Route
-  Secondary Route


Safe Crossing

-  Intersection Retrofit

Natural Drainage Retrofit

-  Swales or Rain Garden


Existing Infrastructure

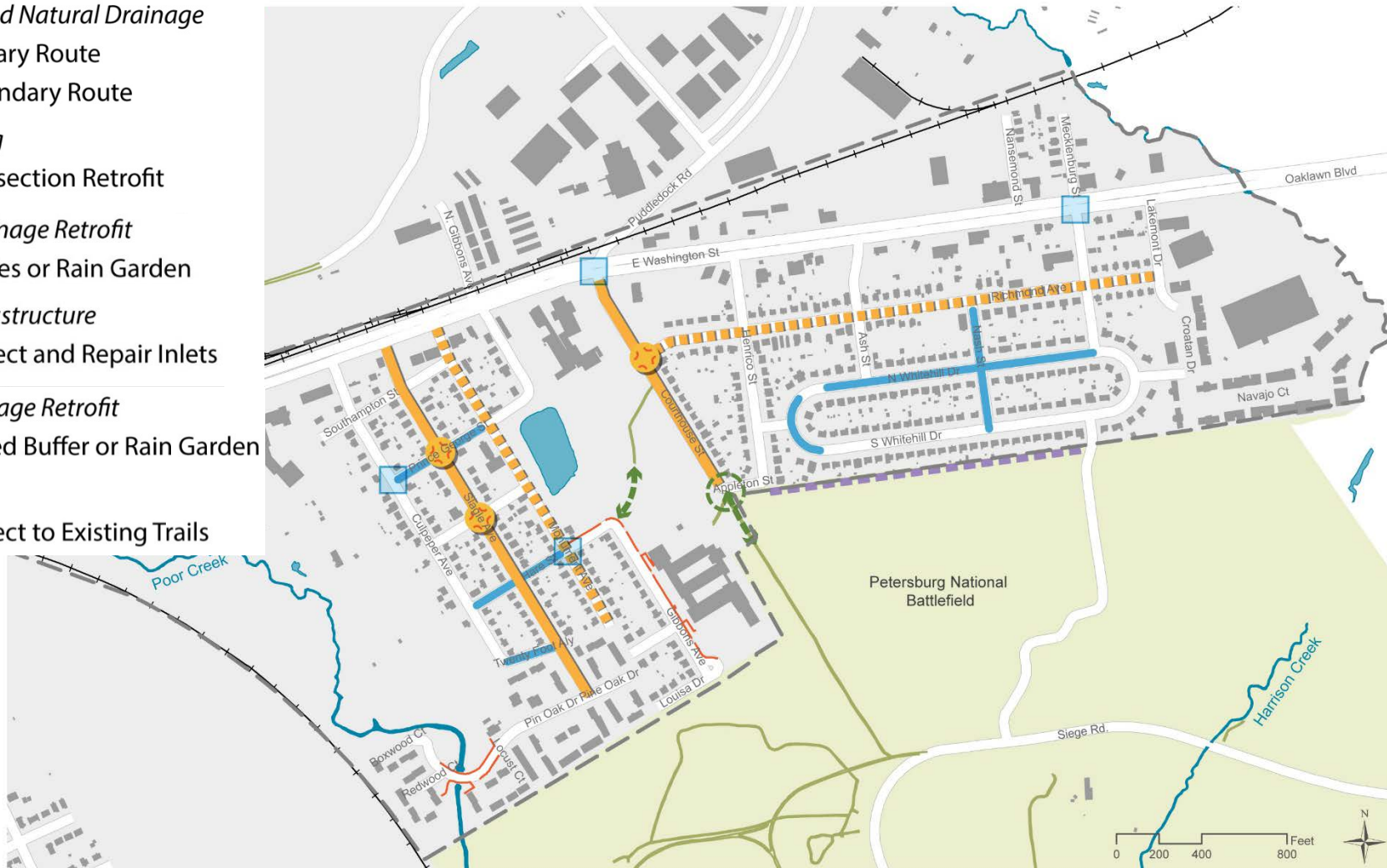
-  Inspect and Repair Inlets

Natural Drainage Retrofit

-  Planted Buffer or Rain Garden

Trails

-  Connect to Existing Trails





Freeport, IL Example

EAST SIDE REVITALIZATION

DECEMBER 2013

Reducing the Impacts of Flooding and Floodway Regulations
Freeport, IL



INTRODUCTION

EPA's Superfund Redevelopment Initiative (SRI) and EPA Region 5 sponsored a reuse planning process for the CMC Heartland Site and other contaminated properties in the East Side neighborhood of Freeport, Illinois. The project connects site reuse with area-wide neighborhood revitalization for this environmental justice community. This report summarizes outcomes from a 12-month community planning process, including considerations for reducing the impacts of flooding and floodway regulations on the East Side Neighborhood.

