Brushy Creek Greenway Feasibility Study

Adopted by City Council
April 11, 2011
City of Easley, SC

alta PLANNING + DESIGN

In association with:
SeamonWhiteside + ASSOCIATES

Acknowledgments

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Brushy Creek Greenway Advisory Committee

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Chris Mann, City Council, Committee Chair

Brian Garrison, City Council

Dave Watson, City Council

Christine deVlaming, resident

Patrick Gramblin, resident

Dr. John Adams, Pastor, First Baptist Church, Easley

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(All photos courtesy of the Alta Planning + Design team, unless otherwise noted.)

I. Overview

Introduction

Easley is situated in upstate South Carolina, at the base of the foothills of the Blue Ridge Mountains in Pickens County, between Greenville and Clemson. Easley is 10.6 square miles in area with a population of approximately 20,000 residents (2007 US Census estimate) - a 13 percent increase from the 2000 Census figure of 17,754. Local estimates are that the population of Pickens County could increase by 30 percent by 2025. The City is part of the Easley-Laurens-Pickens Metropolitan Statistical Area (MSA) and is in the Greenville-Pickens Area Transportation Study (GPATS) MPO, the primary funder of this plan.

Downtown Easley

Easley's history is tied to the Norfolk Southern Railroad line that runs through the center of the City. The City is located midway between the major metropolitan areas of Charlotte, North Carolina to the northeast and Atlanta, Georgia to the southwest, both of which are easily accessible via nearby Interstate 85. Surrounded by rolling mountains and several picturesque lakes, Easley's location provides residents with a number of outdoor recreation opportunities. Easley is home to Baptist Easley Hospital and has recently gained acclaim for hosting the Big League World Series youth baseball tournament.

The City of Easley recognizes that bicycling and walking are important aspects of transportation, recreation, health, and livability for residents, commuters, and visitors to the city. This study is for all residents who desire to improve their level of daily physical activity by bicycling or walking to school, work, and other local destinations; or by going for a walk or bicycle ride to the City's parks, the library, or downtown.

The City of Easley recognizes that bicycling and walking are important aspects of transportation, recreation, health, and livabilty for residents, commuters, and visitors to the city.

Purpose of Study

This study, as recommended in Easley's adopted *Bicycle and Pedestrian Master Plan (February 8, 2010)*, is intended to determine the feasibility of building a greenway trail along Brushy Creek in Easley, South Carolina. The study describes the proposed route for the Brushy Creek Greenway and establishes costs and implementation strategies for developing the trail. The study also makes recommendations for the trail and related improvements such as trailheads, viewpoints, and wayfinding.

Exposed rocks along Brushy Creek add visual interestto the future trail alignment.

For this study, a greenway is defined as "a corridor of land that connects people and nature together" and a trail is defined as "a linear facility for non-motorized transportation and recreation." The purpose of the study is to identify the route of the proposed trail within the approximately three-mile greenway corridor along Brushy Creek. The trail is intended to serve primarily as a shared-use path for pedestrians and bicyclists separated from motorized traffic.

Photosimulation of future Brushy Creek Greenway from Easley Bicycle and Pedestrian Master Plan

Brushy Creek runs from downtown Easley, behind homes and across open lands, yet many are not aware of its existence. Today, a new vision places value on this resource. Easley's *Bicycle and Pedestrian Master Plan* recognizes Brushy Creek Greenway as an important component of an interconnected bicycle and pedestrian network that will connect downtown Easley with important local and regional destinations. **The greenway is expected to improve quality of life in Easley by serving as a transportation corridor, providing recreation opportunities for residents and visitors, increasing property values adjoining the creek, and retaining and attracting new businesses and residents.**

The proposed trail offers options to the community for pedestrian and bicycle travel, close-to-home outdoor activities, potential economic development and health benefits of regular exercise. These opportunities can help citizens be more active and healthy, combat obesity in children and adults, and encourage environmental stewardship in trail users of all ages.

Public Process

The planning work for Brushy Creek Greenway included a robust public process. The core of the consultant team's outreach to stakeholders was through the Brushy Creek Greenway Advisory Committee, with whom the project team consulted at a kick-off meeting in September 2010. The Committee provided valuable feedback regarding potential opportunities, challenges, and stakeholders.

To connect with the public, the project team reached out to a variety of stakeholders, including Fort Hill Natural Gas, Pickens County School District, Upstate Forever, Easley Parks and Recreation Department, Pickens County YMCA, Baptist Easley Hospital, and property owners along Brushy Creek. A list of these stakeholders is provided in Appendix A. A well-publicized community workshop was held at the Larry Bagwell Gymnasium on November 15, 2010. The meeting attracted nearly 20 participants, including Easley Mayor Larry Bagwell, City Council representative Brian Garrison, City staff, and interested citizens. The meeting began with a greeting from Easley City Administrator Jonathan "Fox" Simons, Jr. After a presentation from the consultants, the community broke up into small groups to discuss issues and opportunities for the greenway in more detail. Facilitators included staff from Alta Planning + Design, and sub-consultant Seamon Whiteside + Associates.

The consultant team met with various stakeholders along the creek corridor, including public and non-profit agencies, and private property owners.

Small breakout group discussions at the public meeting included stakeholders and elected officials, along with residents and business owners.

Representatives from breakout group discussions presented their feedback to the larger group.

A summary of the public input is included in Appendix B and is reflected in the goals and objectives listed in the section that follows and in the recommendations of the plan. Attendees were very supportive of the greenway concept and provided much valuable input regarding destinations and desires for development of the trail.

The project team made a presentation to Easley City Council of this *Feasibility Study* and its findings on March 14, 2011. Easley City Council adopted this *Feasibility Study* on April 11, 2011.

Goals and Objectives

The following goals, objectives and benchmarks reflect public and stakeholder input and provides a measurable set of guidelines for the development of the trail along Brushy Creek in Easley. The mission for the Brushy Creek Greenway Trail is: "*To connect people and nature along Brushy Creek in Easley*." Based on this mission, the following goals and benchmarks were identified:

Goal 1: **Build a connected greenway trail along Brushy Creek in Easley, SC**. Connectivity (to schools, downtown, the hospital, neighborhoods, and other destinations) was a common theme during the public process and is vital to the success and use of the greenway. Multi-use trails were also cited in public input during the City's *Bicycle and Pedestrian Master Plan* process as the most highly desired facility type. In order for the proposed trail to reach the greatest number of people for use as both a recreation and transportation based facility, users will need access points and connections to destinations.

Objective 1-1: Complete the greenway within the next five to ten years.

Benchmark: Number of miles of greenway trail completed.

Goal 2: **Increase the number of people walking and bicycling for transportation and recreation in Easley.** Based on data from the 2000 American Community Survey for Easley, South Carolina and the United States, Easley's rate of persons walking to work (1.2%) is almost half of the statewide average (2.3%) and nearly 60% less than the national average (2.9%).[1]

Objective 2-1: Double the percentage of utilitarian and recreational trips made by non-motorized modes in Easley by 2020, based on 10-year U.S. Census data.

Objective 2-2: Increase the number of trail users by 5% per year as measured through count data.

Benchmark: Conduct annual counts of pedestrian and bicycle travel at key locations on the trail system using the National Bicycle and Pedestrian Documentation Project methodology.

Goal 3: **Increase the rate of physical activity in Easley.** The Healthy People 2010 national health objectives include reducing the proportion of physically inactive adults and children. The

[1] Alta Planning + Design, *Easley Pedestrian and Bicycle Master Plan*, Feb. 8, 2010.

prevalence of obesity among adults in South Carolina is 29.4% according to the Center for Disease Control. In Pickens County, 27.8% of all adults are obese.[2]

Objective 3-1: Work with the local hospital to determine measurable health benefits related to the trail, and quantify the health benefits of the trail in terms of improved health outcomes.

Benchmark: Collect local survey data on physical activity.

Goal 4: **Brushy Creek Greenway will support the community's economic development efforts.** Research and local experience from around the region and the nation recognize the value of greenways as positive generators of economic development. (See Section IV for more information.)

Objective 4-1: Leverage trail implementation to create jobs, tourism, and trail-oriented development opportunities.

Benchmark: Quantify investment in terms of project funding, construction jobs, property values, new business creation and land development in the project corridor.

Goal 5: **Connect people and nature.** Brushy Creek is a natural asset to the City and County; the greenway will encourage more people to spend time outdoors in Easley. In the landmark book *Last Child in the Woods*, author Richard Louv describes the loss of outdoor recreation for children. The trail will connect schools, business, neighborhoods and community programs to support access to nature for all ages.

Objective 5-1: Encourage more time spent outdoors along the creek.

Benchmark: Percentage of community residents who visit the creek; documented participation in outdoor education and recreation programs along the trail.

Connect Brushy Creek Greenway to the future Easley High School and other schools in the corridor.

[2] http://www.cdc.gov/obesity/

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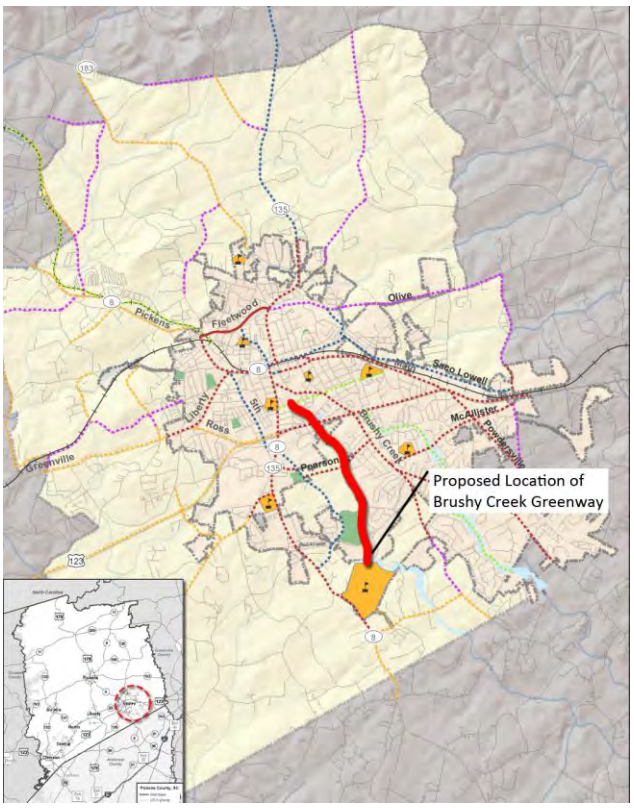
II. Existing Conditions

Overview

This section of this study outlines the physical inventory for the Brushy Creek Greenway Routing and Feasibility Study Corridor. The inventory includes the features that were studied in order to develop a comprehensive recommendation for a preferred alignment for the proposed greenway trail. These features include elements that were gathered from GIS information provided by Pickens County and the South Carolina Department of Natural Resources. On-the-ground fieldwork, which was performed by City of Easley staff, Brushy Creek Greenway Advisory Committee members, Alta Planning + Design, and Seamon Whiteside + Associates, was required to gather information about elements more difficult to obtain through GIS. In addition, Easley resident Phil Kearns provided valuable information, time, and vision for the Brushy Creek Greenway. Information collected via these sources included potentially enhanced connections to adjacent neighborhoods, schools, and parks and an inventory of possible greenway access points for vehicles, cyclists, and pedestrians.

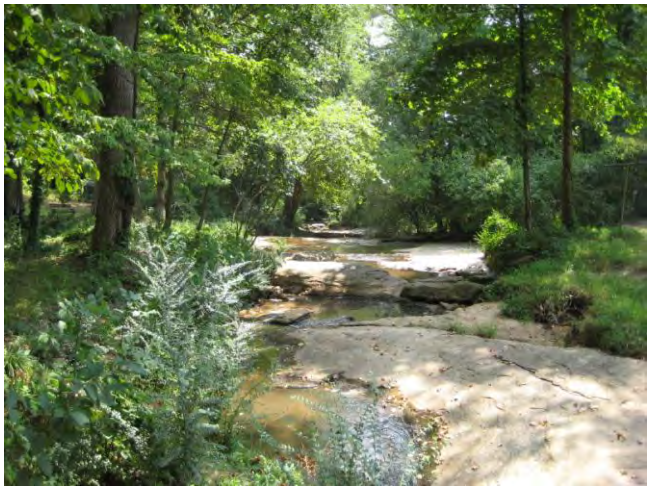


Brushy Creek Greenway location, as presented in Easley's Bicycle and Pedestrian Master Plan

Physical Features

Length, Dimensions, Boundaries and Topography

The length of the Brushy Creek corridor from downtown to the future Easley High School is approximately three miles and approximately four miles to the Pickens-Anderson County line. On its journey from near downtown Easley to the Pickens-Anderson County line, the waterway width varies from a narrow ditch in some places to a wider creek in others. The Creek is piped in some locations. The potential greenway corridor under consideration varies in width depending on its location. In areas that are currently developed, the space potentially available for the corridor is more constrained than in areas that are not yet developed. This corridor provides the possibility of developing a greenway trail on either side of the creek or alongside an adjacent roadway where topographical and other constraints preclude a multi-use path immediately adjacent to the creek. The widest swaths of the potential corridor include numerous undeveloped properties that may offer potential trail easement locations.



Along its length, Brushy Creek varies from a narrow ditch (top) to a wider, more accessible waterway (bottom).

The Brushy Creek drops approximately 100 feet from its beginning near downtown Easley to the Pickens-Anderson County line, at an average slope of just under 0.6 percent. The water level is below the grade of many adjacent properties, bridges and/or roadways. In many places, the creek bank slopes steeply to the water level below, whereas in other locations the most gradual slopes sit adjacent to flood storage areas.

The potential placement of the greenway trail on or along steep slopes needs to be carefully considered because of erosion concerns and potential safety hazards. Trail development on extremely steep slopes could lead to a loss of habitat, disturbance of highly erodible soils (affecting water quality), and can create safety issues due to the difficulty of emergency response. Additional costs associated with building trails on steep slopes include costs associated with retaining walls, and efforts to control stormwater runoff.

Surrounding Land Uses

Forest cover and residential areas are the most significant land uses along Brushy Creek Greenway. Within the city limits, much of the area is developed with roadways, paved parking lots, and buildings. These city surfaces combine to create a large swath of impervious surface that directs surface rainwater and run-off pollutants and detritus into Brushy Creek. Some of this run-off has also eroded the creek's banks, thus bringing further polluted sediment into the creek.

The specific land uses along the creek corridor range from residential to commercial to institutional. Single-family homes lay along the northern reaches of the creek, while open land and institutional uses (schools and parks) lay along the southern reaches. Utility corridors (including electricity and natural gas) are located in spots along the corridor. Commercial uses, which include retail, restaurant and office uses, lay near the corridor along Highway 123 and areas closer to downtown Easley.

Electrical utility easement lo cated near Brushy Creek south of Highway 123

Erosion and Drainage

During construction, temporary erosion and sediment control measures will be required to prevent discharge of soil- or sediment-laden stormwater to receiving water bodies (e.g., Brushy Creek). These control measures are required in most construction projects and are well understood by the construction industry. Therefore, these measures do not represent an impediment to the project.

Permanent erosion control measures may be required where trail development requires disturbance of stream embankment or construction of steep embankments. Examples include riprap revetment, turf reinforcement matting, reverse slope benches, etc.

Since the majority of the trail will be developed at or close to existing grade, we do not anticipate disturbance of existing drainage pipes.

Traffic and Roadway Capacity

Within the study corridor, certain sections of the greenway may be sited within the rights-of-way of existing roadways. These locations are where identified constraints may not allow the trail to be located along the creek. In some locations, the trail will need to cross at-grade roadways. At-grade crossings are proposed at Russell Street, McBee Avenue, Highway 123 (as a near term solution), Pearson Road (as a near term solution), and Peoples Drive. In some areas, the continuity of the trail corridor will be accomplished with wayfinding signage and pavement markings on existing, low-volume, neighborhood streets.

Natural Features

Because much of the land on either side of Brushy Creek is developed with roadways, pavement, residential, and commercial land uses, the more natural curves and bends of the vegetation-lined waterway offer a spectacular contrast to the surrounding built environment. The trees and vegetation—much of which are non-native—are quite attractive for most of the three-mile reach of the creek and should become a major attraction for the City of Easley. The corridor of green and blue through the City is further enhanced by wetland areas and wildlife habitat areas. Such areas may also provide opportunities for interpretive signage.

Cultural and Historic Resources

According to information obtained on the ArchSite website offered by the South Carolina Institute of Archaeology and Anthropology (SCIAA) and the South Carolina Department of Archives and History (SCDAH) [3], no National Register Points or Significant Resources are located in the immediate vicinity of the proposed Brushy Creek Greenway alignment. One National Register location is the Sheriff Mill Complex, located at Sheriff Mill Road, south of the future Easley High School (the greenway terminus as recommended in this *Feasibility Study*). A map depicting cultural and historic resources in the Brushy Creek vicinity is provided in Appendix C

Links/Connections

Connections to the creek itself may be limited due to the lack of existing publicly-owned land along the creek. Historically, the land uses on the private property along the creek have not been conducive to public access and recreation. Residential and commercial properties are frequently built right to the creek's edge. However, proposed trail connections through the J.B. Owens Recreational Complex and other city-owned/operated property near the future Easley High School will enhance access to creek. Opportunities to connect to the greenway will occur along with future development along the creek corridor, particularly in those sections south of Highway 123. In addition, connection opportunities to neighborhoods and other destinations exist at each proposed roadway crossing. The Easley *Bicycle and Pedestrian Master Plan* recommends new or improved bicycle and/or pedestrian facilities on each of the roadways that the greenway will cross. These on-road connections will allow trail users to connect to area schools and churches, the Baptist Easley Hospital, the YMCA and commercial areas in Easley.

Impacts to Adjacent Land Uses

The greenway trail's impacts to adjacent land uses are still unknown at this point and will be entirely dependent upon the alignment that is ultimately approved by the City and subsequently makes its way into the final design and engineering stage. Impacts may include, but are not limited to, trail easements, or parking lots and kiosks at trailheads. Financial impacts in the aggregate, however, are likely to be positive. Indeed, many examples exist throughout the country of adjacent property values rising after the completion of a greenway trail.

