CITY OF SPRINGFIELD Recovery and resiliency partnership project







SEPTEMBER 2020

OVERVIEW

Developing sustainable stormwater management and green space strategies to improve resilience and support community long-term recovery.

COMMUNITY INPUT

The project team worked closely with city staff and the community to respond to specific community goals and challenges with a set of sustainable design options that foster a strong sense of place. The project team provided the following range of virtual and socially-distanced options for community input in context of Covid-19 safety concerns.

- City Commission Meeting on July 6, 2020, with call-in option.
- Posters on display at City Hall accompanied by a paper survey.
- Virtual open house via the project web page with video presentations and online survey.
- Stakeholder meetings via conference call.

Overall the participants expressed support and enthusiasm for the proposed designs. The concepts on the following pages reflect the community input provided.

INTRODUCTION

The city of Springfield (the City) is challenged with the daunting task of recovering from the devastating impacts of Hurricane Michael, a Category 5 hurricane that made landfall in October 2018. To support physical and economic recovery in Springfield, the Recovery and Resiliency Partnership Project (R2P2) provided technical assistance by developing strategies and design concepts that bolster resilience to stormwater impacts, improve quality of life and support sustainable redevelopment. The design process was guided by the following technical assistance goals:

- Integrate long-term sustainability and resilience into rebuilding.
- Develop a vibrant, walkable commercial district to support local businesses.
- Develop a welcoming, mixed-use gateway to support the commercial district.
- Create a waterfront park to reduce flooding and provide recreational access to Martin Lake.
- Integrate sustainable water features into city infrastructure to manage stormwater and create inviting civic spaces.
- Provide safe pedestrian and bicycle connections to businesses and community amenities.
- Create connections to regional recreation opportunities.

ABOUT

The Recovery and Resiliency Partnership Project (R2P2) is a technical assistance initiative to support the recovery of Florida Panhandle cities provided by the U.S. Federal Emergency Management Agency (FEMA) Integrated Recovery Coordination field operations and the U.S. Environmental Protection Agency (EPA), Region 4.

FOCUS

For the technical assistance, the City identified four areas where innovative conceptual designs can support revitalization, storm resilience and long-term economic recovery. The technical assistance team worked with the City to develop designs for each of the project sites, as well as a citywide connection plan that proposes safe pedestrian and bicycle options. Each design is informed by a set of sustainability principles and strategies described on pages 2-3.



SUSTAINABILITY & RESILIENCE

Integrate long-term sustainability and resilience into rebuilding.

PRINCIPLES

The design options in this report address the City's specific goals and challenges by integrating the principles of resilience, alternative transportation, health and wellness, and vibrant public spaces into stormwater management. This approach increases resilience of the stormwater management while improving public spaces and opportunities to bike and walk.



COMMUNITY RESILIENCE

Design tools and strategies to support economic recovery and build resilience for future storm events are highlighted within each design concept. Designs include strategies to increase economic resilience by creating new greenways and green spaces that attract visitors and boost commercial opportunities and local employment. Sustainability features also increase resilience of the built environment during storm events by capturing stormwater and reducing flooding.



ALTERNATIVE TRANSPORTATION

Improving infrastructure for safe travel by foot and bicycle can help reduce vehicular traffic. Improvements to

paddle sport access points can support a recreational economy that links biking, hiking and waterways that encourage healthier lifestyles.



HEALTH & WELLNESS

opportunities for

health and wellness can strengthen a community's resilience by increasing wellbeing and community ties through exercise and social interactions. In addition, recreation amenities can bolster economic recovery as recreational tourism grows in popularity. Providing opportunities to connect with the natural environment is linked to improved physical, social and mental health.



Creating attractive and welcoming

public spaces can bring people into downtown areas, increase resident and visitor spending, boost local employment and drive local investment. Placemaking strategies such as signage, public art, and plantings help create vibrant spaces that build local pride and attract visitors to the area.

STRATEGIES

The design options on the following pages address specific challenges by integrating best practices to address stormwater while providing amenities to improve public spaces and biking and walking safety.

Each design option integrates one or more of the tools described on this page to help manage the volume, flow and/or treatment of stormwater and support natural ecosystems.

The icons are included on the concept design plans to indicate the tools used.



WETLAND RETENTION

Enhancing existing wetlands can provide

stormwater detention, improved water quality, increased habitat and new recreational amenities.



