

# GREENVILLE WEST SIDE

## COMPREHENSIVE PLAN



February 19, 2014

**City of Greenville, South Carolina**



## Chapter 8: Public Spaces and Infrastructure

NAME Evelyn

AGE: 53

MY FAVORITE PLACES:

Downtown

PLACES I DON'T LIKE:

West End Low income

MY NEIGHBORHOOD IN ONE WORD:

beautiful



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# Public Spaces & Infrastructure

# 8

## 8.1: Overview

The public investments recommended in this chapter focus on improvements to the public realm that will increase resident access to parks and protect the natural environment while improving stormwater and sewer services. This focus on green infrastructure will ensure responsible stewardship of the area's natural resources so that the Reedy River can be enjoyed by generations to come.

One element of making the West Side a child-friendly community is to ensure that all residents have access to a neighborhood park within a short walking distance of their home, ideally without crossing a major street. Studies suggest that a quarter-mile typically is an acceptable distance “for

parents taking toddlers and small children to a park for everyday outings and playground opportunities.”<sup>1</sup> Additionally, one of the key issues voiced by teenagers and young adults was the need for additional places for recreation and programming for their age group. Such places may be created by renovating existing parks and publicly accessible green space (§8.2), reclaiming floodway areas (§8.3.6), and leveraging shared-facilities. Other parks may be created

1 Wolch, J., Wilson, J., and Fehrenbach, J. (2002). *Parks and Park Funding in Los Angeles: An Equity Mapping Analysis*. University of Southern California Sustainable Cities Program. [http://lusk.usc.edu/sites/default/files/working\\_papers/Wolch.parks\\_.pdf](http://lusk.usc.edu/sites/default/files/working_papers/Wolch.parks_.pdf)



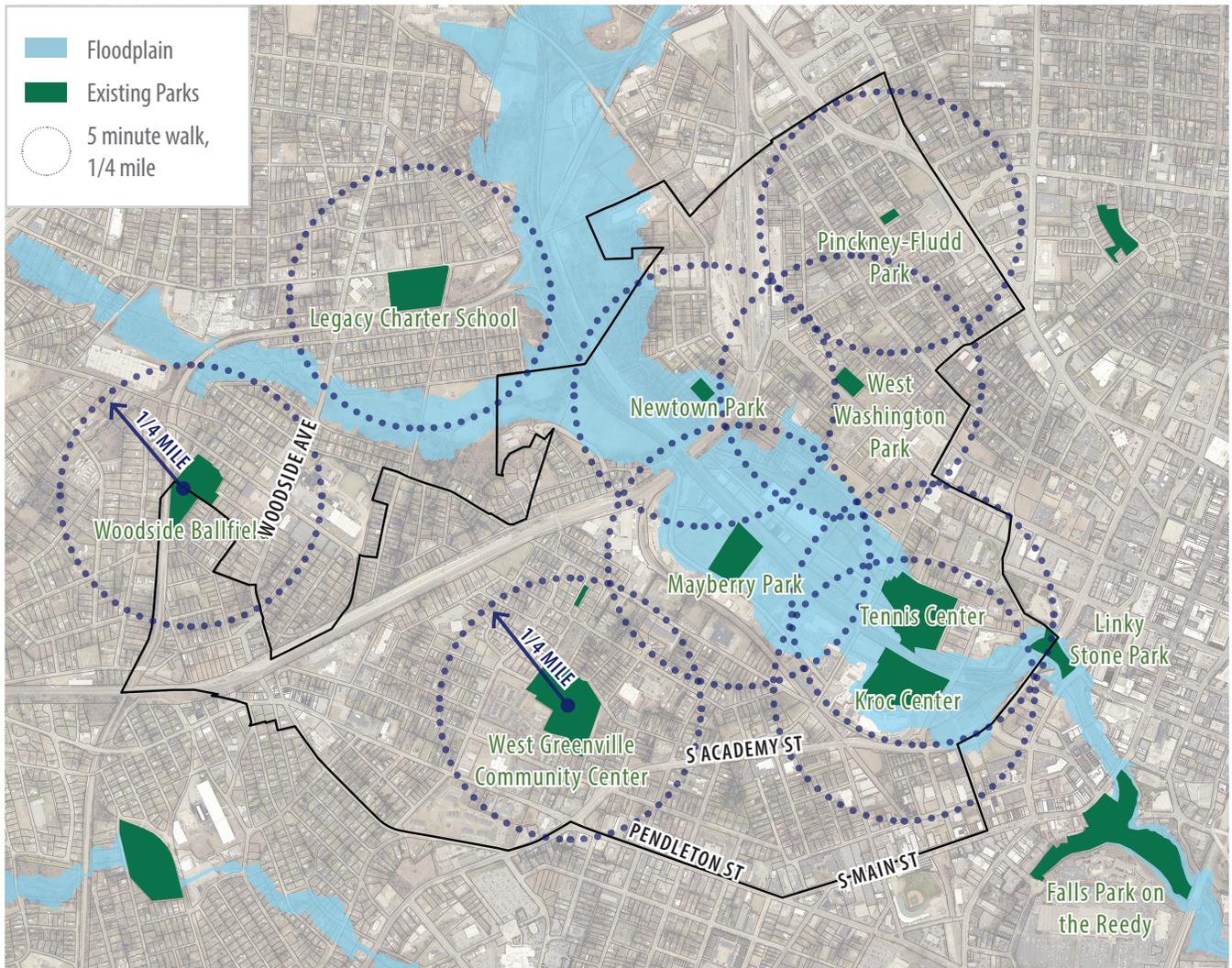
Map Showing Proposed Natural Infrastructure Improvement Areas

in conjunction with private development (§8.3.5), or through neighborhood-based initiatives to create pocket parks (§8.3.4).