[3] http://archsite.cas.sc.edu/ArchSite/%28rz3bxe454ha11255ufps1v45%29/Login.aspx?ReturnUrl=%2fArchSite%2fDefault.aspx

Environmental and Social Benefits

The development of a greenway trail along Brushy Creek will bring significant environmental and social benefits to the community. Its presence will bring several benefits, including:

- Giving the community direct access to nature along Brushy Creek
- Increasing multi-modal transportation options, which will contribute to improved air quality and water quality by reducing particulates and runoff associated with motor vehicle use
- Providing opportunities for outdoor active recreation (such as walking and biking), leading to increased public health
- Improving riparian habitat with creek bank restoration work adjacent to the trail

Existing Conditions Summary and Conclusion

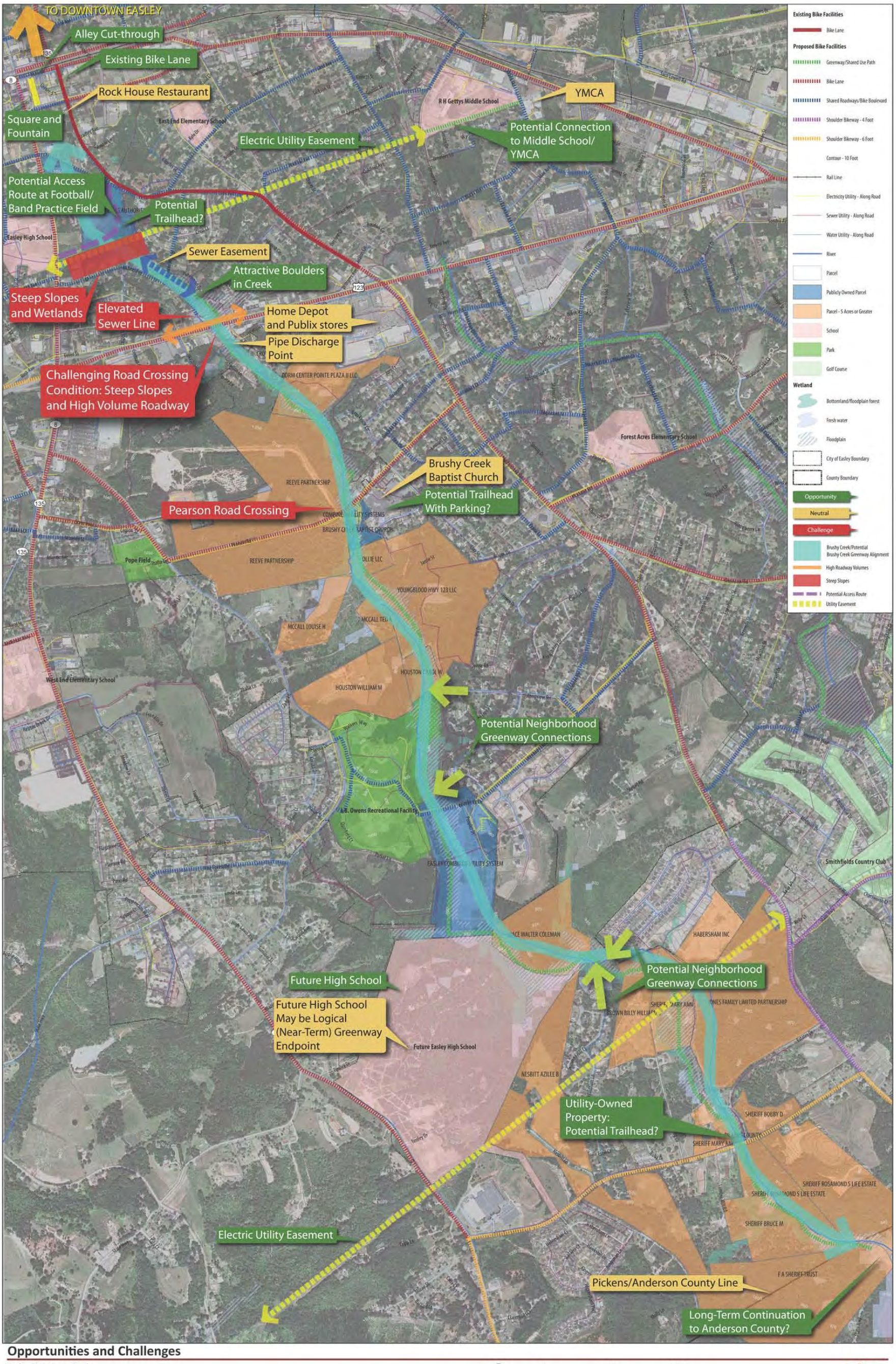
The Brushy Creek corridor through Easley offers significant potential for a greenway trail from downtown Easley to the future Easley High School and even to Anderson County. The creek corridor provides the alignment and appropriate amount of space to afford an important recreational and transportation benefit for Easley. In the future, it is likely to connect with the larger, regional bicycle/pedestrian system identified in Easley's *Bicycle and Pedestrian Master Plan* approved in February 2010. The greenway corridor's existing conditions can be summarized as:

- The corridor runs from near downtown Easley to the future Easley High School, a distance of approximately three miles.
- It provides a direct bicycle and pedestrian connection to the J.B. "Red" Owens Recreation Complex and the future Easley High School
- Within a context that is likely to become primarily developed in the future, the corridor provides a swath of green running through the city.
- The water quality and creek habitat will improve as a result of greenway development
- The dearth of publicly-owned property along the creek is a challenge but will not preclude the development of a greenway trail along a mix of public land, easements along private property and within the rights-of-way of adjacent roadways.

Opportunities and Challenges Diagram

The following figure illustrates the opportunities and constraints of developing a continuous greenway trail along Brushy Creek.

Map II-1: Opportunities and Challenges



Opportunities and Challenges

Easley Greenway Study
Easley, SC
Source: Data obtained from Pickens County, SC. Wetland data from SC Department of Natural Resources.
Author: Roy Harju
Date: 10/06/10

0 1,000 2,000 Feet

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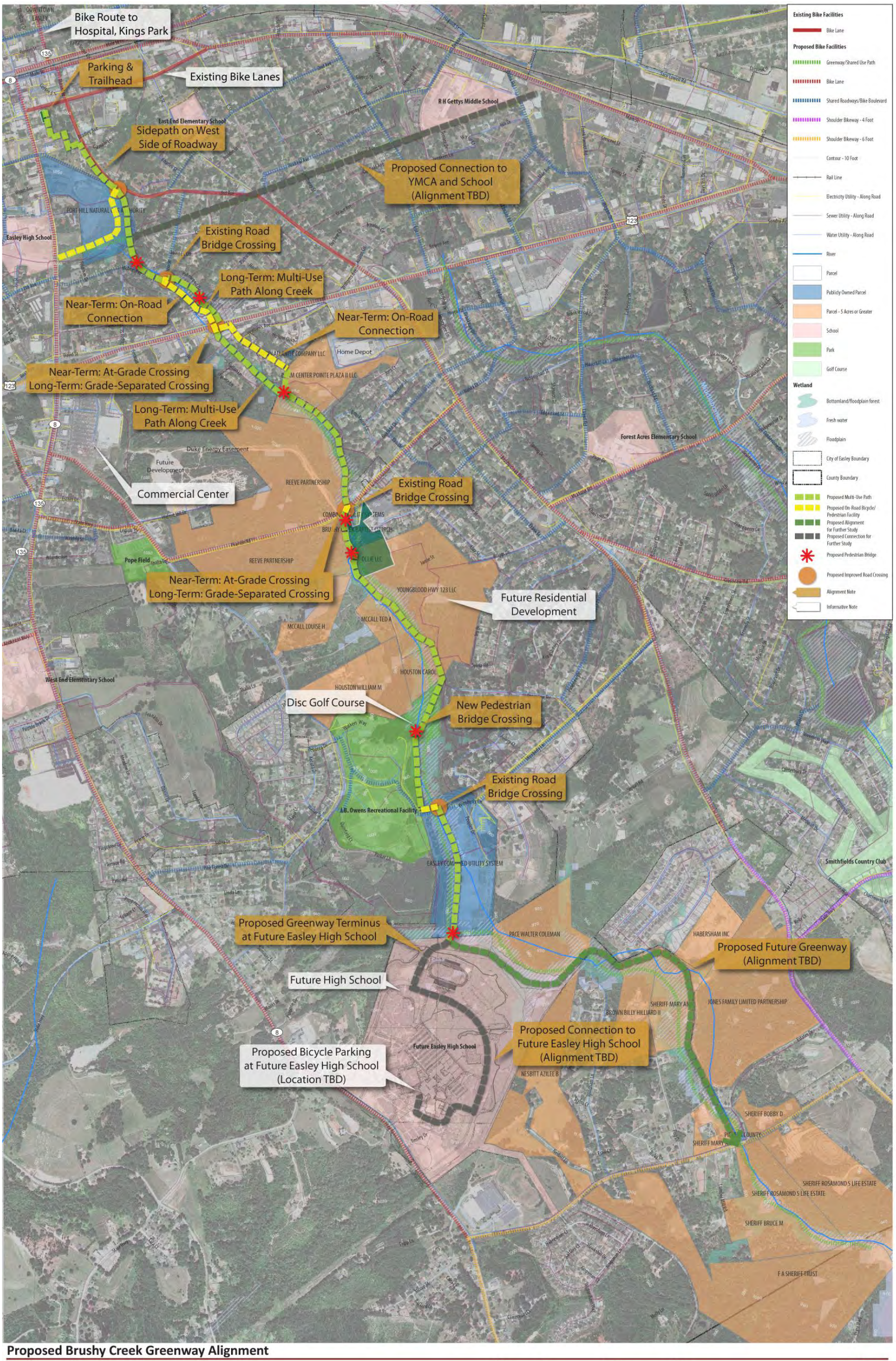
III. Proposed Greenway Route

The recommended Brushy Creek Greenway route alignment is depicted in Map III-1: Proposed greenway route alignment. This proposed alignment is based on input received during the public process, existing conditions analysis, identified opportunities and constraints, and verbal support by property owners whose land the greenway crosses. Larger scale maps depicting the proposed alignment are given in Appendix A. The final alignment will depend upon further study and negotiations with property owners. The major elements of the proposed greenway route are described from north to south as follows.

Map III-1: Proposed greenway route alignment



Proposed Brushy Creek Greenway Alignment

Easley Greenway Study
Easley, SC
Source: Data obtained from Pickens County, SC. Wetland data from SC Department of Natural Resources.
Author: Roy Harju
Date: 01/30/11

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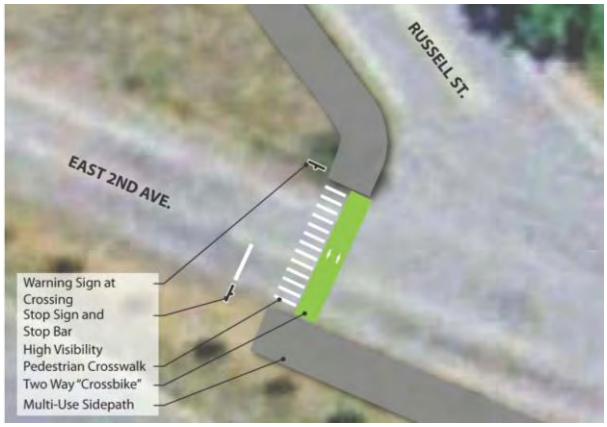
Northern Terminus to Highway 123

The conceptual crossing at East 2nd Avenue employs signage, striping, and a painted "crossbike" to guide users across the intersection.



The approach to the crossing at Russell Street includes signage and striping to warn both trail users and motorists about the upcoming trail crossing.

Beginning near East 1st Avenue, between South Pendleton Street and Russell Street, a proposed trailhead provides greenway access and a small parking area. The trail will proceed south, across private properties. Near the intersection of Russell Street and Bradley Avenue, the trail will run along the west side of Russell Street as a side path. A high-visibility pedestrian crosswalk and a "crossbike" will enable users to cross East 2nd Avenue, and the trail continues as a sidepath along the south side of East 2nd Avenue.

The greenway will enter a sewer easement on the east side of Brushy Creek to cross Fort Hill Natural Gas property. A spur trail along an existing paved road that crosses Fort Hill Natural Gas property will provide access to South Pendleton Street.

The greenway will cross to the west side of the creek at private property along McBee Avenue. The trail will be located between McBee Street and Brushy Creek to the intersection of McBee Avenue and Anzio Street. Between this point and Highway 123, this Feasibility Study recommends a near-term option and a long-term option. The near-term recommendation of this Feasibility Study is that the trail merges with McBee Avenue, using high-visibility crosswalks at McBee Avenue and Anzio Street to facilitate this merge.

Where McBee Avenue ends, trail users will use the parking lot located on the west side of the creek to approach Highway 123. The long-term recommendation of this Feasibility Study is that the greenway will merge with Anzio Street, using the existing roadway bridge to cross again to the east side of the creek. The greenway will cross to the west side of the creek at a property on Pinewood Drive, and greenway users will approach Highway 123.

High-visibility crosswalks guide users to on-street sections of Brushy Creek Greenway.

Highway 123 Crossing

Grade-separated crossings are overcrossings (bridges) or undercrossings (tunnels) that separate trail users from roadways. Preliminary discussions with South Carolina Department of Transportation (SCDOT) indicate a preference for a grade-separated crossing at Highway 123. While a grade-separated crossing would be preferable from a user safety and trail experience perspective, a grade-separated crossing is typically a costly, time-consuming solution that requires significant additional study before it can be implemented. A less-expensive, interim solution is an at-grade crossing. This solution allows trail users to cross the roadway using the roadway surface.

HAWK signal with high-visibility pedestrian crossing

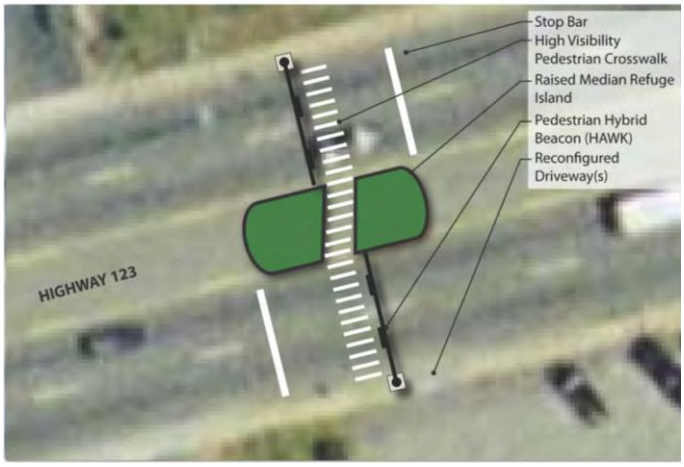
Therefore, the long-term recommendation of this Feasibility Study is a grade-separated crossing of Highway 123, contingent on SCDOT approval; engineering, geotechnical, and structural studies; and other studies as necessary. The near-term recommendation of this Feasibility Study is an at-grade crossing. Due to the high traffic volumes on Highway 123 (greater than 30,000 ADT)[4], and the multiple lanes on Highway 123, this Feasibility Study recommends a number of interventions to enhance the safety of the at-grade crossing.

Brushy Creek is piped under Highway 123

Highway 123 is a busy, multi-lane roadway

[4] http://www.dot.state.sc.us/getting/traffic_counts.shtml

Proposed interventions include a raised refuge median island, restriction of turning movements (such as parking lot entrance reconfiguration along Highway 123), signage and striping (such as high visibility crosswalk markings, and as recommended in the Manual on Uniform Traffic Control Devices), and pedestrian-activated amber LED Rectangular Rapid Flashing Beacons (RRFB) or High-intensity Activated Crosswalk (HAWK) signals. This at-grade crossing would also require SCDOT review and approval.



This conceptual at-grade crossing of Highway 123 includes a raised median refuge island, high-visibility pedestrian crossing, and HAWK signal.

An example of a trail undercrossing under Interstate 55, near Channahon, IL

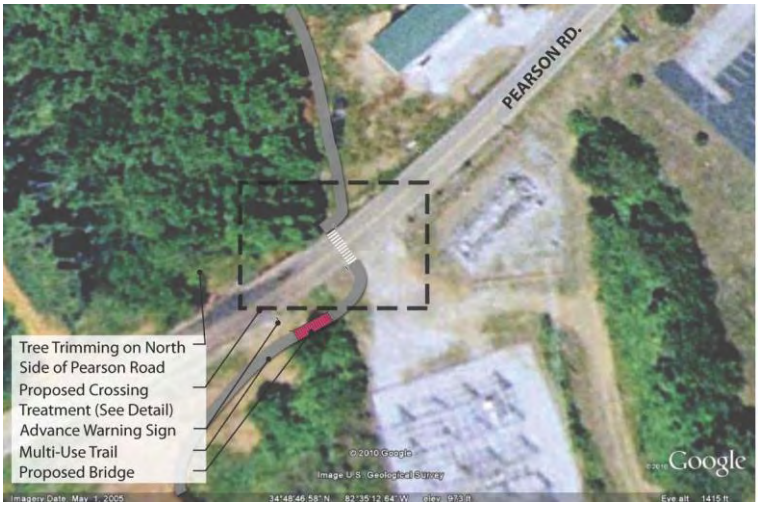
Highway 123 to Pearson Road

The Highway 123 crossing provides an opportunity to cross to the east side of Brushy Creek. Trail users will use on-road connections along Gail Street. The trail will again become an off-road multi-use trail along the east side of the creek where Gail Street ends at private property. The off-road trail will remain on the east side of the creek as it approaches Pearson Road.

Pearson Road bridge over Brushy Creek. Pearson Road has potential site-distance issues for trail crossing due to the curve west of the creek.

Pearson Road Crossing

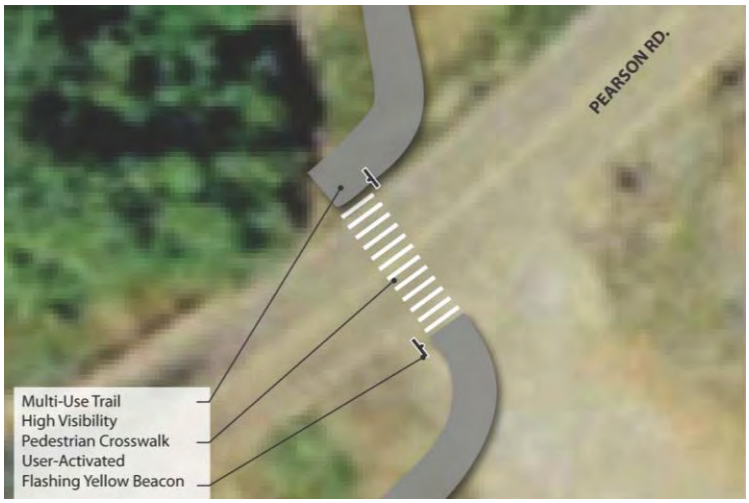
Although Pearson Road experiences relatively low traffic volumes (between 3001-7000 ADT)[5] and the speed limit is relatively low (35 MPH), there are potential site distance challenges at the location of the crossing.