WATERWAY RESTORATION

Vegetated buffers on either side of

a waterway enhance watershed health by moderating water runoff quantities and improving water quality. The vegetation can intercept, absorb and infiltrate surface runoff to help moderate the peak runoff rates during rain events, which reduces erosion and sedimentation of the channel, keeps water cool and supports aquatic habitat.



NATIVE PLANTINGS

Incorporating vegetation into the landscape

is a stormwater management technique that mimics natural drainage. Vegetated areas intercept and infiltrate rainfall to decrease stormwater volumes and can also remove pollutants.



WATER REUSE

Water reuse reclaims water from a variety

of sources then treats and reuses it for beneficial purposes such as irrigation, groundwater replenishment and industrial processes. Water reuse can provide alternatives to existing water supplies and be used to enhance water security, sustainability and resilience.



POLLINATOR GARDENS

Many types of plants, including fruit and

vegetable crops, depend on animals (such as butterflies, bees and birds) for pollination. Using pollinatorfriendly plants can also help support these important species.

PE PA Pe

PERVIOUS PAVEMENT

Pervious concrete and asphalt surfaces

have proven to be effective and viable alternatives to traditional paving systems. The surface allows stormwater runoff volumes to decrease, infiltration rates to increase, and pollutant loads to be reduced before reaching local water bodies.



PLANTED SWALES

Vegetated swales, sometimes referred

to as bioswales, are broad, shallow channels designed to convey and infiltrate stormwater runoff. Swales reduce stormwater volume and improve water quality through infiltration and vegetative filtering. Swales can be planted with grasses, perennials, shrubs and trees to increase aesthetic and habitat value.



RAINWATER STORAGE

Capture systems collect and store stormwater for

specific purposes, such as irrigation, and often can hold water for a significant period of time.

BUSINESS 98 REVITALIZATION

Develop a vibrant, walkable commercial district to support local businesses.



EXISTING CONDITIONS

Business 98 is the key entry into Springfield from Panama City (from the west) and Tyndall (from the east). A large paper plant, vacant properties and heavy truck traffic along the roadway are challenges to economic development.

The City is interested in projects and investments along Business 98 to revitalize the corridor and enhance the experience for drivers, pedestrians and bicyclists along this key thoroughfare.

Business 98 intersects Third Street, which extends east-west across the city center. Third Street connects to schools, city hall, the library and two parks.

Although the Florida Department of Transportation (FDOT) has developed plans to widen Third Street to four lanes, the City prefers two lanes or three lanes, which can include an alternating turn lane and a planted median. A sidewalk has been constructed on the north side of the street. The railroad crossing on Third Street and the sharp turns on the new sidewalk present challenges for motorized wheelchairs and scooters.

DESIGN CONCEPTS

A vacant parcel at the corner of Cherry Street and Business 98 on the south side of town offers an ideal gateway with signage and plantings to identify Springfield and welcome visitors traveling north into the city.

A multi-modal path on the south side of Third Street and street plantings along both sides will improve safety and provide a more welcoming corridor through the city center for drivers, pedestrians and bicyclists, as well as those using motorized wheelchairs, scooters and other forms of alternative transportation.



CITY GATEWAY AND BUSINESS 98 STREETSCAPE



City gateway location

Signage and plantings of crape myrtle, which Springfield has adopted as the city tree, will help reinforce the city's identity along Business 98.

Street plantings that continue from the gateway north along the street can make the experience along the roadway feel more pleasant and cohesive.

THIRD STREET MULTI-MODAL STREETSCAPE



Third Street and Business 98

Proposed improvements include shade trees, crape myrtles, a separated multi-modal path on the south side of the street, on-street bike lanes, separated sidewalks on the north side of the street, and marked crosswalks. New development is planned for the intersection of Third Street and Business 98 including a Goodwill Store and Burger King, as well as a proposed community center and new recreation and commercial development.



View of the proposed city gateway from Business 98 at Cherry Street



Existing view



View of proposed Third Street improvements at the intersection of Business 98



Existing View

BUSINESS 98 REDEVELOPMENT

Develop a welcoming, mixed-use gateway to support the commercial district.

EXISTING CONDITIONS

The U.S. Army Corps of Engineers owns a large underutilized property that is adjacent to active commercial properties fronting Business 98 and Third Street. The property is used periodically for storing dredge equipment.

Better drainage is needed in this area to address local flooding during rain events, which often causes closure of one of the travel lanes along Business 98.



Existing land use and potential redevelopment

DESIGN CONCEPTS

Redevelopment of the underutilized property owned by the U.S Army Corps of Engineers (identified in the map at the bottom left as USACE) can create a mix of uses and a phased approach that integrates new recreation uses and commercial development. Redevelopment can activate this valuable streetfront parcel and enhance the visual appeal of the corridor.