In addition to parks, the other component of the natural infrastructure that this plan addresses are waterways and associated floodplains. The responsible stormwater and sewer infrastructure upgrades proposed in this chapter (§8.4) support the development strategies presented in Chapter 10.



Soccer Fields at The Salvation Army Ray & Joan Kroc Corps Community Center



Walking Distance Analysis for Existing and Proposed Parks: This map shows how far a 1/4 mile walking radius extends from center nodes of the West Side neighborhoods.



Pickney-Fludd Park



West Washington Park



Newtown Park

## 8.2: Enhance Existing Public Spaces

Today, there are four neighborhood parks in the West Side: West Washington Park, Newtown Park, Pinckney-Fludd Park, and West Greenville Park, all of which are owned and operated by the City of Greenville. Additionally, the West Side contains a large community center, one of the most popular sections of the Swamp Rabbit Trail, as well as other membership-based recreational facilities. This section proposes specific improvements to these facilities that will support broader revitalization efforts.

### 8.2.1: Improve existing parks

Responsible Agent(s): [City of Greenville](#), [Greenville County](#), [Residents](#), [Development Partners](#)

Action Type: [Public Investment](#)

Funding Level: [\\$-\\$\\$\\$\\$](#)

Time Frame: [On-going](#)

In general, comments from the community indicate a desire to make existing parks more accessible, open, and inviting for family use. Most of these goals may be obtained through Crime Prevention Through Environmental Design (CPTED). The general idea of CPTED is park and public space design can help to prevent crime.

#### Key Recommendations:

- Employ the main principles of CPTED in all public space improvements in the West Side neighborhoods to reduce crime or the threat of crime
- Complete a detailed analysis of all existing neighborhood parks with CPTED principles and guidelines in mind to identify areas for improvement
- Based on funding, implement site improvement plans for each park

**Pinckney-Fludd Park:** This park is adjacent to a distressed apartment complex and faces several vacant lots, though recently a few lots have been infilled with new homes. Neighbors have expressed concerns about noise at night, police calls, and a general sense of fear. Recommendations include:

- Update play facilities
- Install lighting fixtures
- Connect Fludd Street to Pete Hollis Boulevard in conjunction with redevelopment of Green Plaza (see §10.8 for details) to enliven the area

**West Washington Street Park:** This park is currently fenced in, making visitors feel unwelcome, and most of the surrounding houses turn their backs to it. Recommendations include:

- Update play facilities
- Make the park feel more open by removing fencing and providing additional access points from adjacent streets
- Encourage medium-density infill housing facing the park to add vibrancy and natural surveillance (see §10.6.3)

**Newtown Park:** This park, as well as the surrounding area, is underutilized. The plan recommends investment in Newtown Park to serve the new influx of residents as the surrounding Newtown area is redeveloped (§10.8). Recommendations include:

- Update play facilities
- Add a gazebo or other sheltered space to support gatherings



Newtown Park with new infill housing.



Falls Park

- Add spaces for active recreation, such as a playfield and/or a walking track
- Create a new connection to Swamp Rabbit Trail along Willard Street

**West Greenville Community Center:** The West Greenville Community Center and surrounding multi-acre park are operated by the City of Greenville. While a portion of the park is owned by the City, most of the park is located on a large parcel owned by the Greenville Housing Authority (infill strategies for this site are discussed in §10.3.3).

While the community center and park are assets to the neighborhood, both are substantially under-utilized, need upgrades, and should be better connected to the surrounding neighborhood. In particular, an unimproved street right-of-way and pedestrian bridge exists along the northern edge of the park between Douthit Street and Spencer Street. Yet, access to the bridge is not

formalized from either street. Additionally, the bridge's width makes it difficult for bike usage.

Recommendations include:

- Redevelop portions of the western edge of the park site for housing (§10.3.3)
- Create an urban farming and education center at the community center (§6.3.1)
- Create a formalized east-west connection via Luther Street that would connect Queen Street with Manning Street
- Create a formal bicycle/pedestrian connection to the community center from Perry Avenue, Elmer Street, and on Luther Street
- Construct a new street, or improved bicycle/pedestrian connection, across the northern edge of the park property between Douthit and Spencer Streets, to improve access, visibility and safety



**Curb cuts:** Simply cutting this curb on Douthit Street would help increase access to the community center for parents with strollers, wheel chairs, cyclists, roller skaters and others with wheels



**Increase Connections:** Option A for Brookhaven Apartments is shown with increased connectivity to the community center

## 8.2.2: Improve community access to the Kroc Center

Responsible Agent(s): **Kroc Center**

Action Type: **Programs & Policy**

Funding Level: \$

Time Frame: **On-going**

The recently-built Salvation Army Ray and Joan Kroc Corps Community Center (Kroc Center) attracts users from all over the Greenville area. The LEED-certified indoor facility offers a pool, gym, fitness center, conference center, performing arts and worship center, recreational, fitness and educational programming, and a Boys and Girls Club. The outdoor facilities include a tennis center and state-of-the-art soccer field, as well as associated classes and programs.