The approach to the crossing at Pearson Road includes signage, striping, and tree trimming to increase awareness of the crossing.

[5] City of Easley, *Bicycle and Pedestrian Master Plan*, February 8, 2010

The long-term recommendation of this *Feasibility Study* is a grade-separated crossing of Pearson Road, contingent on SCDOT approval; engineering, geotechnical, and structural studies; and other studies as necessary. Due to the anticipated cost and time associated with a grade-separated crossing of Pearson Road, the near-term recommendation of this *Feasibility Study* is an at-grade crossing. This *Feasibility Study* recommends a number of interventions to enhance the safety of the at-grade crossing. Because traffic volumes are less and number of lanes are fewer than those at Highway 123, the interventions proposed for Pearson Road are not recommended to be as robust as those recommended for Highway 123. Interventions at Pearson Road could include a high-visibility crosswalk (as recommended in the MUTCD), advance warning signs, and a user-activated flashing yellow beacon. In addition, tree trimming is recommended on the north side of Pearson Road (west side of creek) to improve sight distance for motorists approaching the trail crossing.



This conceptual at-grade crossing of Pearson Road includes signage and a high-visibility pedestrian crossing to improve crossing safety.

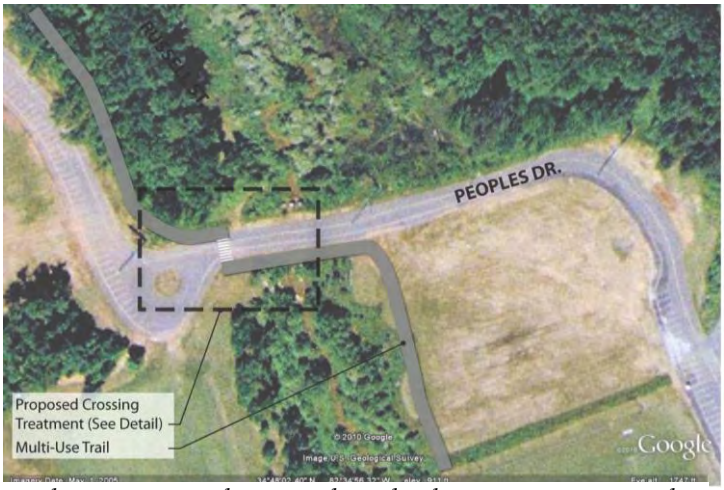
Pearson Road to Southern Terminus

South of Pearson Road, the greenway will be located on the west side of the creek. After crossing Pearson Road, the trail crosses to the west side of Brushy Creek via a proposed bridge.

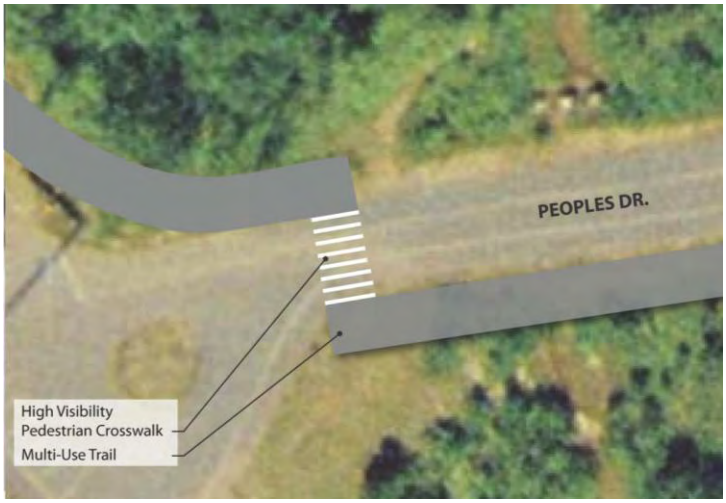
The greenway will cross to the east side of the creek at a private property north of the J.B. Owens Recreational Facility, then the greenway will cross to the west side of the creek again on J.B. Owens Recreational Facility property using an existing pedestrian bridge. This will provide an important connection to the Recreational Facility property. The trail will merge with Peoples Drive and cross to the east side of Brushy Creek.

At the future Easley High School property, the trail will cross to the west side of the creek and provide an important connection to the future Easley High School. The recommended terminus of Brushy Creek Greenway is the future Easley High School. In the future, the City and County may want to consider extending the greenway further south towards Anderson County.

The Illinois and Michigan Canal Trail under US 6 in Channahon, IL is an example of a trail undercrossing.



The crossing at Peoples Drive is located in the J.B. Owens Recreational Facility.



This conceptual at-grade crossing of Peoples Drive includes a high-visibility pedestrian crossing to improve crossing safety.

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IV. Estimated Demand, User Types, and Benefits

This chapter presents an overview of the needs of existing and potential bicyclists in the Brushy Creek Greenway area. Adequately identifying user needs enables system planners and policy-makers to develop logical solutions for improving the community's bicycle, pedestrian and trail network.

Predicting Walking and Bicycling Demand

As conceived, the Brushy Creek Greenway will be a destination-quality experience linking commercial centers, neighborhoods, institutions, and popular recreation sites, serving both transportation and recreation needs and appealing to residents and visitors alike. It is estimated that area and regional residents will make between **137,000** and **206,000** user trips annually on the trail (for an explanation regarding how this figure was determined, see the "Trail Usage Estimate" section presented later in this chapter). This section provides a connectivity assessment and summarizes the methodology used to determine demand for the trail when the facility opens.

Connectivity Assessment

Map IV-1: Proposed Connections shows the many connections provided by the proposed Brushy Creek Greenway. The trail will connect residential areas with commercial centers, improving routes to downtown Easley and to the future Easley High School. Additional connections are discussed below.

Bikeway Connections

The trail will connect to existing and future local and cross-town bicycling and walking facilities, including existing bike lanes on 3rd Avenue. and proposed bike lanes on Highway 123 and Pearson Road (improved bicycle/pedestrian accommodation is needed on Highway 123, which would require a more comprehensive corridor-wide study). This will provide numerous access points to the trail and greatly enhance the mobility options for recreationists and those commuting or running errands. The facility will provide significant mileage to facilitate residents using the trail for bicycling to a variety of destinations and for recreational purposes.

Roadway Connections

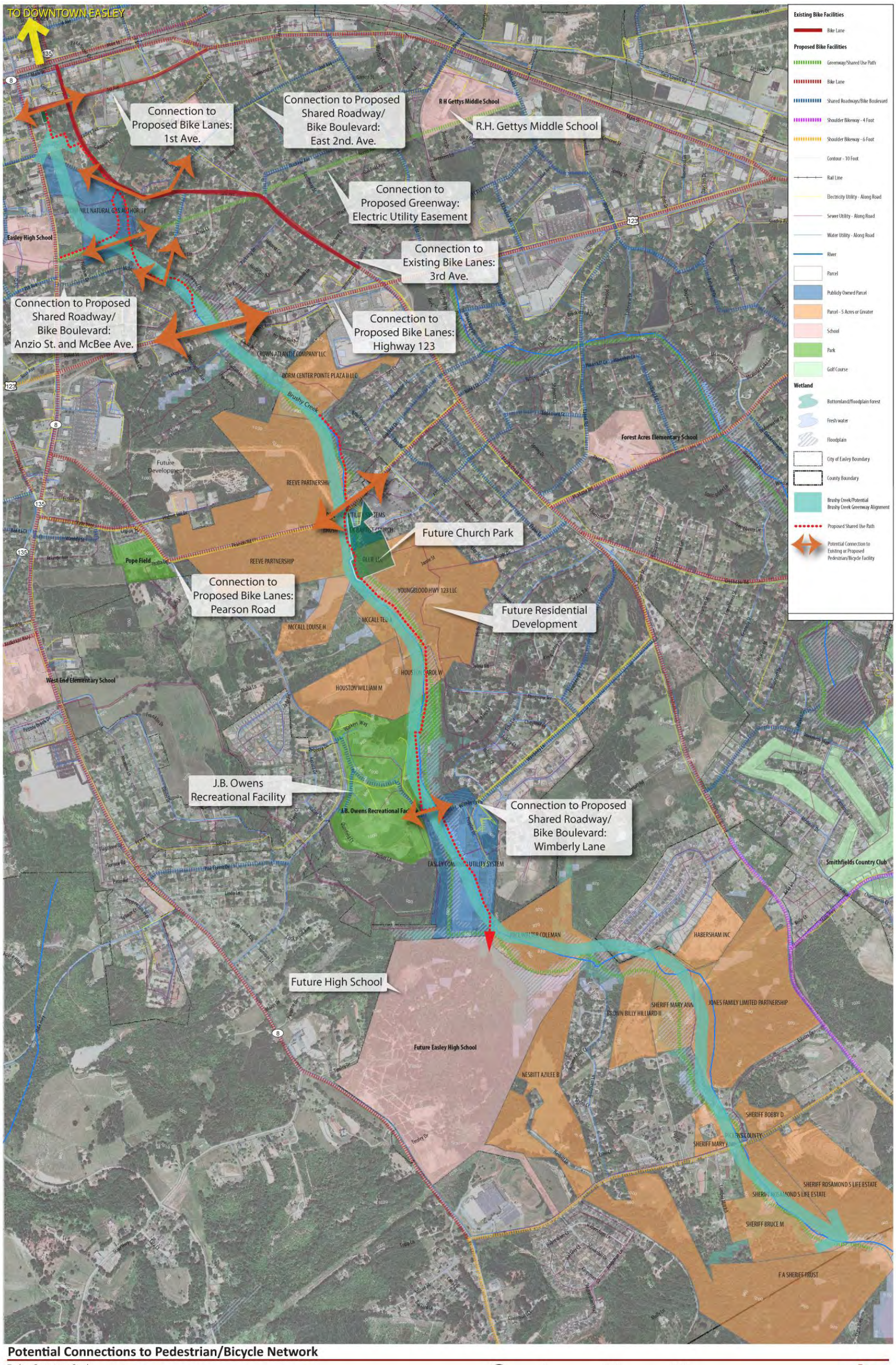
The trail will provide bicycle and pedestrian connections in areas with low street connectivity and few existing active transportation routes. Judging from similar facilities constructed in other cities, bicycle and pedestrian mode share throughout the study area will most likely increase when these connections are in place.[6]

[6] The experience with Willamette River bridges in Portland indicates that demand for bicycle and pedestrian facilities continues to grow after facilities have been built and again when connections to the bridges are improved. These four bridges experienced an average of 11.42 percent annual growth in daily bicycle trips between 1991 and 2007.

Destinations

The trail will provide residents and visitors access to important destinations within the city of Easley and Pickens County. Residential trip generators include downtown Easley, the future Easley High School, the Center Pointe Plaza, and the J.B. Owens Recreational Facility.

Map IV-1: Proposed Connections



Potential Connections to Pedestrian/Bicycle Network

Easley Greenway Study
Easley, SC
Source: Data obtained from Pickens County, SC. Wetland data from SC Department of Natural Resources.
Author: Roy Harju
Date: 01/30/11

0 1,000 2,000 Feet

alta PLANNING + DESIGN

Methodology

The trail demand methodology was developed by Alta Planning + Design, based on existing counts of trails around the country as compared to five factors: quality of completed pathway, climate, population directly served by the trail, population within 20 miles of the trail and annual tourist visits to the area. To estimate the potential trail usage, Alta adjusted the trail model to reflect regionally specific conditions. The following sections describe the local data used to develop the trail model.

Quality of Completed Pathway

When completed, the trail will be a high-quality facility that provides key commuter connections and recreational opportunities. This analysis assumes that the trail will be constructed to state and local standards, with adequate width, grade and crossing treatments to facilitate a wide range of user experience levels.

Population Directly Served by the Trail

There are two census tracts adjacent to the trail (108.04 and 109.02), where residents are likely to use the trail more frequently for utilitarian trip purposes as well as recreation. Approximately 10,605 people live within the selected census tracts.

Population Within 20 Miles of Trail

A 20-mile buffer was used to determine the areas where residents may travel to use the trail primarily for recreation. The 20 mile buffer includes the following locations; Pickens, Liberty, Greenville, Norris, Central, Piedmont and Golden Grove. Population of the selected areas was 50,380 according to the American Community Survey 2004-2009.

Annual Tourist Visits

The project team was unable to determine current tourist counts in Easley. Even without that information, experience shows that Brushy Creek Greenway will be a regional draw, encouraging increased trips for bicycling and walking.

Trail Usage Estimate

The trail usage model estimates that between 137,000 and 206,000 trips will occur on the proposed trail annually. This is reasonable in comparison to the visitation numbers experienced by other facilities throughout the U.S., considering the length of the new bikeway, the access it will provide over barriers, the sites it will access, the scenic value of the route, and the proximity of the trail to both residential areas and urban centers.

Based on mode split patterns along similar trail corridors, the mode split for the bikeway is estimated to be approximately 59 percent bicyclists, 40 percent pedestrians, and 1 percent other users (skaters, bladers, etc).[7]

[7] Outdoor Industry Foundation (2006) Outdoor Recreation Participation Study (8th Edition).

Other Benefits of Bicycling and Walking

Walking and bicycling are safe, healthy, and fun activities that contribute to quality of life.

Bicycling and walking are low-cost and effective means of transportation that are non-polluting, energy-efficient, versatile, healthy, and fun. Everyone is a pedestrian at some point, whether walking to a parked car, taking a lunch break, or accessing transit. In addition, bicycles offer low-cost mobility to the non-driving public. Bicycling and walking as a means of transportation has been growing in popularity as many communities work to create more balanced transportation systems. In addition, more people are willing to cycle more frequently if better bicycle facilities are provided.[8]

Although bicycling is known for its environmental and health benefits, it also has tangible economic benefits. The League of American Bicyclists reported that bicycling makes up $133 billion of the US economy, funding 1.1 million jobs.[9] The League also estimates bicycle-related trips generate another $47 billion in tourism activity. Many communities have enjoyed a high return on their investment in bicycling: the Outer Banks of North Carolina spent $6.7 million to improve local bicycle facilities, and gained the benefit of $60 million of annual economic activity associated with bicycling.[10] Multiple studies show that walkable and bikeable neighborhoods are more livable and attractive, increasing home values, [11] and resulting in increased wealth for individuals and additional property tax revenue.

Bike facilities can improve retail business directly by drawing in customers and indirectly by supporting the regional economy. Patrons who walk and bike to local stores have been found to spend more money to visit local businesses than patrons who drive.[12] Other studies show that walkable, bikeable communities attract the young creative class,[13] which can help cities gain a competitive edge and diversify the economic base. By replacing short car trips, bicycling can help middle-class families defray rising transportation costs. Families

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[8] Pucher, J., Dill, J. and Handy, S. (2010). *Infrastructure, programs, and policies to increase bicycling: An international review.* Preventative Medicine 50:S106-S125.

[9] Flusche, Darren for the League of American Bicyclists. (2009). *The Economic Benefits of Bicycle Infrastructure Investments.*

[10] N.C. Department of Transportation, Division of Bicycle and Pedestrian Transportation. (). *The Economic Impact of Investments in Bicycle Facilities.* atfiles.org/files/pdf/NCbikeinvest.pdf

[11] Cortright, Joe for CEOs for Cities. (2009). *Walking the Walk: How Walkability Raises Home Values in U.S. Cities.*

[12] The Clean Air Partnership. (2009). *Bike Lanes, On-Street Parking and Business: A Study of Bloor Street in Toronto's Annex Neighborhood.*

[13] Cortright, Joe for CEOs for Cities. (2007). *Portland's Green Dividend.*

who drive less spend 10 percent of their income on transportation, compared to 19 percent for households with heavy car use,[14] freeing additional income for local goods and services.

Bicycling can also improve quality of life. Since bicycling is among the most popular forms of recreational activity in the U.S.,[15] when bicycling is available as a daily mode of transportation, substantial health benefits are a result. The health benefit of bicycling for exercise can reduce the cost of spending on health care by as much as $514 a year, which provides a financial incentive to businesses that provide health coverage to their employees.[16]

Needs and Types of Pedestrians and Bicyclists

The needs and preferences of pedestrians vary depending on ability, purpose, and circumstance. Pedestrians may walk alone or in groups, with children, or with pets. Others require accessibility due to disabilities. The purpose of a given walking trip on the greenway can vary: sometimes a trip is utilitarian (for example, to get from place to place to run an errand), for exercise, or to enjoy nature.

The needs and preferences of bicyclists vary depending on the cyclist's skill level and the type of trip a rider wishes to take. Bicyclists who ride for recreational purposes may prefer scenic, winding, off-street trails, while bicyclists who ride to work or for errands may prefer direct on-street bicycle facilities. Child bicyclists, seniors, and adults new to bicycling may prefer shared-use paths, while bicyclists with more experience may prefer bike lanes. Utilitarian cyclists include people who ride because they have no other transportation options due to economic reasons.

Needs of Casual and Experienced Cyclists

Casual bicyclists typically include youth, adults and seniors who are intermittent riders. Experienced bicyclists include commuters, road bicyclists, and those who ride as a primary means of transportation. Table IV-1: Characteristics of Casual and Experienced Bicyclists, summarizes the needs of casual and experienced bicyclists.

The casual bicyclist will benefit from route markers, shared-use paths, bike lanes on lower-volume streets, traffic calming, and educational programs. Casual bicyclists may also benefit from a connected network of marked routes leading to parks, schools, shopping areas, and other destinations. To encourage youth to ride, routes must be safe enough for their parents to allow them to ride. The experienced bicyclist will benefit from a connected network of bike lanes on higher-volume arterials, wider curb lanes and loop detectors at signals. The experienced bicyclist who is primarily interested in exercise will benefit from loop routes leading back to their point of origin.

Due to its potential off-street path, Brushy Creek Greenway offers many opportunities for casual bicyclists. In several locations, the proposed trail will be accessible from residential neighborhoods. Many experienced

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[14] Center for Neighborhood Technology. (2005). *Driven to Spend: Pumping Dollars out of Our Households and Communities.*

[15] Almost 80 million people walking and 36 million people bicycling for recreation or exercise nationally, and 27.3 percent of the population over 16 bicycling at least once over the summer. (National Sporting Goods Association survey, 2003)

[16] Feifei, W., McDonald, T., Champagne, L.J., and Edington, D.W. (2004). *Relationship of Body Mass Index and Physical Activity to Health Care Costs Among Employees.* Journal of Occupational and Environmental Medicine. 46(5):428-436

bicyclists will also use the trail system. This combination of fast-moving bicyclists on training rides with slower-moving bicyclists and pedestrians may result in user conflicts.