Integrating stormwater management features on site during redevelopment can address local flooding concerns. The holding capacity of the stormwater features can be sized to accommodate the scale of development (see options on the next page).

Natural drainage approaches to stormwater management can include features such as linked bioretention ponds and pervious parking lots with planted infiltration strips that serve as planters. See the Appendix for more information about the benefits of nature-based stormwater management and the option of creating a district-wide stormwater system that will slow and capture stormwater across multiple properties.



Recreation Example - Planted retention basins temporarily store runoff from parking areas. Overflow drains, like the one in the background of this image, divert water to the stormwater system if the basin fills to prevent flooding.



Development Example - Planted swales collect runoff from parking lots and direct the stormwater to a retention area. Planted swales and retention basins help to filter stormwater and prevent flooding.



RECREATION FOCUS

This option includes a large public park in the middle portion of the parcel with a multi-use lawn, playground and recreational support structures.

Features include:

- A dedicated parking lot with an entry from Business 98.
- Site stormwater collection spread across a series of ponds that extend along the perimeter.
- Dense canopy to buffer active rail lines on the east side of the site.
- A network of trails that links the planned recreation and natural areas.



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Mixed Use Lawn

Trail System

MIXED USE FOCUS

This option adds commercial development to the northern areas of the parcel with opportunities for small outdoor areas adjacent to each business area.

Features include:

- Access from Business 98.
- A central drive loop adjacent to the recreational area that allows for programming such as food trucks or markets to set up adjacent to park facilities.
- Stormwater ponds along the north to capture runoff from the pervious surfaces.
- A trail network linking the planned recreation and natural areas.



CHERRY STREET LINEAR PARK

Create a waterfront park to reduce flooding and provide recreational access to Martin Lake.

EXISTING CONDITIONS

Cherry Street Park currently includes a small boat launch area for Martin Lake. A narrow linear green space between Cherry Street and Martin Lake provides open lake views. Flooding at Martin Lake continues to erode the land on the north side of the Cherry Street crossing. The City is interested in bolstering the shoreline and using the green space for recreation such as gathering and picnicking.



Erosion on north side of Cherry Street at Martin Lake



Boat ramp area at Cherry Street Park

DESIGN CONCEPT

Two design concepts propose bolstering the eroding lake edge to provide safe access and gathering spaces along the waterfront. These concepts can be implemented to provide near-term recreation while long-term planning is underway to address flooding and potential sediment contamination at Martin Lake. The proposed linear park is Americans with Disabilities Act (ADA) accessible, and includes lighting, seating, new trees and plantings. Additional structures can be installed temporarily for events.



OPTION A: BANK EXPANSION AND NATURALIZED EDGE

The width of the linear space is extended into the lake 20 feet to expand the recreation space. The waterfront edge includes a sloped planted edge into the water. New trees provide shade and protection between the designated parking areas and the park space. Sidewalks along Cherry Street improve safety for pedestrians accessing the park.





OPTION B: DECK EXTENSION AND OVERLOOK (PREFERRED)

This option includes a dock extending 20 feet from the current park edge that includes railing and built-in seating. The existing shoreline is reinforced with plantings and riprap to to stabilize the soil and control erosion. A boardwalk extends along the water's edge. New trees are planted between the designated parking and the park to provide protection. Sidewalks along Cherry Street provide safe pedestrian access to the park.





CIVIC GREEN INFRASTRUCTURE

Integrate sustainable water features into city infrastructure to manage stormwater and create inviting civic spaces.

EXISTING CONDITIONS

Springfield's proximity to the bay and Martin Lake increases its vulnerability to major storm events, which cause inland flooding from sea storm surge. Traditional stormwater infrastructure (drains and pipes) can be overwhelmed by large water volume. Integrating nature-based stormwater features (or green infrastructure) can bolster the city's resilience in typical and major storm events.



Civic spaces close to Martin Lake

DESIGN CONCEPTS

Nature-based stormwater features and drainage systems limit the negative impacts of stormwater runoff by utilizing plants, trees and soils to clean runoff and manage stormwater flow. Planted swales, stormwater cascades and small wetland ponds allow soils to absorb water, slowing flows and filtering out many contaminants.

Ideal locations for large-scale natural drainage strategies include city properties, parks, vacant lands and new developments. There are a range of additional community opportunities and benefits provided by naturebased stormwater features:

- Potential to increase community spaces.
- Passive recreation such as trails.
- Reuse water for landscape irrigation.
- Habitat for pollinators and other wildlife.
- Beautification using drought-tolerant native plants, rocks and other low-maintenance natural features.