Although the Kroc Center is centrally-located in the West Side, unfriendly or unsafe street connections make it difficult for some residents to bike or walk from their homes to the facilities, especially if they have to cross a major arterial road like Academy Street. As the mobility infrastructure is improved (See Chapter 7), the Kroc Center will become more physically accessible to surrounding neighborhoods.

The Kroc Center is a faith-based, membership organization. The Kroc Center's vision is to ensure people from all socio-economic backgrounds have the opportunity to benefit from the facilities.<sup>2</sup> To this end, a variety of membership plans are available for individuals or families, including individual rates for children and teens, day passes, and discounted rates for lower-income households. Additionally, the Kroc Center has partnered with local schools, such as the Legacy Charter Schools and AJ Whittenberg Elementary School, to provide free tennis instruction and swimming lessons to students to increase access to the programs for children from lower-income households.

Public input during the design workshop revealed that some residents may be unaware of existing programs and/or availability of discounted membership plans. Therefore, it is recommended that the Kroc Center continue to promote available programs and affordable membership options to West Side residents, as well as seek other opportunities to partner with West Side organizations serving the area.

<sup>2</sup> Kroc Center. Krocgreenville.org



A view of the Kroc Center from across the soccer field and the A.J. Whittenberg gardens



Kroc Tennis Center Complex

### 8.2.3: Restore the historic ballfield in Woodside Village

Responsible Agent(s): [Greenville County Recreational District](#), [History/Historic Preservation Organizations](#), [Residents](#), [Community Leaders](#)

Action Type: [Public Investment](#)

Funding Level: \$\$

Time Frame: [Year 6-10](#)

The historic baseball field in the Woodside Mill neighborhood near the intersection of Spring Street and Charles Street, owned by the Greenville County Recreation District, is rarely used and needs to be cleaned of collected trash and graffiti. The stands and dug-outs are below grade and separated by a wall from the adjacent residential areas, making the areas potentially attractive for illicit or unsafe activities. However, the ballfield is a true jewel within the West Side. Restoring it as an engaging public space would provide a strong anchor for the surrounding neighborhood.

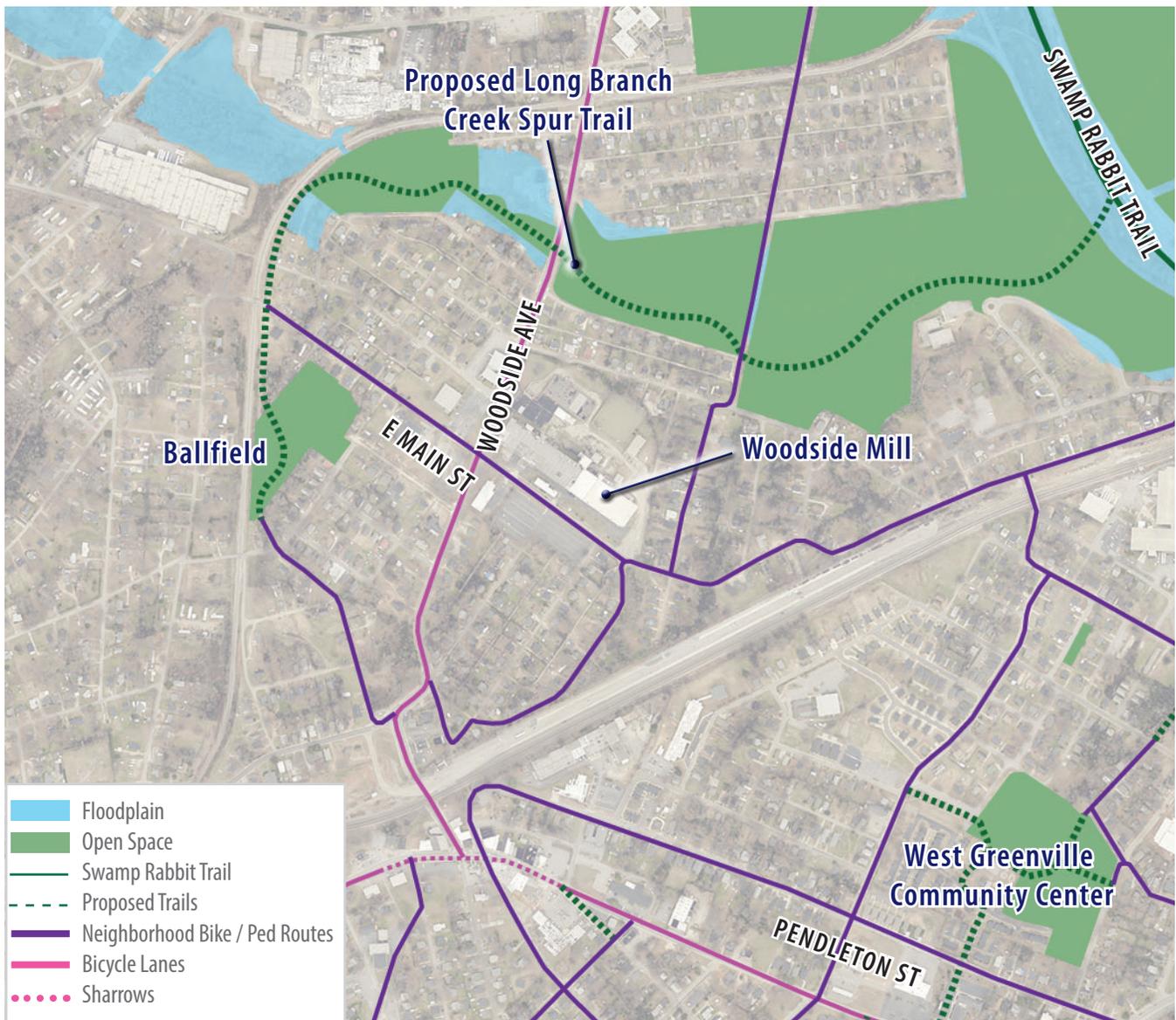
#### Key Recommendations:

- Identify state and local partners to renovate and program active and passive use of the ballfield. Partners may include tourism and historic agencies, baseball history organizations, and other community organizations. Consideration should be given to creating a “Friends of the Woodside Ballfield,” a non-profit organization of interested groups and citizens, to take the lead in fundraising, community awareness, and continued support for the maintenance and use of the facility.
- Renovate the ballfield, walls, and dugout
- Provide organized programming at the field, including community events and provisions for informal use by neighborhood residents
- Create a small tot-lot or family-friendly park space area outside the field area or on adjacent land



**Woodside Ballfield:** The field was developed at the beginning of the 20th century to provide recreation and entertainment opportunities for mill workers and residents in the Woodside Mill Village. The baseball diamond and permanent stands, complete with dugouts and surrounding low brick walls, are a testament to the time when each mill supported their own baseball teams. The site likely hosted a semi-professional baseball team sponsored by the mill owners until the mid-1920s, and has historic ties to the local celebrity Shoeless Joe Jackson.

- Provide on-going maintenance and security for the field
- Connect the ballpark to the proposed Long Branch Creek trail spur that connects to the Swamp Rabbit Trail (§8.3.1)
- Work with property owners to create a pedestrian path along the creek to the rear of the homes along Spring Street between the ballpark and Woodlawn Avenue
- Provide a formal connection to the field from West Main Street to increase eyes on the park
- Provide signage and wayfinding for area residents and visitors to the area
- Conduct research on famous players who may have played at the field for interpretive signage and tours



Proposed improvements around the Woodside Mill neighborhood

### 8.2.4: Enhance the Swamp Rabbit Trail within the West Side

Responsible Agent(s): **City of Greenville (Parks and Recreation), Greenville County Recreation District, Swamp Rabbit Trail Sponsors**

Action Type: **Public Investment**

Funding Level: **\$\$-\$\$\$**

Time Frame: **Year 6-10**

More than 17 miles long, the Swamp Rabbit Trail is the pedestrian and bicycle spine of Greenville’s trail network. The portion of the trail located in the West Side is one of the most used sections of the entire network, providing physical connections to important destinations for recreation, employment, education, commerce, and services.

Based on public input during the planning process for this plan, new and improved connections to the Swamp Rabbit Trail are a top priority for residents. The following

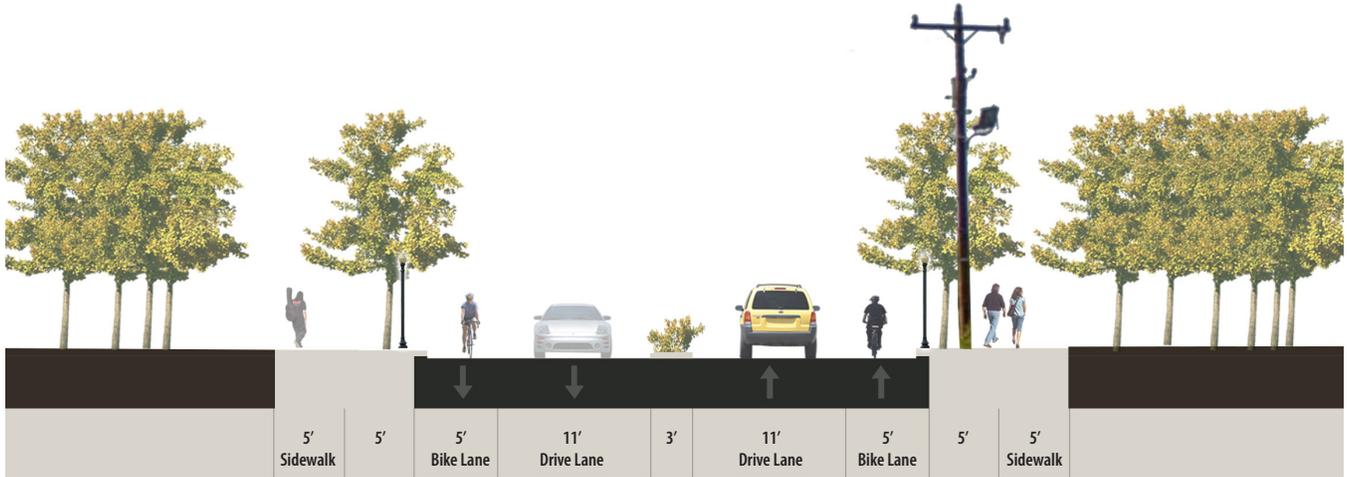
actions are recommended to enhance and expand the socio-economic impact of the existing trail and to provide new connections to and from the West Side neighborhoods.