Table IV-1: Characteristics of Casual and Experienced Bicyclists

Casual Riders	Experienced Riders
Prefer off-street shared-use paths or bike lanes along low-volume, low-speed streets	Prefer on-street or bicycle-only facilities as opposed to shared-use paths
May have difficulty gauging traffic and may be unfamiliar with the rules of the road. May walk bicycle across intersections	Comfortable riding with vehicles on streets. Negotiate streets like a motor vehicle, including "taking the lane" and using left-turn pockets
May use a less direct route to avoid arterial roadways with heavy traffic volumes	May prefer a more direct route
May ride on sidewalks and ride the wrong way on streets and sidewalks	Avoid riding on sidewalks or on shared-use paths. Rides with the flow of traffic on streets
May ride at speeds comparable to walking, or slightly faster than walking	Ride at speeds up to 20 MPH on flat ground, up to 40 mph on steep descents
Bicycle for shorter distances: up to 2 miles	May cycle longer distances, sometimes more than 100 miles

Characteristics of Recreational and Utilitarian Trips

Bicycle trips can be separated into two types: recreational and utilitarian. Table IV-2: Characteristics of Recreational and Utilitarian Bicycle Trips summarizes general characteristics of recreational and utilitarian bicycle trips.

Recreational trips can range from a 50-mile group ride along rural roads to a short family outing to a local park, and all levels in between. Recreational bicyclists' needs vary depending on skill level. Casual bicyclists out for a family trip may prefer a quiet, shared-use path with adjacent parks, benches, and water fountains.

Utilitarian bicyclists' needs are more straightforward. Many utilitarian trips are made by commuter bicyclists, who are a primary focus of state and federal bicycle funding, as well as bicyclists going to school, shopping or running other errands. Utilitarian cyclists include those who choose to live without a car as well as those who have no other alternative transportation due to economic reasons. Key utilitarian cyclist needs include:

- Routes should be direct, continuous, and connected
- Protected intersection crossing locations are needed for safe and efficient bicycle commuting
- Bicycle commuters must have secure places to store their bicycles at their destinations
- Bicycle facilities should be provided on major streets

The Brushy Creek Greenway area's shared-use path will provide improved access to parks, recreation areas, and downtown. Therefore, the Greenway will serve casual recreational riders and utilitarian cyclists.

However, for experienced recreational riders or commuters, the Greenway will not, by itself, provide easy bicycle access from neighborhoods to employment centers, schools and shopping. Therefore, in order to well-serve experienced recreational riders or commuters, **the greenway will provide a key "spine" corridor that connects to bicycle-friendly on-street connections between residential areas and the trails and between residential areas and shopping and commute centers.** The combined network will likely increase the prevalence of bicycle commuting, as well as increase the prevalence of recreational riding.

Table IV-2: Characteristics of Recreational and Utilitarian Bicycle Trips

Recreational Trips	Utilitarian Trips
Directness of route not as important as visual interest, shade, protection from wind	Directness of route and connected, continuous facilities more important than visual interest, etc.
Loop trips may be preferred to backtracking	Trips generally travel from residential to shopping or work areas and back
Trips may range from under a mile to over 50 miles	Trips generally are 1-5 miles in length
Short-term bicycle parking should be provided at recreational sites, parks, trailheads and other activity centers	Short-term and long-term bicycle parking should be provided at stores, transit stations, schools, workplaces
Varied topography may be desired, depending on the skill level of the cyclist	Flat topography is desired
Cyclists may be riding in a group	Cyclists often ride alone
Cyclists may drive with their bicycles to the starting point of a ride	Cyclists ride a bicycle as the primary transportation mode for the trip; may transfer to public transportation; may or may not have access to a car for the trip
Trips typically occur on the weekend or on weekdays before morning commute hours or after evening commute hours	Trips typically occur during morning and evening commute hours (commute to school and work); shopping trips also occur on weekends
Cyclists' preferred type of facility varies, depending on the skill level of the cyclist	Generally use on-street facilities, may use trails if they provide easier access to destinations than on-street facilities

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V. Construction and Materials

Green Construction

In recent years, interest in environmentally sustainable construction materials and methods has surged. Communities are becoming increasingly aware of the impact their growth and development has on its environment. They are also becoming increasingly aware of the financial, social, environmental, and productivity benefits of sustainable design. In many ways the greenway movement is an outgrowth of this growing social consciousness. Greenways play an important part in making communities more sustainable. They provide means of alternative transportation. They can also catalyze the redevelopment of existing urban sites into more productive and sustainable uses.

Despite the inherent value of providing access to the natural environment, poorly conceived greenways could pose a potential risk to the very spaces they are intended to celebrate. If not planned and designed properly, greenway construction can cause undesirable and unnecessary consequences, including:

- Damage to fragile ecosystems
- Increase in stormwater flow
- Deterioration of surface water quality
- Inefficient use of energy resources

Luckily, these consequences are avoidable. Careful planning will allow the City of Easley to develop a greenway that is as environmentally friendly as it is beneficial to the community.

Currently, no broadly accepted system exists for rating or certifying the sustainability of outdoor recreational facilities. Nevertheless, the concepts developed by the various building rating systems are equally applicable to greenways.

Construction Methods

The various permitting programs available to greenways construction help limit potentially damaging construction methods. These permits will place strict controls on the areas of ground disturbance, discharge of sediment-laden stormwater, release of harmful substances into the environment, etc. Additional controls may be considered by the design engineer where appropriate. For example, project specifications may require:

- Management and recycling of construction wastes
- More stringent erosion controls
- Limitations on work hours and light pollution
- Limitations on truck idling
- Restoration of disturbed surfaces with specific plant species
- Dust monitoring and mitigation
- Avoiding potentially contaminated soils within designated brownfield sites.

Naturally, these additional restrictions and requirements bear additional cost. The City should discuss the costs and potential environmental benefits of these measures with the design engineer.

Evaluation of Multi-Use Path Surface Materials

The most prevalent material to be used in the construction of Brushy Creek Greenway is recommended to be asphalt. Most sections of the greenway will be asphalt, with some sections subject to increased wear (such as regular heavy flooding) built of concrete. In wetland areas, the trail will be boardwalk. Timber portions of the trail system will require use of preserved wood. Over the last several years, less toxic wood preservatives have been developed. Copper Chromium Arsenate (CCA) is a common and effective wood preservative. Due to its toxicity, its use is restricted to certain applications with little risk of direct human contact. This preservative should be avoided. Alkaline copper quaternary (ACQ) was developed as a replacement for the more toxic CCA preservative. This should be considered the minimum acceptable preservative technology. Borate pressure treated lumber is generally considered to be the least toxic option, but it is not widely available.

In addition to specific preservative technologies, the City should consider specification of lumber certified by the Forest Stewardship Council (FSC).

Brushy Creek Greenway is intended to be primarily a dawn-to-dusk facility. As such, its construction will not include a continuous underground power line along its entire length for traditional trail lighting. It is possible that solar-powered LED lighting and a linear fiber-optic lighting strip could be integrated into the trail design. In strategic areas (trailheads, parking areas, roadway crossings, etc.), lighting will be necessary for public safety.

In arriving at these recommended trail surfaces, several key criteria were considered including:

Initial Capital Cost – Trail surface costs vary dramatically and dollars to build trails are scarce. Construction costs include excavation, sub-base preparation, aggregate base placement, and installation of the selected trail surface. Costs can vary from a low of around $2.00 per sq. ft. for a bark mulch trail, up to $12-$13 per sq. ft. for a rubberized surface.

Maintenance and Long Term Durability – The anticipated life of a trail surface can vary from a single year (bark surface in a moist climate) to 25+ years (concrete). In addition, each trail surface has varying maintenance needs that will require regular to sporadic inspections and follow-up maintenance depending on the material selected. Some surface repairs can be made with volunteer effort such as on a bark surface trail, while others, such as a concrete surface, will require skilled craftsmen to perform the repair.

Availability of Materials – A great trail surface in one area of the country may prove cost-prohibitive in another area due to availability of materials. Limestone-treated trail surfaces are common in the eastern US. There are also some environmentally sound ideas such as the use of recycled glass in asphalt (called "Glassphalt"), but because this is not done on a large scale basis, finding a source for the glass aggregate may prove difficult.

Anticipate Use/Functionality – Who are the anticipated users of the trail? Will the trail surface need to accommodate equestrians, wheelchairs, maintenance vehicles, bicycles, etc.? Multi-use trails attempt to meet the needs of all anticipated trail users. But this may not be feasible with a single trail surface. If possible the shoulder area could be considered as a usable surface, and there is an advantage of making it wide enough for use by those preferring a softer material (such as runners). Each surface also has varying degrees of roughness and therefore accommodates varying users. In-line skaters, for example, do not prefer a chip seal surface or most permeable concrete surfaces due to the coarseness of the finished surface.

Funding Source – The funding source for the trail may dictate the trail surface characteristics. If the trail has federal funds and is being administered through the South Carolina Department of Transportation (SCDOT), SCDOT will need to review and approve the selected trail surface, primarily because the surface may sometimes limit the types of users. If, for example, federal funds are provided to encourage non-motorized travel, the trail surface should use something that is bicycle-friendly, such as asphalt or concrete.

Susceptibility to Vandalism – Trail surfaces are not usually thought of as being susceptible to vandalism, but the characteristics of the varying surfaces do lend themselves to a variety of vandalism including movement of materials such as gravel or bark, graffiti on hard surfaces, arson (wood and rubber surfaces), and deformation.

Aesthetics – Each trail surface has varying aesthetic characteristics that should fit with the overall design concept desired for the project.

Material composition and construction methods used can have a significant determination on the longevity of the pathway. Thicker asphalt sections (minimum of four inches) and a well-prepared subgrade will reduce deformation over time and reduce long-term maintenance costs. Using modern construction practices, asphalt provides a smooth ride with low maintenance costs and provides for easy repair of surface anomalies. Concrete is also a common surface for bicycle paths. The surface must be cross-broomed and the crack-control joints should be saw-cut, not troweled (to avoid the rough bump every four feet or so). Concrete paths cost more to build than asphalt paths, and can be highly durable, but concrete is subject to frequent cracking, and repairs to a concrete path are more costly and time consuming than repairs to asphalt paths. Concrete, however, is the preferred surface in areas that are subject to flooding.

With any pathway, it is extremely important to understand and compensate for the types of maintenance and emergency vehicles that will be used on the trail. If heavy equipment will be used to trim trees, mow grass, etc, then it is crucial to design the sub-base and surface to accommodate this loading. Moreover, it is important to understand the quality of the sub-grade (i.e. wet and/or poor material), and either stabilize the soil with lime, cement or geotextile, or strengthen the trail structure to compensate for the unstable soil.

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VI. Cost Estimate

Right-of-Way Acquisition Costs

Payments to owners for the easements and parcels required to construct Brushy Creek Greenway will vary widely depending upon existing land use, size, and utility of the acquired portion of a parcel, development potential of the area, and a host of other factors.

In addition to the payments to property owners, the services of a licensed surveyor will be needed during the ROW acquisition process. The survey firm will perform boundary surveys and prepare easement maps that must be recorded in the City's land records. These services typically cost $3,000 to $4,000 per easement. (Note: this range assumes that easement maps are prepared after survey base maps of the proposed corridor are developed.)

Finally, legal services will be needed to perform the property transactions. A relatively simple easement transaction will typically cost on the order of $1,500 per transaction if performed by an outside counsel.

Engineering Costs

Engineering costs cover a variety of professional services, including:

- Survey (including preparation of easement maps as described above)
- Wetland Delineation
- Preliminary, Semi-Final and Final Design
- Public Participation
- Permitting (Local, State and Federal as required)
- Preparation of Construction Documents
- Bid Assistance
- Construction Observation and Contract Administration

Based upon similar project experience and the proposed greenway features, the engineering costs for the greenway are expected to be approximately ten percent of the total construction cost. However, the actual cost of these services will vary widely depending on project phasing. To a large extent, the costs of permitting, preparing bid documents and administering the construction for a single phase is the same as the cost for the entire project. Similarly, survey and design are more cost effective if done at one time. For this reason, significant cost savings can be realized by developing the greenway as a single project.

Construction Costs

This section includes preliminary estimates of construction costs based upon the recommended greenway alignment described in this report. Important assumptions used to arrive at these estimates include:

- All costs are in 2011 dollars (based upon 2008 figures and adjusted for inflation)
- Costs do not include property acquisition
- Peripheral roadway intersection improvements are not included
- Standard construction methods and materials are used

In developing these cost estimates, we have relied upon our experience with similar greenway projects to select the construction materials with the best life-cycle cost and performance characteristics. Therefore, we have assumed aesthetically pleasing materials with a track record of durability and low maintenance requirements that can be constructed at reasonable cost.

The following table provides a summary of estimated costs for each of the recommended construction segments. A more detailed cost estimate is provided in Appendix B.

Table VI-1: Brushy Creek Greenway Preliminary Construction Estimate Summary

Section	Total Cost
Northern Terminus to Highway 123	$ 2,119,036.20
Highway 123 to Pearson Road	$ 970,635.60
Pearson Road to Southern Terminus	$ 2,464,280.70
Total Construction Cost	$5,553,952.50

Since these preliminary estimates are based on a planning-level understanding of trail components, rather than on a detailed design, they should be considered as "Order of Magnitude". American Society for Testing and Materials (ASTM) Standard E2620 defines Order of Magnitude as being accurate to within plus 50% or minus 30%. This broad range of potential costs is appropriate given the level of uncertainty in the design at this point in the process. Many factors can affect final construction costs, including:

- Final construction phasing
- Revisions to the design as required by local, state and federal permitting agencies
- Additional requirements imposed by property owners as a condition of granting property rights (e.g., fencing, vegetated buffers, etc.)
- Fluctuations in commodity prices during the design and permitting processes
- Selected construction materials
- Type and quantity of amenities (e.g., benches, lighting, bike racks, etc.)
- Extent of landscaping desired

As the project progresses through preliminary, semi-final and final design phases, these uncertainties begin to diminish. With each round of refinement and range of expected construction costs will become more accurately known.

VII. Financial Resources and Funding Overview

Acquiring funding for projects and programs is considerably more likely if it can be leveraged with a variety of local, state, federal and private sources. This section identifies potential matching and major funding sources available for bicycle and pedestrian projects and programs as well as their associated need and criteria.

Federal Funding Sources

Federal funding is primarily distributed through a number of different programs established by the federal transportation act. The latest act, The *Safe, Accountable, Flexible, Efficient Transportation Equity Act – a Legacy for Users* (SAFETEA-LU) was enacted in August 2005 as Public Law 109-59. SAFETEA-LU authorizes the federal surface transportation programs for highways, highway safety, and transit for the five-year period 2005-2009. This legislation has been extended through several Continuing Resolutions, in anticipation of new transportation legislation.

In South Carolina, federal funding is administered through state (SCDOT) and regional planning agencies such as GPATS. Most, but not all, of these funding programs are oriented toward transportation versus recreation, with an emphasis on reducing auto trips and providing inter-modal connections. Federal funding is intended for capital improvements and safety and education programs, and projects must relate to the surface transportation system.

SAFETEA-LU

There are a number of programs identified within SAFETEA-LU that provide for the funding of bicycle and pedestrian projects.

Surface Transportation Program

Every six years, Congress sets the country's transportation and infrastructure priorities — allocating hundreds of billions of dollars for projects that shape our communities for generations. The re-authorization the current bill (SAFETEA-LU) is expected to provide high-level transportation funding policy changes.[17] Currently, the Surface Transportation Program (STP) provides states with flexible funds which may be used for a wide variety of projects on any Federal-Aid Highway System including the National Highway System, bridges on any public road, and transit facilities.

The new transportation bill may create an Office of Livability within the Federal Highway Administration. The office would administer bicycle and pedestrian programs, including Safe Routes to School and transportation enhancements. The office would be charged with increasing modal choice, advancing livable communities, and promoting integrated land use and planning. Also under the office's jurisdiction would be compilation and dissemination of best practices on active transportation, developing better data collection and analysis on active transportation, and requiring that all federal-aid projects consider comprehensive street design principles, policies, and standards. The office would also oversee the creation of the U.S. Bicycle Route System.

[17] Source: http://transportation.house.gov/Media/file/Highways/HPP/Surface%20Transportation%20Blueprint.pdf

Bicycle and pedestrian improvements are eligible activities under the current STP. This covers a wide variety of projects such as on-street facilities, off-road trails, sidewalks, crosswalks, bicycle and pedestrian signals, parking, and other ancillary facilities. SAFETEA-LU also specifically clarifies that the modification of sidewalks to comply with the requirements of the Americans with Disabilities Act is an eligible activity.

As an exception to the general rule described above, STP-funded bicycle and pedestrian facilities may be located on local and collector roads which are not part of the Federal-aid Highway System. In addition, bicycle-related non-construction projects, such as maps, coordinator positions, and encouragement programs, are eligible for STP funds. SCDOT estimates that they will receive an average of $118 million annually for this program through the lifetime of SAFETEA-LU (which is still continuing, as noted above).

Transportation Enhancements

Administered by SCDOT, this program is funded by a set-aside of STP funds. Projects must serve a transportation need. These funds can be used to build a variety of pedestrian, bicycle, streetscape, and other improvements that enhance the cultural, aesthetic, or environmental value of transportation systems. The statewide grant process is competitive.

SCDOT's Transportation Enhancement Program can be used for a feasibility study for a greenway, however the greenway must serve primarily as a transportation facility, rather than a recreational one. The requirement is an 80/20 match and must be pursued by a government entity; in this case, the City of Easley. The required match can be in-kind. Applications are submitted through the MPO, and the project selection cycle is on-going.[18]

Congestion Mitigation/Air Quality Program

The Congestion Mitigation/Air Quality Improvement Program (CMAQ) provides funding for projects and programs in air quality, non-attainment, and maintenance areas for ozone, carbon monoxide, and particulate matter which reduce transportation-related emissions.

These federal funds can be used to build bicycle and pedestrian facilities that reduce travel by automobile. Recreational facilities generally are not funded. SCDOT estimates that they will receive an average of $8.7 million annually for this program through the lifetime of SAFETEA-LU.[19]

The Greenville-Mauldin-Easley metropolitan region does not currently meet the federal or state eight-hour average ozone standards. Motor vehicles are the Greenville areas' leading air pollution source and are the greatest supplier of greenhouse gases. Reducing vehicle-miles traveled (VMT) is vital to meeting higher air quality standards and building more and better bicycle and pedestrian facilities will help achieve this goal by providing residents safe and functional ways to get to work, school, or shopping without using motor vehicles.[20]

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[18] Application instructions available at: http://www.scdot.org/community/pdfs/app_instruct.pdf

[19] More information available at: http://www.fhwa.dot.gov/environment/cmaqpgs/apport03.htm

[20] City of Easley, *Bicycle and Pedestrian Master Plan*, February 8, 2010

Recreational Trails Program

The Recreational Trails Program of the Federal Transportation Bill provides funding to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized and motorized uses. These funds are available for both paved and unpaved trails, but may not be used to improve roads for general passenger vehicle use or to provide shoulders or sidewalks along roads.