Examples of natural drainage features



Park Rain Garden



Parking Lot Bioretention



Multi-use Trail with Planted Swale

NEW CITY COMPLEX

The City is in the planning phase of a new city complex and nature park at the corner of 11th Street and Transmitter Road. The stormwater management concept for the proposed complex illustrates how nature-based features can be integrated into new development to reduce water entering the city's stormwater treatment system, decrease flooding, and provide recreation opportunities. A sustainable approach can also include strategies such as water and energy conservation, transportation alternatives, and green building materials. See the Appendix for more information about green public buildings and disaster resilience.



Stormwater runoff from the parking lot flows into planted swales, which direct water flow toward the stormwater pond and wetland area. The blue arrows show the direction of water from the parking lot as it moves through the natural drainage network.

TRANSMITTER ROAD GREENWAY

The new city complex and nature park planned for the intersection of 11th Street and Transmitter Road will create a new northeast gateway into the city. It will be important to provide safe pedestrian and bicycle connectivity along this major north-south thoroughfare, which adjoins residential neighborhoods and the popular Springfield Gardens Walking Park. Plans to widen Transmitter Road north of 15th Street are in progress. While the road shoulders have been extended for bike lanes, the road lacks sidewalks and safe crossings.

Transmitter Rd)

(existing)



swales to

capture runoff

pedestrians and

bicyclists

Design Concept

Proposed improvements for Transmitter Road include shared multi-modal path options along the east side from Third Street to Orlando Road (north boundary of city), and a continuous sidewalk on the west side of the road.





CITYWIDE CONNECTIONS

Provide connections to businesses and community amenities.

CITYWIDE CONNECTIVITY

Within the city, Springfield lacks sidewalks and bike infrastructure linking key destinations and assets. Extending road, bike and pedestrian improvements across Springfield are important for safe connections within the city and into Parker.

The connection plan shows a suggested citywide bicycle and pedestrian network.

This plan uses the following guide for integrating bike and pedestrian safety based on road type and safety considerations.

Corridors and Highways

Visually- or physically-separated paths that buffer traffic:

- Separated bike lanes and sidewalk.
- Separated multi-use path.

Local Roads

Well-marked shared conditions if necessary, or separated paths:

- Separated bike lane and sidewalk.
- Shared bike lane and sidewalk.

Neighborhoods Streets

Yield street conditions allow all users to share the roadway safely.



SAFE PEDESTRIAN AND BICYCLE CONNECTIONS

The map on page 12 shows a proposed network for improved bike/pedestrian connectivity in Springfield to link parks, neighborhoods, schools and services.

Examples of recommended bike and pedestrian connections are shown on the right.



Separated bike lanes On-street or on-shoulder marked bike lanes designate space for bicyclists. (5 feet to 6 feet wide)



Shared bike lanes Bicycles and vehicles share the roadway marked with signs.



Separated multi-use paths A wide paved path for a bicyclists, pedestrians, runners, scooters and others traveling for recreation or transportation. (8 feet to 12 feet wide)



Yield streets Pedestrians, bicyclists and motorists share narrow neighborhood streets. Pavement markings and signs can improve awareness and safety.



MOVING FORWARD

Strategies for project implementation.



KEY NEXT STEPS

The city of Springfield Recovery and Resiliency Partnership Project provides a robust vision to implement sustainable design strategies that support the City's recovery and improve resilience.

Implementation of the proposed design strategies will require a combination of actions to help move the projects forward. Key actions include:

- Prioritize which projects to initiate first.
- Identify project lead(s) and partners to implement and maintain the project.
- Continue to engage the public on timing, design development and design decisions.
- Conduct engineering studies and site plan designs to advance projects.
- Assemble funding, which may come from a variety of sources.
- Remain flexible and creative to respond to new opportunities.

ADDITIONAL INFORMATION

An appendix of additional information and resources to support the implementation of these design concepts is available at www.r2p2.skeo.com/springfield.

For more information about R2P2, please contact Rick Durbrow, U.S. EPA at <u>Durbrow.Rick@epa.gov</u> or call 404-562-8286.

ACKNOWLEDGMENTS

The city of Springfield staff and leadership provided guidance and direction throughout the project and the community offered valuable feedback to inform the design concepts. Staff from a range of regional, state and federal agencies and organizations offered their technical assistance and expertise in helping the City connect their vision to implementation opportunities.