#### Key Recommendations:

- Enhance street crossings (see accompanying street section diagram)
- Extend a wider sidewalk or construct a trail connection along Westfield Street from the Swamp Rabbit Trail to South Academy Street
- Improve connections at Willard Street (\$7.2.5), East Bramlett Road (\$7.2.4) and to the neighborhood greenway and bikeway network (\$7.2.6)



**Conceptual Improvements:** Photo simulation of the Swamp Rabbit Trail with a free library, extra seating, and a mural on the base of the railroad bridge over Mayberry Street with the existing view at the corner above.



Proposed Enhancements at Swamp Rabbit Trail Crossings at Westfield and South Hudson Streets: Improve safety of the trail crossing by removing undergrowth vegetation to improve sight distances, adding signage (including flashing strobe warning signs for motorists), medians, and additional pavement markings; (see §7.2.4)



Conceptual Improvements: Each mile marker on the Swamp Rabbit Trail could be a unique place marked by public art and a place to sit.

### 8.3: New Public Spaces

The City of Greenville has proposed development of a new regional park along Mayberry Street that would be an attractive recreation opportunity for not only the West Side neighborhoods but also for all Greenville residents. Recognizing that this is a long-term plan, this section proposes a range of strategies to create new public spaces that would complement the potential City Park.

#### 8.3.1: Build a trail spur along Long Branch Creek

Responsible Agent(s): **City of Greenville (Parks and Recreation)**

Action Type: **Public Investment**

Funding Level: **\$\$\$**

Time Frame: **Year 11-15**

As recommended in the City of Greenville’s Greenway Master Plan, this plan proposes a greenway/trail spur be created along the floodplain area of Long Branch Creek to connect to the Swamp Rabbit Trail near

Willard Street. This trail would connect to the historic baseball park in the Woodside Mill Village Neighborhood (§8.2.3).

#### 8.3.2: Extend the cultural trail up Pete Hollis Boulevard

Responsible Agent(s): **Community Organizations, Residents**

Action Type: **Public Investment**

Funding Level: **\$\$-\$\$\$**

Time Frame: **Year 6-10**

The City’s Downtown Streetscape Master Plan recommended development of a “Cultural Corridor that will provide an urban multi-use trail to reconnect Heritage Green and the Bon Secours Wellness Arena to the historic Main Street.” This project is currently being designed for implementation, but will terminate at Butler Street. This plan recommends that the pedestrian and bicycle improvements be extended along Buncombe Street as far as Lloyd Street in the near term. (Longer term, the improvements could be extended along Buncombe Street/Pete Hollis Boulevard.)



Source: Downtown Streetscape Master Plan, 2010

Illustration of the Proposed Cultural Trail from Downtown Streetscape Master Plan

The intersection at Lloyd Street provides a natural transition into the proposed neighborhood bike route network (§7.2.6). The Lloyd-Madison-Nassau Streets route would provide a direct, family-friendly pedestrian and bicycle route into the potential expansion of Mayberry Park (See the Potential City Park Plan in Section §8.3.6), the northern alignment of the Swamp Rabbit Trail, and the proposed bridge across the Reedy River. In the opposite direction, it would provide a route from the West Side neighborhoods along the Buncombe Street corridor into downtown and the Cultural Corridor.

### 8.3.3: Create a central plaza in the Village

Responsible Agent(s): **City of Greenville, Private Development Partners**

Action Type: **Public Investment**

Funding Level: **\$\$-\$\$\$**

Time Frame: **Year 6-10**

In conjunction with the recommended development strategy (§10.3.4) and entrepreneurial support program (§5.3) for the Village of West Greenville, this plan proposes the creation of an urban public space where Burdette Street meets Pendleton Street. The approximately 300-foot section of Burdette Street up to Mason Street would be closed to traffic and designed to create a central plaza. By incorporating public artwork into the plaza design and programming the space with events that feature local artists, this plaza would become a signature feature of the Village. It also would provide a public gathering space to complement the narrow streets and attached buildings of this historic commercial center by encouraging visitors to spend more time walking between galleries and enjoying an invigorated street life.



Source: backofthehouse.tumblr.com

City Market Plaza in Savannah, Georgia is a good example of an urban plaza that The Village could also develop



Source: foyle/inn.com

City Market Plaza in Savannah, Georgia



Source: 101thingshilltonhead.com

City Market Plaza in Savannah, Georgia

### 8.3.4: Support a neighborhood-based pocket parks program

Responsible Agent(s): **City of Greenville, Property Owners, Neighborhood Associations, Healthy Food Organizations**