Recreational Trails Program funds may be used for:

- Maintenance and restoration of existing trails
- Purchase and lease of trail construction and maintenance equipment
- Construction of new trails, including unpaved trails
- Acquisition or easements of property for trails
- State administrative costs related to this program (limited to seven percent of a state's funds)
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a state's funds)

The South Carolina Recreational Trails Program is a Federal-aid assistance program with an annual grant cycle requiring an 80/20 match (match can be in-kind services). The program is for motorized and non-motorized recreational use. Applicants must submit a Letter of Intent in order to be eligible to apply for a grant. Applications are due in March and awarded in July of each year. Minimum grant amount is $10,000 with a maximum amount of $100,000. Applicants can be municipal, state, or federal government, or for- or non-profit organizations.

South Carolina's Parks, Recreation, and Tourism grants must be used for construction (no more than 5% for planning or engineering).[21]

Rivers, Trails and Conservation Assistance Program (RTCA)

The Rivers, Trails, and Conservation Assistance Program (RTCA) is a National Parks Service program which provides technical assistance via direct staff involvement, to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program provides only for planning assistance—there are no implementation monies available. Projects are prioritized for assistance based on criteria that include conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation, and focusing on lasting accomplishments. These generally are not grant funds available to agencies, rather, this program provides NPS staff to assist communities or agencies with technical issues, such as planning efforts.

[21] More information available at: http://www.scprt.com/files/Grants/2009%20Rec%20Trails%20Application.pdf

Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) is a federally-funded program that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. Funds can be used for right-of-way acquisition and construction. These funds are administered by the South Carolina Department of Parks, Recreation and Tourism.

State Funding Sources

South Carolina Department of Transportation – Capitol Projects

South Carolina Department of Transportation has expressed a willingness to work closely with the City of Easley in including bicycle and pedestrian improvements as part of major projects. It is recommended that the two organizations continue to liaise with one another on an ongoing basis to identify opportunities for implementation of the Easley Bicycle and Pedestrian Plan.

South Carolina Department of Transportation – Maintenance Program

South Carolina Department of Transportation administers a number of road resurfacing projects annually that are geared at maintenance. There may be opportunities for road re-striping to be completed as part of regular roadway maintenance, and this may provide an opportunity to add pavement markings related to the proposed at-grade crossings for Brushy Creek Greenway. This will require coordination between the City, the SCDOT District Traffic Engineer and the local maintenance office to ensure that the pavement marking design is safe for pedestrians, cyclists, and drivers.

Statewide Transportation Improvement Program (STIP)

The Statewide Transportation Improvement Program (STIP) is SCDOT's short-term capital improvement program, providing project funding and scheduling information for the Department and South Carolina's metropolitan planning organizations. The program provides guidance for the next six years and is updated every three years. The South Carolina Department of Transportation Commission, as well as the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) approve the STIP.

In developing this funding program, SCDOT must verify that the identified projects comply with existing transportation and comprehensive plans and SAFETEA-LU planning requirements. The STIP must fulfill federal planning requirements for a staged, multi-year, statewide, intermodal program of transportation projects. Specific transportation projects are prioritized based on federal planning requirements and the different state plans. [22]

[22] Additional information is available at: http://www.scdot.org/inside/stip.shtml

Regional Funding Sources

The Greenville-Pickens Area Transportation Study (GPATS) Study Area extends into five upstate counties, including the cities of Easley, Fountain Inn, Greenville, Greer, Liberty, Mauldin, Pickens, Simpsonville, and Travelers Rest.

GPATS is the Metropolitan Planning Organization (MPO) for the Greenville Urbanized Area. An MPO is a federally required regional transportation planning organization. MPOs are responsible for planning and prioritizing all federally funded transportation improvements within an urbanized area. Every Urbanized Area with a population of 50,000 or more must create an MPO in order to be eligible for federal transportation funds from the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA).

Each MPO is required by federal regulations to define a planning area that includes all of the current Urbanized Area, and the additional area that is likely to become urbanized during the next 20 to 25 years. The U.S. Census Bureau defines the boundaries of Urbanized Areas as a part of the Decennial Census. An Urbanized Area is made up of densely populated, contiguous (connected) Census Blocks that have a combined population of 50,000 persons or more.

The technical staff for GPATS includes: Planners, engineers, and public works officials from the cities and counties served by GPATS are represented on the Study Team, as well as officials from SCDOT and the FHWA. The study team develops plans, evaluates potential transportation improvements, and makes recommendations to the Policy Committee.

The two key products that GPATS develops are the Transportation Improvement Program (TIP) and the Long Range Transportation Plan (LRTP). The TIP is a ranked list of all of the transportation improvement projects to be funded by various sources in the upcoming three years. A project must be listed in an approved TIP before federal funds can be spent on the project. The TIP is the funded, short-range element of the regional transportation plan. The LRTP is a 25-year plan that establishes transportation priorities for the region. The LRTP lists all projects that can be funded, based on estimates of available state and federal funds. A project must be listed in the LRTP before it can be added to the TIP.

Local Funding Sources

Local Bond Measures

Local bond measures, or levies, are usually general obligation bonds for specific projects. Bond measures are typically limited by time based on the debt load of the local government or the project under focus. Funding from bond measures can be used for right-of-way acquisition, engineering, design and construction of pedestrian and bicycle facilities.

System Development Charges/Developer Impact Fees

System Development Charges (SDCs), also known as Developer Impact Fees, represent another potential local funding source. SDCs are typically tied to trip generation rates and traffic impacts produced by a proposed project. A developer may reduce the number of trips (and hence impacts and cost) by paying for on- or off-site pedestrian improvements that will encourage residents to walk (or use transit, if available) rather than drive. In-lieu parking fees may be used to help construct new or improved pedestrian facilities. Establishing a clear nexus or connection between the impact fee and the project's impacts is critical in avoiding a potential lawsuit.

Street User Fees

Many cities administer street user fees though residents' monthly water bills. The revenue generated by the fee can be used for operations and maintenance of the street system, and priorities would be established by the Public Works Department. Revenue from this fund can be used to maintain on-street bicycle and pedestrian facilities, including routine sweeping of bicycle lanes and other designated bicycle routes.

Local Improvement Districts (LIDs)

Local Improvement Districts (LIDs) are most often used by cities to construct localized projects such as streets, sidewalks or bikeways. Through the LID process, the costs of local improvements are generally spread out among a group of property owners within a specified area. The cost can be allocated based on property frontage or other methods such as traffic trip generation.

Business Improvement Districts

Pedestrian improvements can often be included as part of larger efforts aimed at business improvement and retail district beautification. Business Improvement Districts collect levies on businesses in order to fund area-wide improvements that benefit businesses and improve access for customers. These districts may include provisions for pedestrian and bicycle improvements, such as wider sidewalks, landscaping, and ADA compliance.

Other Local Sources

Residents and other community members are excellent resources for garnering support and enthusiasm for a bicycle and pedestrian facility, and the City should work with volunteers to substantially reduce implementation and maintenance costs. Local schools, community groups, or a group of dedicated neighbors may use the study as a group project for the year, possibly working with a local designer or engineer. Work parties can be formed to help clear the right-of-way for a new path or maintain existing facilities where needed. A local construction company could donate or discount services. Other opportunities for implementation will appear over time, such as grants and private funds. The City should look to its residents for additional funding ideas to expedite completion of the bicycle and pedestrian system.

Other Funding Sources and Potential Partners

National Trails Fund

This fund provides funding to grassroots organizations for establishing and maintaining trails. Awards are usually between $500 and $5,000. Applications for 2011 grants were due December 15, 2010. Grants for 2012 have not yet been announced.[23]

Bikes Belong Grant Program

The Bikes Belong Coalition of bicycle suppliers and retailers has awarded $1.2 million and leveraged an additional $470 million since its inception in 1999. The program funds corridor improvements, mountain bike trails, BMX parks, trails, and park access. It is funded by the Bikes Belong Employee Pro Purchase Program.

American Greenways Program

Administered by The Conservation Fund, the American Greenways Program provides funding for the planning and design of greenways. The Program is a partnership between the Conservation Fund, Eastman Kodak Company and the National Geographic Society. Applications for funds can be made by local, regional or statewide non-profit organizations and public agencies. The maximum award is $2,500, but most awards range from $500 to $1,500. American Greenways Program monies may be used to fund unpaved trail development.

[23] http://www.americanhiking.org/Our-Work/National-Trails-Fund/

Palmetto Health Baptist Easley

As a part of the Easley community for 50 years, Palmetto Health Baptist hospital has provided care to multiple generations of Pickens County families. Palmetto Health is a recognized leader in providing a wide range of comprehensive health care services.[24] Similar health care institutions, including the Greenville Hospital System, have been actively involved in promoting and funding active living-related programs and campaigns. The Greenville Hospital System, for example, provided $1 million over 10 years to promote the Swamp Rabbit Trail. Palmetto Health has indicated their commitment to public health and active living by sponsoring a walking/fitness trail on a parcel of land opposite the hospital along SC135.

Upstate Forever

Upstate Forever promotes sensible growth and the protection of special places in the upstate region of South Carolina.[25] The membership-based, nonprofit organization covers ten counties (Abbeville, Anderson, Cherokee, Greenville, Greenwood, Laurens, Oconee, Pickens, Spartanburg, and Union), and have three main programs: Land Trust, Sustainable Communities, and Clean Air and Water.

- The **Land Trust program** works with landowners to protect significant properties and resources in the region, primarily through land protection agreements. To date the group has completed 57 such agreements, protecting nearly 10,391 acres of important land in the Upstate.
- The **Sustainable Communities program** promotes economically, socially, and environmentally sound growth in the Upstate by supporting green development, parks and natural areas, active living initiatives, land use and infrastructure planning, and adaptive reuse and revitalization of existing communities.
- The **Clean Air and Water program** works to promote low impact development; improve stormwater and erosion control measures; buffer floodplains, greenways, and lakeshores; protect pristine streams and wild rivers; improve air quality in the region; and raise awareness about climate change. Its water quality efforts are organized geographically, focused on mountain streams, urban rivers, rural waters, and statewide water resources.

Across all three programs, Upstate Forever works to educate the public, developers, and policy makers about land use, conservation, and growth management issues in the Upstate. Upstate Forever publishes a semi-annual newsletter, the Upstate Advocate; a monthly bulletin, the Upstate Update, and a weekly Legislative Update during the South Carolina legislative session. Upstate Forever also maintains a website; sponsors conferences, lectures, and workshops; takes numerous field trips; and speaks to many different groups and organizations throughout the region.

[24] Additional information is available at: www.palmettohealth.org

[25] Additional information is available at: www.upstateforever.org

VIII. Implementation

This section discusses aspects of the greenway routing study related to property acquisition for the proposed trail and describes the legal feasibility of the greenway in general terms. The proposed route will require a significant effort during the design development phase to create public access along the corridor, including the permitting processes required by multiple agencies and working cooperatively with landowners at a parcel-by-parcel level to create a publicly accessible right-of-way along the corridor. The framework for this process is outlined in the sections below.

Ownership Status

Parcels falling within the Brushy Creek Greenway study area include a variety of ownership status and land uses, including:

- Municipal and private ownership
- Commercial, residential, institutional, and recreational use
- Built environments and undeveloped open space
- Utilities

Property Owners

The parcels directly affected by or adjacent to the recommended greenway alignment have been identified and listed in a table provided as Appendix C in this report. The table presents PIN numbers, acreage and property owners' names and addresses. The purpose of the table is to facilitate direct mailings to interested property owners.

Title Search & Property Survey

As discussed below, future greenway development is likely to require acquisition of property rights to certain parcels of privately owned land. When properties are acquired by purchase or donation, the proponent agency will need to perform a title search in conjunction with the transaction. If the proponent chooses to acquire property rights via easement or subdivision of an existing parcel, a boundary survey may also be required. In some cases, a permanent physical demarcation of the corners of the property (called "monumentation") may also need to be established.

Property Acquisition

The following is a summary of the various ways which property can be obtained or utilized for a project. It is likely that all of these methods will be required in order to obtain contiguous access throughout the proposed corridor. Although all options may not be possible for each lot, the methods are listed below in order of most-desirable to least-desirable. The land acquisition phase of a project normally takes 18 to 24 months to complete (assuming that some partial takings may be required to complete the corridor).

Temporary vs. Permanent Property Rights

Construction of the proposed greenway could require the acquisition of both temporary and permanent property rights.

- Temporary rights provide a legal mechanism to enter upon private property for the purpose of design investigation, construction access, material staging, etc.
- Permanent rights are legally binding agreements, typically recorded on the municipality's land records, which allow construction, maintenance, operation, and access to a facility such as a greenway.
- A temporary right-of-entry release should be secured prior to visiting privately-owned properties along the proposed greenway alignment. Once executed, this document would give specific parties access to a certain parcel of land for a designated period of time. The document will be necessary for the design engineer to perform site investigations on privately-owned properties along the proposed greenway alignment.

Means of Acquiring Permanent Property Rights

Donations of Land

Donations of land can be given from a private property owner to the project proponent. Under this scenario, the private owner donates land to the project proponent for the project. The title to the property transfers from the owner to the project proponent. The property owner must be informed of their right to receive a written appraisal and just compensation for their property. As a contingency to the donation, a property owner may require that an appraisal be prepared, even if they waive their right to compensation. This is typically done for tax planning purposes. If portions of property are donated, rather than complete lots of record, then care must be taken to avoid creation of a non-conforming lot. This may be accomplished through lot line revisions in most cases but sometimes requires subdivision, or re-subdivision of the parcel.

Fee Acquisition

Ownership in "fee simple" means the proponent agency (i.e., the City of Easley) owns the land and the greenway thereon. To use this option, the project proponent purchases the land from a private owner for an agreed-upon price. Fee acquisitions can be for entire parcels or portions thereof. If only a portion of a property is acquired, care must be taken to avoid creation of a non-conforming lot. This may be accomplished through lot line revisions in most cases, but sometimes requires subdivision, or re-subdivision of the parcel. It's important to note that when the proponent acquires a parcel through either a purchase or donation, it also acquires potential environmental liability

Easements

Another common form of acquiring property rights are easements. An easement is the right to use a defined portion of another party's land for a specific purpose. These can be either temporary or permanent. Usually easements are obtained by compensating the owner of the property in exchange for the easement. The original owner still owns the property, but it would now be subject to the rights of the grantee unto which the

easement was conveyed. The specific terms of the easement rights would be defined in a legal document permanently recorded in the local land records for each property that would be affected along the proposed greenway alignment. In the case of a permanent easement, the greenway could be built within an easement (or a series of easements from multiple owners), which would give the owner of the greenway the right to build, maintain, and operate the greenway through another party's land for a specified period of time. Compensation is typically a one-time payment. Easements are recorded on municipal land records and are normally transferable.

Lease Agreements

For sections of the greenway route that can utilize existing, publicly-owned properties (i.e., municipal, state or federal lands), the acquisition of rights or easements by a mutual agreement, "Memorandum of Understanding" or long-term lease may be negotiated.

Condemnation of Property

Condemnation of property is typically a last resort for obtaining property for a project. Under this process, property is appropriated for public use under the right of eminent domain. This is typically done if it is determined that it is a public necessity. Condemnation can be of an entire lot (i.e., a full taking), or a portion thereof (i.e., a partial taking). The owner is compensated for the property condemned based on a fair valuation.

Rights-of-Way Acquisition Process

The funding source of the construction project also affects the procedures utilized to secure property rights. The acquisition of rights-of-way for projects funded through the FHWA transportation enhancement funds are subject to the requirements of the Uniform Relocation and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended. In addition, specific rules must be adhered to in the process of property acquisition if the project is state or federally funded. The SCDOT provides specific procedures to be used for a variety of particular situations.

In cases where the City is able to acquire clear title to a property, (through donation or purchase) without using state or federal monies, it is not strictly required to follow the requirements of the Uniform Act. However, if these requirements are not followed and a property acquisition is later challenged, the Federal Highway Administration will withhold funding until the matter is resolved. For this reason, it is advisable to use Uniform Act procedures in all purchases. Acquisition through condemnation involves additional legal requirements. Competent legal council should be consulted if this method is used.

Permitting Process

The construction of this project will require permits from various agencies. A brief description of each anticipated permit is provided below. It should be noted that each permit may not be required for each phase of construction.

FEMA Conditional Letter of Map Revision (CLOMR)

Basis: Federal law with some review authority delegated to the City.

Threshold: Any earthwork or construction within a designated flood plain; work over, or in a designated floodway.

Process: Application is made to FEMA with the concurrence of the City. The application must demonstrate that the water surface elevation is not increased by proposed activities through modeling using HEC-RAS software. Following construction, application must be made for a Letter of Map Revision (LOMR) depicting actual "as-built" conditions and modeling demonstrating that no increase in water surface elevations will result.

Time Line: Normally takes 6 to 12 months for CLOMR.

Army Corps of Engineers (ACOE) Permit

Basis: Federal statutes.

Threshold: There are three categories of ACOE permits based on the total area of disturbance of federally regulated wetlands. ACOE jurisdiction is triggered by any fill-in, or secondary impact to, a federally regulated wetland. If the ACOE has jurisdiction, then the category of permit is decided based on the total direct and secondary impacts to wetlands. Direct impacts include earthwork operations. Secondary impacts can include changes in drainage patterns or groundwater hydrology, clearing/cutting of vegetation, or alteration of shade patterns.

Category I General Permit (less than 5,000 square feet of disturbance)

Category II Programmatic General Permit (PGP) (5,000 square feet to one acre of disturbance)

Category III Individual Permit (one acre, or more, of disturbance)

Process: For Category I, there is no application required. For Category II and III permits, application is made to the ACOE. Review is conducted jointly by the ACOE and CTDEP (see CT 401 Water Quality Permit). Additional review by the U.S. Fish and Wildlife and other federal agencies is conducted for Category II and III permits. Category II permits can be changed to Category III if requested by reviewing agencies based on potential impacts of the wetlands or wildlife habitat.

Time Line: Category II permits normally take six to nine months depending on complexity, quality/function of wetlands, and surrounding habitats. Category III can take one year or more. Category II and III permits cannot be granted until the CT DEP issues a 401 Water Quality Permit.

Contact: United States Army Corps of Engineers, Charleston District, Regulatory Division
Northwest Branch
Attn: Laura Boos
1835 Assembly Street, Room 865 B-1
Columbia, SC 29201
Phone: (803) 253-3902

Pickens County/City of Easley Stormwater Management (SCDHEC NPDES General Permit)

Basis: State law with some review authority delegated to the City/County.