COMMUNITY GOALS

Neighborhood stakeholders identified two primary goals for this planning effort to set the stage for neighborhood revitalization:

- Reduce flood impacts.
- Reduce impacts of floodway regulations.

Additional neighborhood revitalization goals are documented on the back page of this report.

HOW DO FLOODING AND FLOODWAY REGULATIONS IMPACT THE EAST SIDE?

The East Side is an African-American neighborhood located in the floodway of the Pecatonica River. Residents of the East Side share a strong sense of community and deep affection for the neighborhood. Many families have lived in the neighborhood for generations. Long-time residents remember a time when the neighborhood supported quality housing and thriving businesses with neighborhood-oriented amenities.

The neighborhood's economic vitality and housing quality have been impacted negatively over time by the neighborhood's location in the floodway. Residents contend with recurring major and minor flood events, and are subject to Federal Emergency Management Agency (FEMA) and State of Illinois floodway regulations, which limit improvements on structures located in a floodway. These regulations, which were not in place when the neighborhood was built, make it challenging to improve and expand both housing and neighborhood businesses. Over time, housing quality has severely declined and most commercial businesses have vacated the neighborhood.

Today, the community suffers from a lack of access to basic amenities, goods and services, and transportation options. Improving infrastructure, identifying strategies to reduce the disproportionate impacts of floodway regulations, and providing assistance for home repairs that may otherwise be cost-prohibitive could significantly improve the quality of life for East Side residents. These changes could also lay a foundation for addressing additional neighborhood revitalization goals.

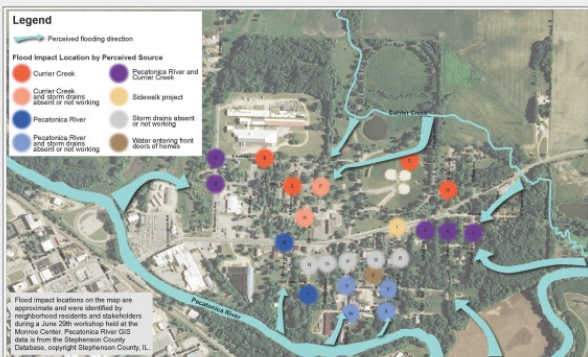


Figure 1: Neighborhood Flood Experience
This map documents the location and perceived source of flooding, as shared by neighborhood residents at a series of public meetings held during the summer of 2013. The map is not a technical analysis but instead captures the experience of local residents.



ADDENDUM: FLOOD IMPACT REDUCTION

Green infrastructure strategies for reducing flood impacts on the East Side

1 FOR NEIGHBORHOOD STREETS with sidewalks and large street area

For neighborhood areas that have:

- Sidewalks on both sides of street
- Large area between road and sidewalk



Potential Strategy: Planted Swales

Ample area between roads and sidewalk provide space to construct bioswales between streets and sidewalks to collect rainwater from streets and hold it until flooding subsides.

Notes

Planted swales can be planted with lawn or planted to look like a garden. The photographs below show different types of swales, from simple grassy swales to perennial plantings that provide seasonal color.

- **Maintenance:** Residents would like the City to have a maintenance plan in place for new plantings.
- **Aesthetic qualities:** Residents would prefer swales planted to look like a garden. If maintenance funding is a challenge, residents would prefer grassy swales that are consistently maintained.
- **Community:** Neighborhood residents would like to be involved in planning, planting and maintaining these features. Planting and maintenance offer opportunities for apprenticeships and jobs for residents.



DECEMBER 2013

A-1



Group Discussion

A) Community Conditions:

Anything missing?

- Other destinations or preferred routes?
- Other areas prone to flooding?
- Trash hot spots (where trash collects or illegal dumping)?

B) Opportunities:

Are there additional opportunities to include or refine?

- Sidewalks along primary streets to connect neighborhood.
- On-street and off-street natural drainage practices, such as bioretention swales, rain gardens to address flooding.
- Trails and greenways to improve access to open space
- Education and stewardship.



Next steps

Walkable Watershed

- Upcoming meeting to review draft recommendations and give feedback
- Installing rain barrels at homes.
- Planning cleanup event with community partners and organizations?
- Storm drain marking with after school students?



Are there Neighborhood Watch Events that JRA might be able to support?

- Community events.
- What additional information or training could help you do more?



For more information

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