Action Type: **Programs & Policy**

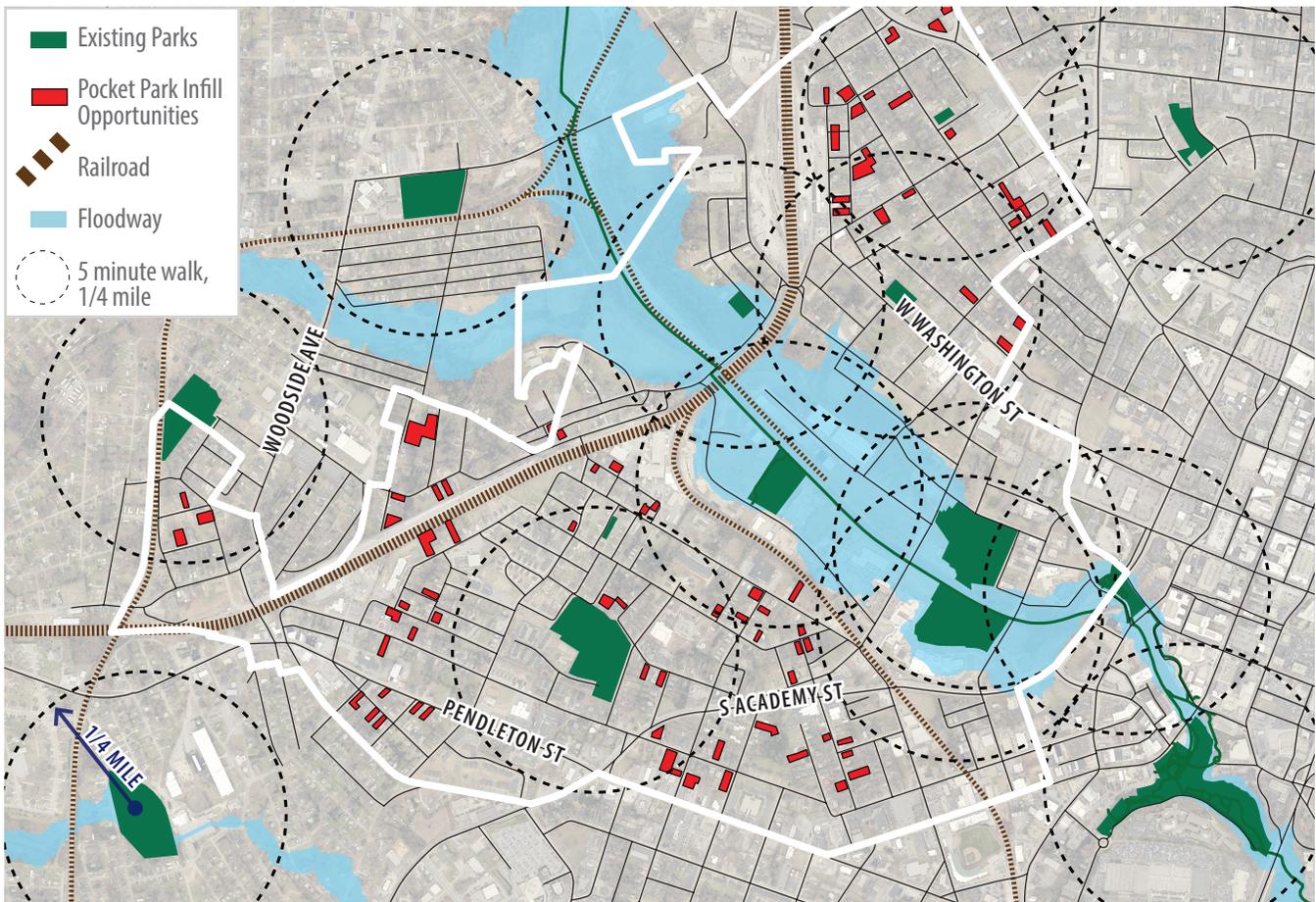
Funding Level: **\$\$-\$\$\$**

Time Frame: **On-going**

In order to provide adequate public green space within walking distance of all households in the West Side, a city-supported pocket parks program may be implemented to transform vacant lots into vibrant public spaces. In conjunction with the recommendations for expanding food-growing capabilities (§6.3) and abating and demolishing irreparable houses (§9.2.2), some vacant and blighted properties throughout the West Side could be repurposed as small neighborhood parks and urban farms.

Some additional design concepts that could be programmed into pocket parks, or can be provided in conjunction with neighborhood partner organizations, include:

- Youth parks/spaces for youth to hang out, including after dark
- Concerts locations
- Place for art (wall of art/graffiti walls)
- Community pool
- Food trucks and mobile food vendors
- Studio for music
- Basketball courts
- Dog Park
- Skate-friendly spots



**Pocket Park Opportunities:** This diagram illustrates opportunities for new infill pocket parks on currently empty lots. A 5-minute walking radius is shown around each existing park.

### 8.3.5: Dedicate green space as part of private development

Responsible Agent(s): **City of Greenville**

Action Type: **Programs & Policy**

Funding Level: **-\$-\$\$\$**

Time Frame: **On-going**

Private parks and playgrounds offer opportunities to increase recreational resources within the West Side without increasing the burden on the local government budgets.

#### Key Recommendations:

- As private development occurs in the West Side, encourage dedication or preservation of small parks, courtyards, community gardens, playgrounds and other types of greenspace.
- Create design standards and minimally-acceptable maintenance requirements for private open space/parks. These standards may be placed either on the tract title or in a written agreement with the City of Greenville or Greenville County. Design standards should incorporate CPTED standards, as noted



A mural brightens the Elks Lodge wall on Birnie Street



Small skate spots can provide beginners a chance to hone their skills within existing parks

Source: Alta Planning and Design

## Pocket Parks

A 'pocket park' is a small, outdoor park usually developed on an otherwise forgotten space in a 'pocket' surrounded by other buildings. Growing in popularity, pocket parks can bring shade, quiet, and enhanced property values to urban areas. Parks have been shown to increase the overall well-being in neighborhoods and provide greater physical and mental health to its residents.