Threshold: Any earthwork or construction greater than 1 acre.

Process: Application is made to the City of Easley and Pickens County. The application must demonstrate that Best Management Practices (BMPs) will be used during construction and minimize any negative water quality and quantity impacts pre and post-construction

Time Line: Normally takes 30-60 days months for revisions or permit approval.

Contact: City of Easley Stormwater Program
Attn: Lamar Hunnicutt, Director of Public Works
205 North 1st Street
Easley, SC 29641
Phone: (864) 855-7916 ext. 7301

Pickens County Stormwater
Attn: Scottie Ferguson
222 McDaniel Avenue, B-21
Pickens, SC 29671
Phone: (864) 898-5789

Pickens County Floodplain Development

Basis: Review authority delegated to the City/County.

Threshold: Any earthwork or construction that impacts a floodplain as set forth by FEMA.

Process: Application is made to the City of Easley and Pickens County. The application must demonstrate that flood elevation is not increased by proposed activities.

Time Line: Upon review, the reviewing authority normally takes 30-60 days months for revisions or permit approval.

Contact: Pickens County Building Codes Administration
222 McDaniel Avenue, B-10
Pickens, SC 29671
Phone: (864) 898-5950

Proposed pedestrian bridges crossing Brushy Creek would not require additional permits other than the aforementioned due to this section of the creek being considered non-navigable by SCDHEC. In the event that a free-span bridge crossing is not accomplishable, a full USACOE Category III and FEMA CLOMR permits would be required. Further location studies will be required during the construction documentation process to determine ideal crossing location to minimize environmental impacts.

Project Implementation

The recommended alignment of Brushy Creek Greenway should be viewed as one complete project. The desired outcomes of the greenway development will not be fully realized until the project is complete. In addition, significant cost savings can be realized by designing, permitting, and constructing the greenway as a single project. For these reasons we recommend the trail be developed, if possible, as a single phase.

However, it is possible that financial constraints will require the greenway to be completed in several sections, as funding becomes available. If this is the case, the criteria below can be used to evaluate the six defined sections of the greenway in order to create an implementation strategy.

Connectivity – Individual sections should serve a logical purpose. For example, a residential neighborhood connection to an employment center is preferable to a segment that terminates in a wooded area or undeveloped land.

Funding Availability – The complete greenway program can be developed as a series of reasonably-sized projects likely to attract funding.

Momentum Building – Construction sections likely to generate the greatest excitement and enthusiasm in the community should be built first.

Logical Termini – Since several years may pass between the completion of one section and the beginning of the next, each section should have logical termini, which allow users to gain access from, for example, a local street, and get off at another local street, park, school, or other destination.

If a phasing strategy is ultimately developed, the greenway corridor will need to be built in manageable sections that can be implemented with more modest budgets.

For the length of the greenway, running from the trailhead near downtown Easley to the future Easley High School, the two sections include:

1. Downtown Easley Trailhead (Northern Terminus) to Highway 123 Section
2. Highway 123 to Pearson Road Section
3. Pearson Road to Future Easley High School (Southern Terminus) Section

Project Schedule

Every greenway project is unique. However, in the event that the Brushy Creek Greenway project is not able to be funded as a single construction project and must be phased by section, a general schedule for the implementation of a single phase/section can be seen by looking at "typical" timeframes for the various processes that the projects must go through. These timeframes are generally consistent, regardless of the size of a particular project. Therefore, significant streamlining occurs when various phases of construction are consolidated into larger projects. The general schedule presented below is based on experience with similar greenway projects. Since some of these processes occur simultaneously, the times listed are not cumulative. Items considered to be on the "critical path" are shown in the second column from the right.

Table VIII-1: Project TImeline

Process	Description	Critical Path Tasks (months)	Concurrent Tasks (months)
RFQ	Request for qualifications and consultant selection	2	
Contracting	Contracting between the City and the consultant	2	
Survey	Detailed survey of the project area	1-2	
PD	Preliminary design of the project	3	
PD Review	Review of preliminary designs by local and state regulatory agencies	1-2	
Permits	Application for local and state permits		3-6
Permits	Application for federal permits (if applicable)		12
ROW	Rights of way acquisition		12-18
FD	Final design of the project	3	
FD Review	Review of final designs by local and state regulatory agencies	1-2	
CD	Preparation of construction documents	2	
Bid	Soliciting public bids for the project	2	
Contracting	Contracting between the City and the construction contractor	1	
Construction	Construction of the greenway	8-18	
	Total time for one phase/section of construction:	**55-79 Months**	

Note: Many variables can affect project schedule; this schedule is a guideline that outlines the project process. The actual project schedule may differ.

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IX. Operations and Maintenance

The operations of Brushy Creek Greenway Trail should be integrated and operated as seamlessly as possible, offering citizens and visitors a first-class system. Coordination and cost-effective management and function are essential. To help achieve a sustainable operations program, the following actions are suggested:

- Local agencies should work together with a written "Owner's Manual" including a specific listing of all functions, frequency of tasks, and quality standards. This should be translated into an annual budget that anticipates build-out in five-year increments.
- The program must be cost-effective with sustainable funding sources identified.
- The community should continue the Brushy Creek Greenway Advisory Committee to serve as long term liaison/advocate for the greenway.
- The program should have a distinct and adequate funding allocation for the trail system based on the program manual and annual budget.
- A lead person, with trail development and management skills, should be designated who will have management authority over the trail. A "contract" should be established with the appropriate departments and/or outside private contractors as appropriate to carry out the various operations, management, and programming functions.
- The lead person should also work cooperatively with other department heads, non-profit and private-sector partners, and agency staff to assure a coordinated effort amongst all of the alternative modes including: shared-use paths, sidewalks, on-street bicycling, and transit services.

Guiding Principles for an Effective Operations Program

The following guiding principles will help assure the preservation of a first class system:

- Good maintenance begins with sound planning and design
- Foremost; protect life, property, and the environment.
- Promote and maintain a quality transportation and recreation experience
- Develop a management plan that is reviewed and updated annually with tasks, operational policies, standards, and routine and remedial maintenance goals.
- Maintain quality control and conduct regular inspections
- Include field crews, police, and fire/rescue personnel in both the design review and on-going management process.
- Maintain an effective, responsive public feedback system and promote public participation.
- Be a good neighbor to adjacent properties

With the full build-out of the trail, annual operations and programming could include the following responsibilities and tasks:

- Special events planning
- Volunteer coordination
- Environmental education/stewardship
- Outreach programming
- Program development
- Safe Routes to Schools coordination
- Health and fitness coordination
- Trail patrol coordination
- Trail patrol staff/volunteers
- System engineering/planning

The quality and condition of a shared-use path is essential to the long-term success of the project. System maintenance refers to the care, upkeep, and smooth functioning of shared-use paths. If the facility is well maintained and cared for, it will assure both the safety and enjoyment of the residents and visitors who use it. A proper maintenance program will reduce long-term costs by extending the life of the components and it will also win the continued support of residents, homeowners and businesses.

Typical annual maintenance includes:

- Shoulder mowing and sweeping operations
- Periodic maintenance and repairs - including seal coating of path surfaces (approximately every four to five years on a rotating basis) striping, signage, benches, bike racks, and installation of safety fencing, safety signage, and devices, etc.
- Bridge maintenance
- Trash removal
- Tree and vegetation trimming
- Crack sealing and repair

Facilities Maintenance

The trail maintenance program should maintain the following elements:

- Off-Street Shared-Use Pathways
- Trail-Related Landscapes (landscaped and open space areas associated with trails and greenways including streams and conservation areas)
- On-Street Bicycle Facilities (bike lanes, bike routes, and streets used for bicycling)
- Trailheads
- Sidewalks
- Wayfinding Signage, Fixtures and Furnishings (on-street and off-street)
- Regulatory and Safety Signage
- Tunnels, Pedestrian Bridges, Underpasses, and At-Grade Street Crossings
- Trail-Related Parks and Features
- Access Parking and Maintenance Roads
- Rest Areas

X. Design Guidelines

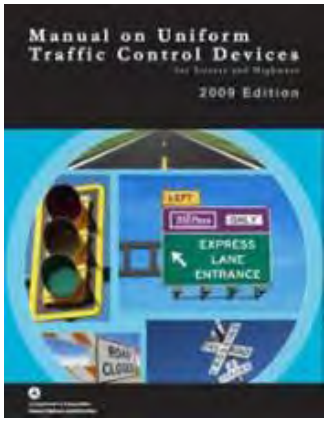
At the state and national levels, there are existing guidelines that apply to shared-use paths, and pedestrian and bicycle facilities. While these documents are not absolute standards, many public agencies require projects to meet the guidelines as a minimum condition for key dimensions including slope, horizontal and vertical clearances, and surface condition, signage, and pavement markings. In addition, all applicable local design and construction standards will need to be followed. Design recommendations are proposed for each of the non-motorized facility types proposed. The key documents published by The American Association of State Highway and Transportation Officials (AASHTO), the U.S. Department of Transportation (USDOT), and others include:

AASHTO Guidelines for the Development of Bicycle Facilities

The most recent version of this nationally recognized document is the 3rd Edition, dated 1999. The update is due to be released in 2011. The guide is described by AASHTO as follows:

"The guide is designed to provide information on the development of facilities to enhance and encourage safe bicycle travel. The majority of bicycling will take place on ordinary roads with no dedicated space for bicyclists. Bicyclists can be expected to ride on almost all roadways as well as separated shared-use paths and even sidewalks, where permitted to meet special conditions. This guide provides information to help accommodate bicycle traffic in most riding environments. It is not intended to set forth strict standards, but, rather, to present sound guidelines that will be valuable in attaining good design sensitive to the needs of both bicyclists and other highway users."

Manual on Uniform Traffic Control Devices (MUTCD)



The 2009 Federal MUTCD includes Part 9: Traffic Controls for Bicycle Facilities, along with detailed guidelines for pedestrian facilities crossings available, and is available on-line at: http://mutcd.fhwa.dot.gov/kno_2009.htm.

Universal Design/ADA Access

Good universal design for Brushy Creek Greenway will ensure access for everyone no matter their physical abilities. In addition, all greenway paths and other trails that receive funding from state or federal sources must conform to the Americans with Disabilities Act (ADA) guidelines, and Public Rights of Way Accessibility Guidelines (PROWAG). The Federal Highway Administration publishes a guidebook entitled Designing Sidewalks and Trails for Access. Chapter 5, Trail Design for Access is the most relevant portion of the report and is available on-line at: http://www.fhwa.dot.gov/environment/sidewalks/chap5a.htm

Other Sources

Other sources reviewed for this Feasibility Study include:

- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities
- National Park Service Rivers and Trails Program
- Complete Streets and Context Sensitive Solutions (CSS)
- South Carolina Department of Transportation Engineering Directive Memorandum Number 22 (addresses shared roadways and bike lanes and provides guidance on design requirements for new projects).

Shared-Use Paths

Design Summary

Shared-use paths can provide a desirable facility particularly for novice riders, recreational trips, and cyclists of all skill levels preferring separation from traffic. Shared-use paths should generally provide directional travel opportunities not provided by existing roadways.

Discussion

Shared-use paths serve both bicyclists and pedestrians and provide additional width over a standard sidewalk. These facilities may be constructed adjacent to roads, through parks or open space areas, along creeks, or along linear corridors such as abandoned railroad lines. In rural areas, shared-use paths can serve as an alternative to formal curb, gutter and sidewalks. If an asphalt or concrete surface is not desired, paths can be constructed with decomposed granite or another aggregate material to better fit in with the rural environment. Regardless of the type, paths constructed next to the road must have some type of vertical (e.g., curb or barrier) or horizontal (e.g., landscaped strip) buffer separating the path area from adjacent vehicle travel lanes.

Shared-use paths (also referred to as "greenway trails" and "multi-use paths") are often viewed as recreational facilities, but they are also important corridors for utilitarian trips.

Additional Guidance

Elements that enhance shared-use path design include:

- Providing frequent access points from the local road network; if spaced too far apart, users will have to travel out-of-direction to enter or exit the path, which will discourage use
- Placing directional signs to direct users to and from the path
- Building to a standard high enough to allow heavy maintenance equipment to use the path
- Limiting the number of at-grade crossings with streets or driveways
- Terminating the path where it is easily accessible to/from a street, preferably at a controlled intersection or at a dead-end street. If poorly designed, motor vehicle drivers will not expect pedestrians and cyclists on or crossing the roadway.
- Identifying and addressing potential safety and security issues up front
- Whenever possible, and especially where heavy use can be expected, separate bicycle and pedestrian lanes should be provided to reduce conflicts

Sidewalks as Shared-Use Paths

Utilizing or providing a sidewalk as a shared-use path is unsatisfactory for several reasons. Sidewalks are typically designed for pedestrian speeds and maneuverability and are not safe for higher bicycle speeds. Conflicts are common between pedestrians traveling at low speeds (e.g., exiting stores, parked cars, etc.) and bicyclists, as are conflicts with fixed objects (e.g., utility poles, mailboxes, parked cars extending into the sidewalk from a driveway). Walkers, joggers, skateboarders and in-line skaters can (and often do) change their speed and direction almost instantaneously, leaving bicyclists insufficient reaction time to avoid collisions.

Similarly, pedestrians often have difficulty predicting the direction an oncoming cyclist will take. At intersections, motorists are often not looking for bicyclists who are traveling at higher speeds than pedestrians entering a crosswalk area, particularly when motorists are making a turn. Sight distance is often impaired by buildings, walls, fences, and shrubs along sidewalks; especially at driveways. In addition, bicyclists and pedestrians often prefer to ride or walk side-by-side when traveling in pairs. Sidewalks are typically too narrow to enable this to occur without serious conflict between users.

It should also be noted that developing extremely wide sidewalks does not necessarily add to the safety of sidewalk bicycle travel. Wide sidewalks might encourage higher speed bicycle use and can increase the potential for conflicts with motorists at intersections, as well as pedestrians with fixed objects.

Shared-Use Paths Along Roadways

Design Summary

The AASHTO Guide for the Development of Bicycle Facilities generally does not recommend the development of shared-use paths directly adjacent to roadways, but under certain conditions they may be considered an appropriate solution.

Discussion

Also known as "sidepaths", these facilities create a situation where a portion of the bicycle traffic rides against the normal flow of motor vehicle traffic and can result in wrong-way riding where cyclists enter or leave the path. This can also result in an unsafe situation where motorists entering or crossing the roadway at intersections and driveways do not notice bicyclists coming from their right, as they are not expecting traffic coming from that direction. Stopped cross-street motor vehicle traffic or vehicles exiting side streets or driveways may frequently block path crossings. Even bicyclists coming from the left may also go unnoticed, especially when sight distances are poor.

Example of a substandard sidepath in Molalla, OR

Well-designed sidepath in Minneapolis, MN

Additional Guidance

Additional concerns about shared-use paths directly adjacent to roadways (e.g., with minimal or no separation) are:

- Half of bicycle traffic would ride against the normal flow of vehicle traffic, contrary to the rules of the road.
- When the path ends, cyclists riding against traffic tend to continue to travel on the wrong side of the street, as do cyclists making their way to the path. Wrong-way bicycle travel is a major cause of vehicle/bicycle crashes.
- At intersections, motorists crossing the path often do not notice bicyclists approaching from certain directions, especially where sight distances are poor.
- Bicyclists on the path are required to stop or yield at cross-streets and driveways, unless otherwise posted.
- Stopped vehicles on a cross-street or driveway may block the path.
- Because of the closeness of vehicle traffic to opposing bicycle traffic, barriers are often necessary to separate motorists from cyclists. These barriers serve as obstructions, complicate facility maintenance and waste available right-of-way.
- Paths directly adjacent to high-volume roadways diminish users' experience by placing them in an uncomfortable environment. This could lead to a path's underutilization.

As bicyclists gain experience and realize some of the advantages of riding on the roadway, some riders stop using paths adjacent to roadways. Bicyclists may also tend to prefer the roadway as pedestrian traffic on the shared-use path increases due to its location next to an urban roadway. When designing a bikeway network, the presence of a nearby or parallel path should not be used as a reason to not provide adequate shoulder or bike lane width on the roadway, as the on-street bicycle facility will generally be superior to the "sidepath" for experienced cyclists and those who are cycling for transportation purposes. Bike lanes should be provided as an alternate (more transportation-oriented) facility whenever possible.

Shared-use paths may be considered along roadways under the following conditions:

- The path will generally be separated from all motor vehicle traffic
- Bicycle and pedestrian use is anticipated to be high
- To provide continuity with an existing path through a roadway corridor
- The path can be terminated at each end onto streets with good bicycle and pedestrian facilities, or onto another well-designed path
- There is adequate access to local cross-streets and other facilities along the route
- Any needed grade separation structures do not add substantial out-of-direction travel
- The total cost of providing the proposed path is proportionate to the need

Shared-Use Path Design

Design Summary

Width:

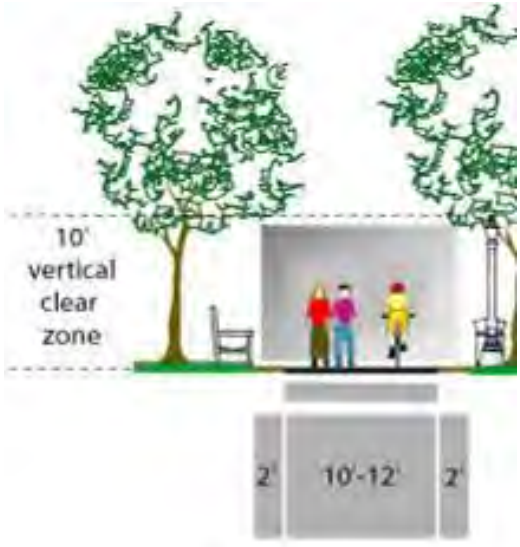
- 10 feet is the minimum allowed for a two-way, shared-use path and is only recommended for low traffic situations.
- 12 feet is recommended in most situations
- 12 feet or greater is recommended for heavy use situations with high concentrations of multiple users such as joggers, bicyclists, rollerbladers and pedestrians.

Lateral Clearance:

- A 2-foot or greater shoulder on both sides Overhead Clearance:
- Clearance to overhead obstructions should be 8 feet minimum, with 10 feet recommended.

Separation From Roadway:

- Where a shared-use path must be adjacent to a roadway, a 5-foot minimum buffer should separate the path from the edge of the roadway, or a physical barrier of sufficient height should be installed.



Recommended shared-use path design

The Cedar Lake Regional Trail in Minneapolis, MN has sufficient width to accommodate a variety of users.