Pocket parks are modest, without all of the big amenities that city parks offer, and are generally used only by neighbors. Pocket parks generally serve as gathering

spaces for neighborhood residents and can provide quiet, reflective space. Those wanting more active accommodations such as basketball hoops or a large gathering space will be more likely to select another nearby, city-owned park.

Pocket parks vary widely in appearance and character. However, some elements of a pocket park are essential. To discourage illegal activity, most of the park should be highly visible from the street. The community should provide regular maintenance and trash cans that are emptied frequently. It should also have at least one shade tree.



A pocket park can be a series of play toys next to housing, like this Copenhagen street.



This is a more formalized park in Chicago.

Source: Excerpt from <http://www.historicmeridianpark.org/for-residents/pocket-park-faqs/>

in §8.2.1. Some of these spaces may be leveraged for public access and public or non-profit programming through development agreements, bonuses or regulatory standards. Such agreements and design criteria will help ensure that the goals of the parks system are met. Additionally, the adoption and implementation of updated design standards will allow parks to be more efficiently maintained, more aesthetically appealing and safer.

- Place specific attention on the existing privately-held, publicly-accessible parks, along with consideration paid to minimum design criteria or standards as new facilities are permitted and constructed.

### 8.3.6: Reclaim floodway for recreational and passive green space

Responsible Agent(s): **City of Greenville, Private Development Partners, Property Owners, Healthy Food and Other Community Organizations**

Action Type: **Public Investment**

Funding Level: **\$\$-\$\$\$\$**

Time Frame: **On-going**

One of the defining features of the West Side is the significant floodplain areas of the Reedy River and Long Branch Creek that shaped historic development patterns. Both federal and city regulations allow building within a floodplain with mitigation, but prohibit any new development or major rehabilitation of structures within the floodway. While the improvements along the Swamp Rabbit Trail have provided safe and environmentally-sensitive access to flood areas adjacent to the Reedy River, much of the remaining floodplain within the West Side is characterized by brownfields and overgrown or unmanaged urban wetlands that contribute to blight and safety issues in the area. Reclaiming some of these areas provides the opportunity to expand neighborhood access to passive and active greenspace, address environmental issues, and create open space that serves as an amenity

## Case Study: Seattle Neighborhood Greenways

Formed in 2011 by three neighborhood groups, Seattle Neighborhood Greenways is a grassroots volunteer coalition that plans and advocates for safe and healthy streets. The main focus is on creating connections along residential streets (generally off of main arterials, with low volumes of auto traffic and speeds) where people who walk and ride bicycles are given priority.

Today, SNG represents 19 neighborhoods, through a core group of 30 leader representatives and a steering group of seven people who focus on citywide operations. Activities include volunteering, meetups, walks, rides, mapping, membership, grantwriting, research, communications, and social events, as well as targeted campaigns such as Greenways Go to School, Greenways for All Communities, and Safe Routes to Transit.

See more at: <http://seattlegreenways.org/>



to—not a burden on—the surrounding neighborhoods. The recommendations below provide short- and long-term strategies at several scales.

**Key Recommendations:**

- Continue to explore the construction of the potential park, as proposed in the City Park Plan
- Integrate uses into the flood areas like community gardens and urban agriculture activities (\$6.3)
- Include passive green space for water quality and storm water management (\$8.4.1)
- Develop low-impact neighborhood trails and greenways
- Preserve and protect natural habitat, including wetland areas
- Teach environmental education

**City Park (Draft Plan)**

2013 | SWA Urban Edge Studio, DP3 Architects

City Park (draft plan): Designed by SWA Urban Edge Studio and DP3 Architects - this park features a large play area, community gardening space, a pavilion, playground, and new connections across the Reedy River.



Source: All images on this page: SWA Urban Edge Studio

- Explore potential partnerships with organizations such as: Friends of the Reedy River; Salvation Army; A.J. Whittenberg Elementary School; Legacy Charter School; and local churches

## 8.4: Stormwater & Sewer

The Reedy River and Long Branch Creek that run through the West Side are part of a much larger watershed system. The strategies in this section support new development in the West Side that is environmentally responsible, ensuring that community businesses and residents contribute to the preservation and restoration of the local ecosystem.

### 8.4.1: Implement a multi-neighborhood stormwater system

Responsible Agent(s): **City of Greenville, Property Owners, Local Land Trusts, Private Development Partners**

Action Type: **Public Investment**

Funding Level: **\$ for Program; \$\$-\$\$\$\$ for Infrastructure**

Time Frame: **Year 6-10**

The City of Greenville’s current regulations require management of stormwater to be addressed primarily through retention and percolation on individual lots, and that certain size retention areas be fenced. Additionally, the City’s regulations require that any cut and fill within the floodplain be mitigated by 150 percent.



Swamp Rabbit Trail along Mayberry Street



Public Art: Art can make less attractive features of property boundaries more interesting

Given that, with the exception of a few large sites, much of the revitalization of the West Side will occur through infill of smaller properties, these regulations will make such projects challenging, as well as potentially cost-prohibitive in an already weak market. Additionally, large, fenced-off stormwater detention/retention ponds tend to interrupt the lively public realm that defines walkable communities.