Discussion

Asphalt is the most common surface for shared-use paths. However, the material composition and construction methods used can substantially affect the longevity of the pathway. Thicker asphalt sections and a well-prepared subgrade will reduce deformation over time and reduce long-term maintenance costs.

The use of concrete surfacing for paths has proven to be the most suitable for long-term use. Using modern construction practices, concrete provides a smooth ride with low maintenance costs. Concrete paths can be placed with a slip-form paver. The surface must be cross-broomed. Crack-control joints should be saw-cut, not troweled. Concrete paths cost more to build than asphalt paths but do not become brittle, cracked and rough with age, or deformed by roots.

Shared-use paths should be designed with sufficient surfacing structural depth for the subgrade soil type to support maintenance and emergency vehicles. Where the path must be constructed over a very poor subgrade (wet and/or poor material), treatment of the subgrade with lime, cement, or geotextile fabric should be considered.

Path/Roadway Crossings

Design Summary

At-grade path/roadway crossings generally will fit into one of four basic categories:

- Type 1: Marked/Un-signalized; Type 1+: Marked/Enhanced
- Type 2: Route Users to Existing Signalized Intersection
- Type 3: Signalized/Controlled
- Type 4: Grade-separated crossings

Discussion

While at-grade crossings create a potentially high level of conflict between path users and motorists, well-designed crossings have not historically posed a safety problem, as evidenced by the thousands of successful paths around the United States with at-grade crossings. In most cases, path crossings can be properly designed at-grade to a reasonable degree of safety and meet existing traffic and safety standards.

At-grade crossings can be made safer and easier with pavement markings, pedestrian refuge islands, and other treatments.

Evaluation of path crossings involves analysis of vehicular and anticipated path user traffic patterns, including vehicle speeds, traffic volumes (average daily traffic and peak hour traffic), street width, sight distance, and path user profile (age distribution, destinations served). Crossing features for all roadways include warning signs both for vehicles and path users. The type, location, and other criteria are identified in the AASHTO's Guide for the Development of Bicycle Facilities and the MUTCD.

Consideration must be given for adequate warning distance based on vehicle speeds and line-of-sight, with visibility of any signing absolutely critical. Catching the attention of motorists jaded to roadway signs may require additional alerting devices such as a flashing light, roadway striping or changes in pavement texture. Signing for path users must include a standard "STOP" sign and pavement marking, sometimes combined with other features such as bollards or a kink in the pathway to slow bicyclists. Care must be taken not to place too many signs at crossings lest they begin to lose their impact.

A number of striping patterns have emerged over the years to delineate path crossings. A median stripe on the path approach will help to organize and warn path users. The actual crosswalk striping is a matter of local and state preference, and may be accompanied by pavement treatments to help warn and slow motorists. The effectiveness of crosswalk striping is highly related to local customs and regulations. In areas where motorists do not typically defer to pedestrians in crosswalks, additional measures may be required.

The following section identifies several path/roadway crossing treatments that should be considered for the Brushy Creek Greenway shared-use path system.

The proposed intersection approach that follows is based on established standards, published technical reports,[26] and experiences from cities around the country.[27]

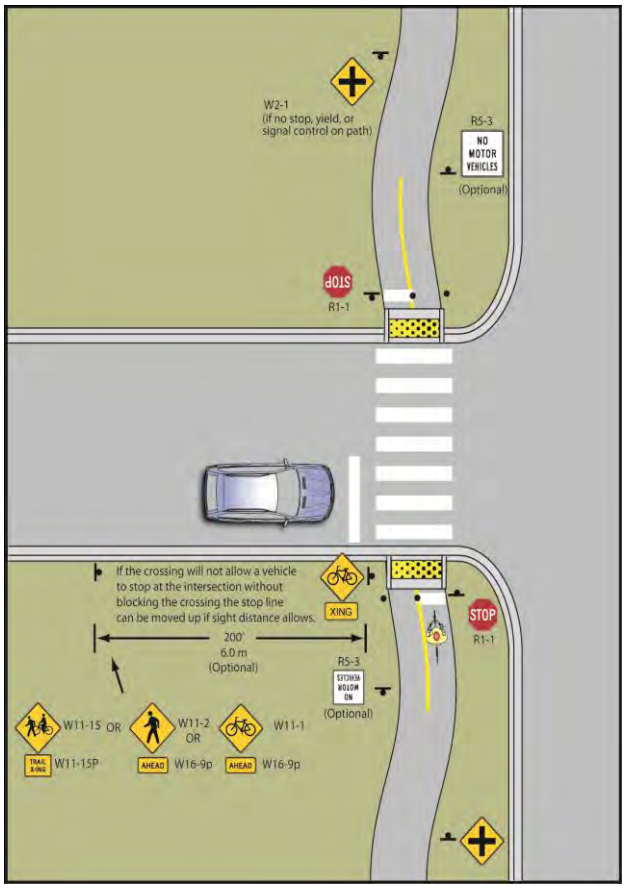
Design Summary

Type 1: Marked/Un-signalized; Type 1+: Marked/Enhanced

Discussion

An unprotected crossing (Type 1) consists of a crosswalk, signing, and often no other devices to slow or stop traffic. The approach to designing crossings at mid-block locations depends on an evaluation of vehicular traffic, line-of-sight, trail traffic, use patterns, vehicle speed, road type and width, and other safety issues such as the proximity of schools. Unprotected crossings may be acceptable when the following thresholds are met:

- Install crosswalks at all trail-roadway crossings
- Maximum traffic volumes:
  - Up to 15,000 ADT on two-lane roads, preferably with a median.
  - Up to 12,000 ADT on four-lane roads with median.
- Maximum travel speed
  - 35 mi/h
- Minimum line of sight:
  - 25 mi/h zone: 250 feet
  - 35 mi/h zone: 350 feet
  - 45 mi/h zone: 450 feet



[26] Federal Highway Administration (FHWA) Report, "Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations."

[27] In particular, the recommendations in this report are based in part on experiences in cities like Portland, OR; Seattle, WA; Tucson, AZ; and Sacramento, CA, among others.

On two lane residential and collector roads below 15,000 ADT with average vehicle speeds of 35 mi/h or less, crosswalks and warning signs ("Bike Xing") should be provided to warn motorists, and stop signs and slowing techniques (bollards/geometry) should be used on the trail approach. Care should be taken to keep vegetation and other obstacles out of the sight line for motorists and trail users. Engineering studies should be done to determine the appropriate level of traffic control and design.

A flashing yellow beacon or embedded pavement lights, may be used with a marked crosswalk, preferably one that is activated by the trail user rather than operating continuously. Some jurisdictions have successfully used flashing lights activated by motion detectors on the trail, triggering the lights as trail users approach the intersection. This equipment, while slightly more expensive, informs motorists about the presence of trail users. This type of added warning would be especially important at locations with restricted sight distance.

Design Summary

- Type 2: Route Users to Existing Signalized Intersection
- Type 3: Signalized/Controlled Crossings

Discussion

Grade-separated crossings are needed where ADT exceeds 25,000 vehicles, and 85th percentile speeds exceed 45 mi/h. Safety is a major concern with both overcrossings and under-crossings. When designed properly, grade-separated crossings practically eliminate any safety concerns related to crossing a roadway.

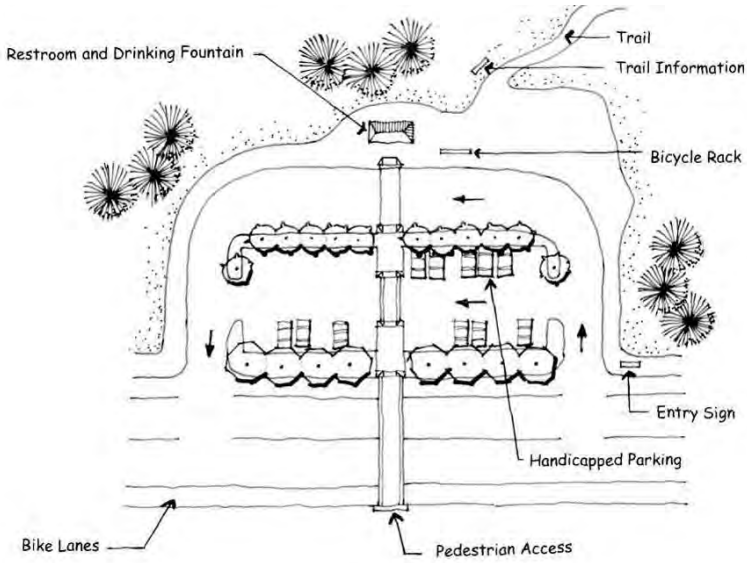
Grade-separated crossing approaches should minimize the out-of-direction travel required by the trail user, so that users don't alternatively attempt to dart across the roadway. Under-crossings, like parking garages, have the reputation of being places where crimes occur, but these safety concerns can be addressed through design. An undercrossing can be designed to be spacious, well-lit, equipped with emergency cell phones at each end, and completely visible for its entire length prior to entering. For cyclists and pedestrians, vertical clearance should be kept to a minimum of 8 feet.

Over-crossings (or bridges), avoid darkness and safety concerns that occur with an at- or below-grade option. Any bicycle and pedestrian bridge needs to be approached via ADA compliant ramps (running slopes less than 5 percent). Bridges present unique opportunities for creating landmark architectural and artistic statements.

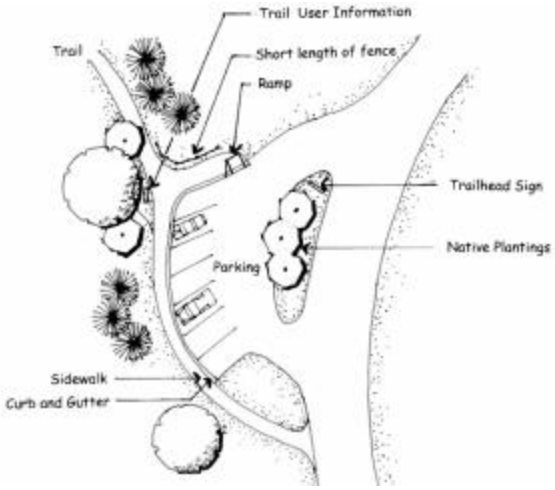
Trailheads

Good access to a path system is a key element for its success. Trailheads (formalized parking areas) serve the local and regional population arriving to the path system by car, transit, bicycle, or other modes. Trailheads provide essential access to the trail system and include amenities like parking for vehicles and bicycles, restrooms (at major trailheads), and posted maps. A central information installation also helps users find their way and acknowledge the rules of the path. They are also useful for interpretive education about plant and animal life, ecosystems, and local history.

Major Trailhead



Trailhead with Small Parking Area



Path Amenities

A variety of amenities can make a path inviting to the user. The following table highlights some common items that make path systems stand out. Costs vary depending on the design and materials selected for each amenity.

Interpretive Installations and Art

Interpretive installations and signs can enhance the users experience by providing information about the history of Easley and the surrounding area. Installations can also discuss local ecology, environmental concerns, and other educational information.

Local artists can be commissioned to provide art for the pathway system, making it uniquely distinct. Many pathway art installations are functional as well as aesthetic, as they may provide places to sit and play on.

Water Fountains and Bicycle Parking

Water fountains provide water for people (and pets, in some cases) and bicycle racks allow recreational users to safely park their bikes if they wish to stop along the way, particularly at parks and other desirable destinations.

Pedestrian-Scale Lighting, Furniture, and Restrooms

Pedestrian-scale lighting improves safety and enables the facility to be used year-round. It also enhances the aesthetic of the pathway. Lighting fixtures should be consistent with other light fixtures in the city, possibly emulating a historic theme.

Providing benches at key rest areas and viewpoints encourages people of all ages to use the pathway by ensuring that they have a place to rest along the way. Benches can be simple (e.g., wood slates) or more ornate (e.g., stone, wrought iron, concrete).

Restrooms benefit path users, especially in more remote areas where other facilities do not exist. Restrooms can be sited at major trailheads or at other strategic locations along the path system.

Maps and Signage	
A comprehensive signing system makes a bicycle and pedestrian system stand out. Informational kiosks with maps at trailheads and other pedestrian generators can provide enough information for someone to use the network with little introduction – perfect for areas with high out-of-area visitation rates as well as the local citizens.	

Path Safety and Security

Design Summary

Various design and programmatic measures can be taken to address safety issues on a shared-use path. This table summarizes key safety issues and strategies for minimizing impacts.

Discussion

Privacy of adjacent property owners

- Encourage the use of neighborhood friendly fencing and also planting of landscape buffers
- Clearly mark path access points
- Post path rules that encourage respect for private property
- Strategically placed lighting

Unwanted vehicle access on the path

- Utilize landscaping to define the corridor edge and path, including earth berms and large boulders.
- Use bollards at intersections
- Pass a motorized vehicle prohibited ordinance and sign the path
- Create a "Path Watch Program" and encourage citizens to photograph and report illegal vehicle use of the corridor
- Lay the trail out with curves that allow bike/ped passage, but are uncomfortably tight for automobile passage

Litter and dumping

- Post rules encouraging pack-it-in/pack-it-out
- Place garbage receptacles at trailheads
- Strategically-place lighting, utilize light shields to minimize light in adjacent homes
- Manage vegetation within the right-of-way to allow visual surveillance of the path from adjacent properties and from intersections

Surveillance from nearby buildings and pedestrian-scale lighting can increase trail safety.

Crime

- Manage vegetation to ensure corridor visibility from adjacent streets/residences
- Select shrubs that grow below 3 feet in height and trees that branch out greater than 6 feet in height
- Place lights strategically and as necessary
- Place benches and other amenities at locations with good visual surveillance and high activity
- Provide mileage markers at quarter-mile increments and directional signage for orientation
- Create a "Path Watch Program" involving local residents
- Proactive law enforcement. Utilize the corridor for mounted patrol training

Private use of corridor

- Attempt to negotiate win/win solutions with property owners
- Eliminate where detrimental impact to path cannot be reasonably ameliorated

Vandalism

- Select benches, bollards, signage, and other site amenities that are durable, low-maintenance and vandal resistant.
- Respond through removal or replacement in rapid manner
- Keep a photo record of all vandalism and turn

- Encourage local residents to report incidents as soon as they occur
- Remove dumpsites as soon as possible

Trespassing

- Clearly distinguish public path right-of-way from private property through the use of vegetative buffers and good neighbor fencing
- Post path rules encouraging respect for property

Local on-street parking

- Post local residential streets as parking for local residents only to discourage path user parking
- Place "no outlet" and "no parking" signs prior to path access points

over to local law enforcement

- Encourage residents to report vandalism
- Create a Trail Watch Program; maintain good surveillance of the corridor.
- Involve neighbors in path projects to build a sense of ownership
- Place amenities in well used/visible areas

Community Involvement with Safety on the Path

Summary

Creating a safe path environment goes beyond design and law enforcement and should involve the entire community. The most effective and most visible deterrent to illegal activity on Easley's path system will be the presence of legitimate path users. Getting as many "eyes on the corridor" as possible is a key deterrent to undesirable activity.

"Share the Path" and other community programs raise awareness of safety and other trail issues.

Discussion

Provide good access to the path

Access ranges from providing conveniently located trailheads along the path, to encouraging the construction of sidewalks to accommodate access from private developments adjacent to the path. Access points should be inviting and signed so as to welcome the public onto the path.

Good visibility from adjacent neighbors

Neighbors adjacent to the path can potentially provide 24-hour surveillance of the path and can become Easley's biggest ally. Though some screening and setback of the path is needed for privacy of adjacent neighbors, complete blocking out of the path from neighborhood view should be discouraged. This eliminates the potential of neighbors' "eyes on the path," and could result in a "tunnel effect" on the path.

High level of maintenance

A well-maintained path sends a message that the community cares about the public space. This message alone will discourage undesirable activity along the path.

Programmed events

Community events along the path will help increase public awareness and thereby attract more people to use the path. Neighbors and residents can help organize numerous public events along the path which will increase support for the path. Events might include a day-long path clean up or a series of short interpretive walks led by long time residents or a park naturalist.

Community projects

Nearby businesses, community institutions, and residential neighbors often see the benefit of their involvement in the path development and maintenance. Businesses and developers may view the path as an integral piece of their site planning and be willing to take on some level of responsibility for the path. Creation of an adopt-a-path program should be explored to capitalize on this opportunity and build civic pride.

Adopt-a-Path Program

Nearby businesses, community institutions, and residential neighbors often see the benefit of their involvement in the path development and maintenance. Businesses and developers may view the path as an integral piece of their site planning and be willing to take on some level of responsibility for the path. Creation of an adopt-a-path program should be explored to capitalize on this opportunity and build civic pride.

Path Watch Program

Partnering with local law enforcement, a path watch program would provide an opportunity for local residents to become actively involved in crime prevention along Easley's path system. Similar to Neighborhood Watch programs, residents are brought together to get to know their neighbors, and are educated on how to recognize and report suspicious activity.

Wayfinding Signage

Design Summary

Costing about $125 each, wayfinding signs are a relatively cost-effective means for improving the walking and bicycling environment.

Discussion

The ability to navigate through a city is informed by landmarks, natural features, and other visual cues. Placing signs throughout the city indicating to bicyclists their direction of travel, location of destinations, and the riding time/distance to those destinations will increase users' comfort and accessibility to the bicycle system. Wayfinding signs also visually cue motorists that they are driving along a bicycle route and should use caution. Signs are typically placed at key locations leading to and along bicycle routes, including the intersection of multiple routes. Too many road signs tend to clutter the right-of-way, and it is recommended that these signs be posted at a level most visible to bicyclists and pedestrians, rather than per vehicle signage standards.

Wayfinding Signage Concept

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XI. Action Plan and Next Steps

Creating the Brushy Creek Greenway project will take sustained effort with many partners. In order to advance the project, the following next steps are recommended:

- **Initiate the Design Phase**: Upon approval of this Study, the project should be advanced to the next phase, which will be the development of detailed design and contract documents that will lead to bidding and construction. Much of the trail will be located in the floodplain, an area that is not suitable for most structures. The key will be to get this process to happen quickly to maintain the momentum created by this Feasibility Study.

- **Record the Right-of-Way:** This will ensure that the proposed alignment for the trail is recorded in a planning document and is made available for public access. This will involve keeping an eye open for opportunities, such as redevelopment opportunities, or acquisition of lands by the City. The majority of the formal right-of-way acquisition process will take place during the design development phase of the project, but that process will be more effective if there is an ongoing effort throughout the corridor.