### Key Recommendations

To support the development as envisioned in this plan, it is recommended that the City and its partners reevaluate stormwater regulations to allow for off-site mitigation through a multi-neighborhood stormwater system and to encourage low impact development (LID) stormwater management. In the West Side, such a system would utilize the low-lying areas of the Reedy River and Long Branch Creek floodplain as retention and detention areas.

A multi-neighborhood stormwater system is an environmentally responsible approach to the sustainability of the West Side. It is a low maintenance use of the floodplain that provides an amenity to the surrounding neighborhoods and ensures that stormwater and water quality issues throughout the area are appropriately managed. Additionally, it supports development on existing smaller size parcels and discourages development within the floodplain.

LID principles preserve and recreate natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat stormwater as a resource rather than a waste product. Examples of LID practices include bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements.<sup>3</sup>

Recommended next steps include an analysis of the stormwater system as it relates to the West Side; review and modification of current local regulations to incorporate appropriate options; and execution of any necessary

<sup>3</sup> US EPA. Low Impact Development. <http://water.epa.gov/polwaste/green/>

agreements between private property owners and public partners to ensure access.

Funding for this system may be supported by implementing a stormwater impact fee as a payment in lieu of requiring retention/detention on-site.



Low Impact Development Stormwater Management: A raingarden located along the Swamp Rabbit Trail



Fenced Retention Pond: Creates a barrier between the multifamily apartments and the housing across the street.

### 8.4.2: Create a CIP for planned sewer upgrades to facilitate development

Responsible Agent(s): **City of Greenville, Parker Sewer District**

Action Type: **Public Investment**

Funding Level: **\$\$-\$\$\$ for Analysis; \$\$\$-\$\$\$\$ for Infrastructure**

Time Frame: **On-going**

According to the City of Greenville’s Engineering Department, portions of the West Side’s sewer system have been studied for flow capacity. The study include the areas around Pete Hollis Boulevard, West Washington Street east of South Hudson Street, the West End Neighborhood and along South Academy Street, and the Village of West Greenville.

While the Village of West Greenville and the residential area around Woodlawn Avenue has available flow, some capacity limitations and constrictions are known in portions of the West End Neighborhood and along South Academy Street near Westfield Street. Additional sewer issues are suspected in the areas around Pete Hollis Boulevard and West Washington Street, but the pipe systems have not been analyzed to confirm if there are any constrictions. Sewer capacity and conditions in the rest of the project area are unknown.

Parker Sewer District maintains the lines outside of the City of Greenville’s municipal boundaries to the west. Additionally, through an annexation agreement with the City, Parker also serves any property within their service area that is annexed into the city limits. According to Parker Sewer District, both Woodside and Brandon mill areas have flow capacity. However, there are issues associated with storm water infiltration into the sewer system, particularly with roof drainage at Woodside Mill.

Providing sewer upgrades, especially within the city, will be critical to the successful development of the West Side.

### Key Recommendations

- Complete analysis of all unstudied, or incompletely studied areas of the West Side to confirm existing sewer capacity and any necessary upgrades to support development as recommended in the plan (Chapter 10). Priority should be given to completing the analysis of capacity limitations and constrictions in the areas around Pete Hollis Boulevard and West Washington Street east of Hudson Street.
- Investigate potential funding mechanisms that will need to be put in place to support the West Side growth.
- Develop a Capital Improvement Plan for implementing sewer upgrades as major development occurs.

## Low Impact Development (LID) Stormwater Management Tools for Property Owners

- Treat water as a resource, not as a waste product.
- Minimize impervious surfaces on your property.
- Use water runoff from your roof. A 1,000 square foot roof can produce about 623 gallons of water from a 1 inch rainfall. Direct the downspout to a vegetated area (making sure the water comes out at least 5 feet from your foundation), or install cisterns or rain barrels to catch water.
- Replace lawn areas with native plants. Native plants have more extensive root systems that capture water more effectively, and require less irrigation and maintenance.
- Add 2-4 inches of mulch once a year. Compost or mulch can reduce runoff while making your plants happier.
- Plant trees and preserve existing vegetation.
- Create a rain garden. Rain gardens are planted in a slight depression that collects water and allows it to slowly permeate into soil.

Sources: <http://www.wikihow.com/Reduce-Stormwater-Runoff-at-Your-Home> [http://www.verf.org/liveablecommunities/tool\\_sbmps.htm](http://www.verf.org/liveablecommunities/tool_sbmps.htm)



Source: [http://water.epa.gov/infrastructure/greeninfrastructure/images/DownspoutDisconnect\\_StormwaterPlanter.jpg](http://water.epa.gov/infrastructure/greeninfrastructure/images/DownspoutDisconnect_StormwaterPlanter.jpg)



Source: [http://cleeet.unh.edu/unh\\_stormwater\\_report\\_2007/treatments/tree\\_box/index.php](http://cleeet.unh.edu/unh_stormwater_report_2007/treatments/tree_box/index.php)



**Swamp Rabbit Trail Enhancements:** This photo simulation shows how ditches along the Swamp Rabbit Trail can be activated with public art, stormwater gardens and educational opportunities about natural systems.