- **"Early Win" Projects:** Support and action at the local level will grow out of small successes that move the project forward. Neighborhood cleanups and "adoption" of future trail sections can help build long-term support. Frequent ribbon cuttings, festivals, and events create long term visibility for the project. Celebrating every opportunity, no matter how small, can be just as important as a major ribbon cutting for the finished project. Local organizations and agencies can be involved in creating sections of the trail that can be linked over time into the overall concept.

- **Fundraising and Grant Writing:** There are a variety of funding sources available for projects like Brushy Creek Greenway, and all available opportunities should be pursued, including federal transportation funds, regional TIP funding, active living/health initiatives, energy grants, economic stimulus funding, environmental restoration funds and other sources. Engaging the region's state and federal elected officials is an ongoing process that is essential for success.

- **Create a Maintenance Endowment:** Many successful trails establish a fund for ongoing operation and maintenance. Starting this effort at the beginning of a trail project will help sustain the effort in the future. This is also an item that a local philanthropy, corporation or individuals can contribute to.

- **Public-Private-Non-Profit Partnership:** Establish a "Friends of the Brushy Creek Greenway" non-profit organization to advocate for the project, and keep the Brushy Creek Greenway Advisory Committee and other agencies involved in advancing the project. This non-profit organization can coordinate volunteers, develop an "adopt-a-mile" program and raise funds through the sale of trail elements including benches, bridges, trailheads, public art, bike racks, and trees.

With these actions moving forward, Brushy Creek Greenway will be a significant asset for the City's residents, businesses, and visitors and bring a tremendous element of recreational and transportation infrastructure to the entire community.

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XII. Appendix A – Stakeholder Contact Information

Stakeholder	Contact Information	Location	Contact Phone	Meeting Date
Pickens County YMCA	Sid Collins, CEO	201 Burns Road, Easley, SC 29640	(864) 855-9622	4-Nov-10
Property Owners Along Alignment	Various	Various	Various	4-Nov-10
Fort Hill Natural Gas Authority	Ken Porter, President; and Dale Hampton, CEO	311 South Pendleton Street, Easley, SC 29640	(864) 859-6375	15-Nov-10
Easley Parks and Recreation	Gregg Powell, Director	Larry D. Bagwell Gym, J.B. "Red" Owens Complex, 111 Walkers Way, Easley, SC 29642	(864) 855-7933	15-Nov-10
Easley Stormwater Department	Tommy Holcombe, Building Official	205 N 1st St Easley, SC	(864) 855-7908	15-Nov-10
Upstate Forever	Nancy Fitzer, Education Director	P.O. Box 2308, Greenville, SC 29602	(864) 250-0500	15-Nov-10
Baptist Easley Hospital	Mike Smith, Purchasing Agent	200 Fleetwood Drive Easley, SC 29620	(864) 442-7200	15-Nov-10
Pickens County School District	Robert Folkman, Building Program Administrator	415 Ann Street, Pickens, SC 29671	(864) 878-6277	15-Nov-10
South Carolina Department of Transportation	Eric Dillon, District 3 Traffic Engineer	P.O. Box 877, Pickens, SC 29671	(864) 241-1010	9-Dec-10
USACE Charleston District	Kristin Riegel	Northwest Branch, 1835 Assembly St., Room 865 B-1, Columbia, SC 29201	(803) 253-3903	6-Jan-11
SCDNR (SC Department of Natural Resources)	Vivianne Vejdani	P.O. Box 167, 1000 Assembly Street, Room 202, Columbia, South Carolina 29202	(803) 734-4199	6-Jan-11
SCDHEC: Water Quality Certification and Wetlands Section, Water Quality Division, Bureau of Water	Alicia M. Rowe	2600 Bull Street, Columbia, SC 29201	(803) 898-4333	6-Jan-11

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XIII. Appendix B – Summary of Public Input

Easley Brushy Creek Greenway Public Meeting Summary Notes - November 15, 2010, Bagwell Recreation Center

Breakout Group #1

(Phil, Patrick Gramlin, Johnny Skinner, Larry Bagwell (mayor), Scott Buckheister - Dunbirk's Premier Events downtown)

- Mrs. Reeves - owns property (mayor has contact info for her, heard she wants $2 million)
- Jennifer Willis: Pickens County has earmarked $ for developing natural resources (waterways)
- JC Smith Surveying - willing commercial seller - should break cost estimate up into phases

Destinations/Important Areas

- Country Club - would want to connect along utility corridor
- Trailhead opportunity: First Baptist Church
- connect trail to YMCA via easement
- parking - possible at Brushy Creek Baptist Church
- go all the way to Anderson County

Dealing with 123:

- Utilize overpass at Rt. 8 and Brushy Creek Rd.
    - would become a more urban environment (such as at Traveler's Rest that encourages businesses to have trail as parking lot)
- If crossing at Washington (west side of creek) could use new City parkland as Mountain bike park - (already happening at City's newly purchased parkland -- at this location?)
- Want to see parts of it build even if crossing 123 is cost prohibitive
- Can get up to 123 via property next to Phil's property (Anchor Pools) - property could create crossing that would need to be on a cross street

Trail Specifics:

- Trail should be at least 12 feet wide

Further contacts:

- Talk to county - Phil mentioned Jennifer on Council (in regards to funding)

Breakout Group #2

(Hans, Tia, Tom, Don, Christine)

- wider is better for trail
- easy connections to trail with gridded streets in downtown
- need connection to new town center development
- access to downtown stores - get local businesses involved (pizzeria, etc)
- more access to path the better (bike lanes, etc)
- town needs bike shop

- suggested for mountain bike access (establish parallel/nearby mountain bike trails)
- amenity for residential neighborhoods (cyclists use to get out of town)
- connect with park behind Rock Springs Park

Connection with High School:

- connect high schools with bike path (Easley-Wren)
- events on trail - 'bike to ball game'
- concern with safety of high-schoolers driving near bikers

Connection with hospital:

- most people don't know where hospital is; could be boon for hospital (traffic/awareness)

Sign-in:

Fox Simons -	fsimons@cityofeasley.com
Louise Hartsell -	lhartsell@elliottdavis.com
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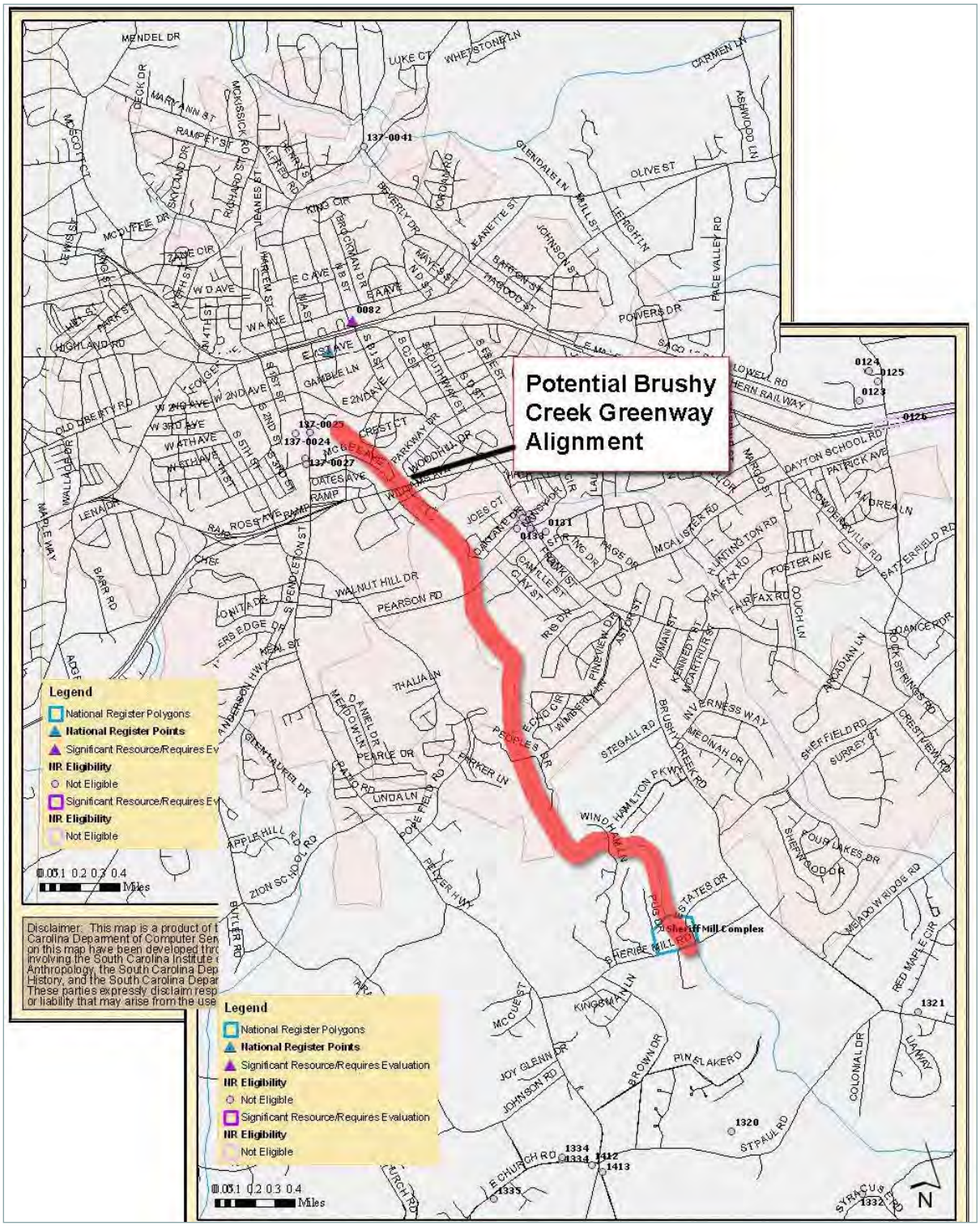
Candice Harper	charper@theeasleyprogress.com
Christine daVlaming	christine.daVlaming@Hvar.com
Tom Prostko	trp13153@aol.com
Tia Prostko Smith	trpsmith6@gmail.com
Kent Dyke	kent@easleychamber.org
Nicole Daughertee	nicole@thepccourier.com
Hans Nutz	hansnutz@gmail.com
Erin Nutz	erinnutz@t3pd.com
Brain Garrison	brngrrsn@aol.com
Patrick Gramblin	patrick.gramblin@bmwmc.com

XIV. Appendix C - Cultural and Historic Resources



XIV-1: Cultural and historic resources along Brushy Creek. Source: ArchSite website offered by the South Carolina Institute of Archaeology and Anthropology, and the South Carolina Department of Archives and History.

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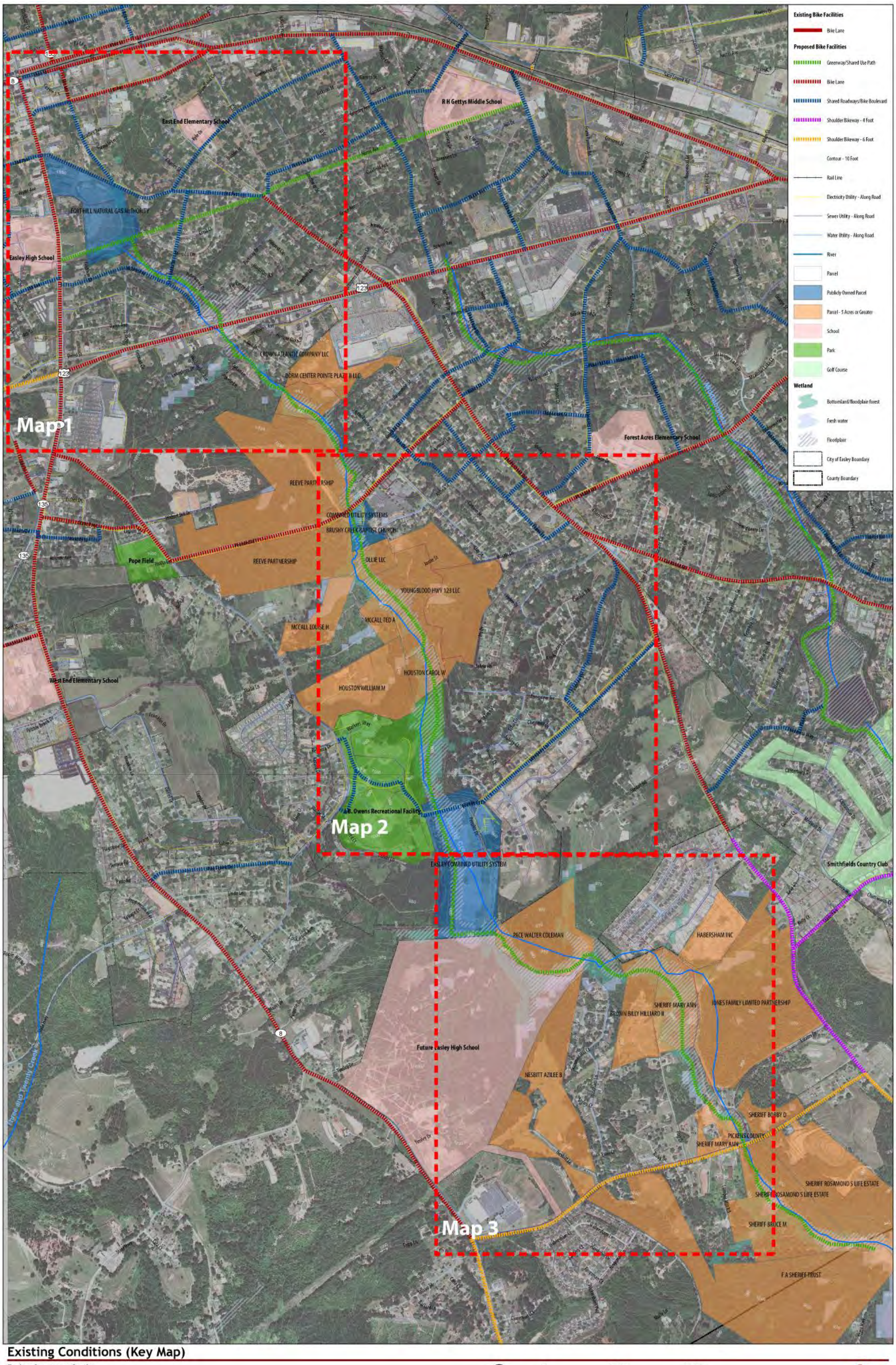
XV. Appendix D – Proposed Alignment: Larger Scale Maps

The greenway corridor has been broken into three maps according to the key map figure below. The three maps that follow depict the proposed alignment of Brushy Creek Greenway at a larger scale. These maps will assist the City in the right-of-way acquisition process for implementing the Brushy Creek Greenway. Final alignment will depend upon further study and negotiations with property owners.

Map XV-1: Brushy Creek Greenway Proposed Alignment Key Map



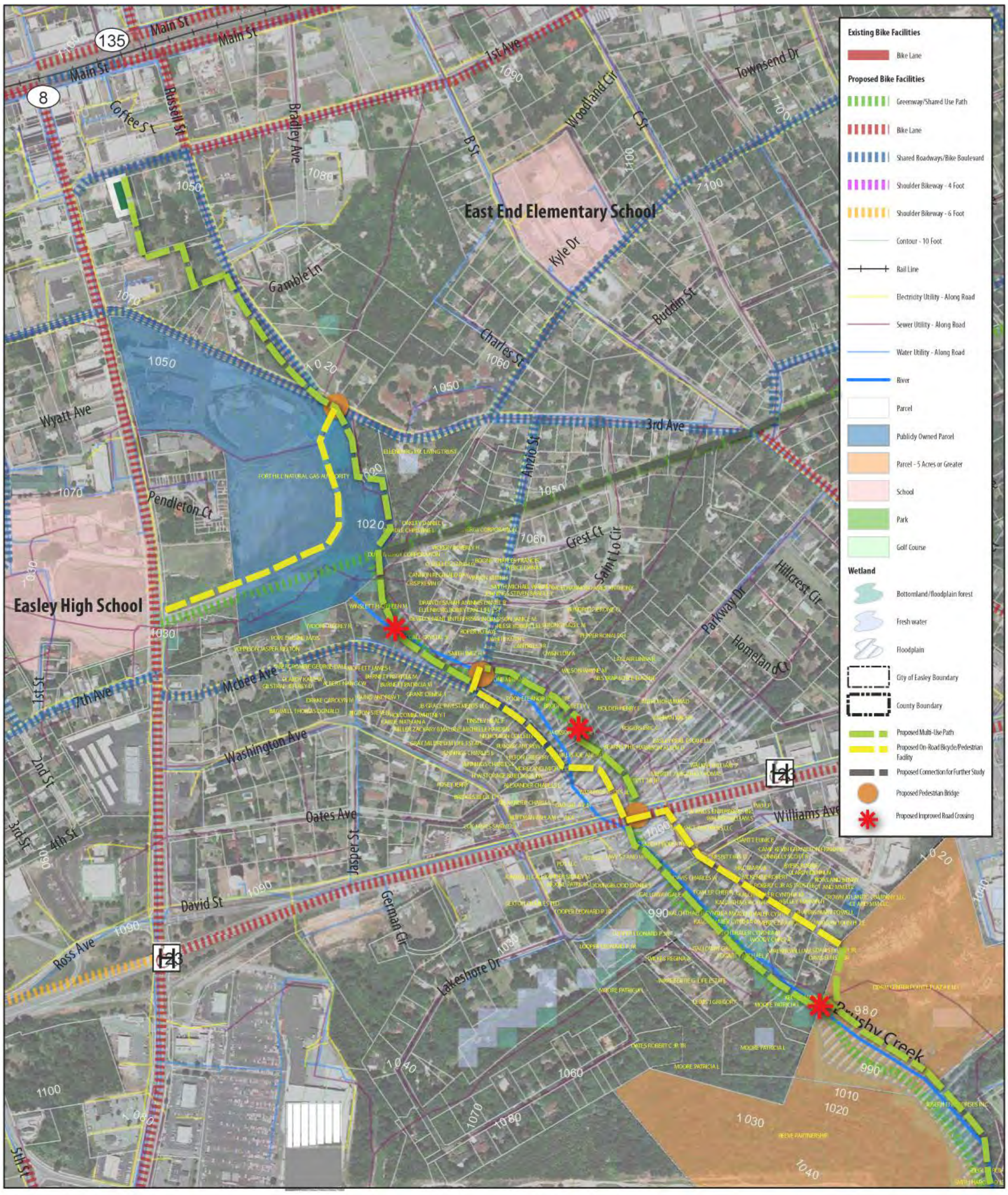
Existing Conditions (Key Map)

Easley Greenway Study
Easley, SC
Source: Data obtained from Pickens County, SC. Wetland data from SC Department of Natural Resources.
Author: Roy Harju
Date: 10/06/10

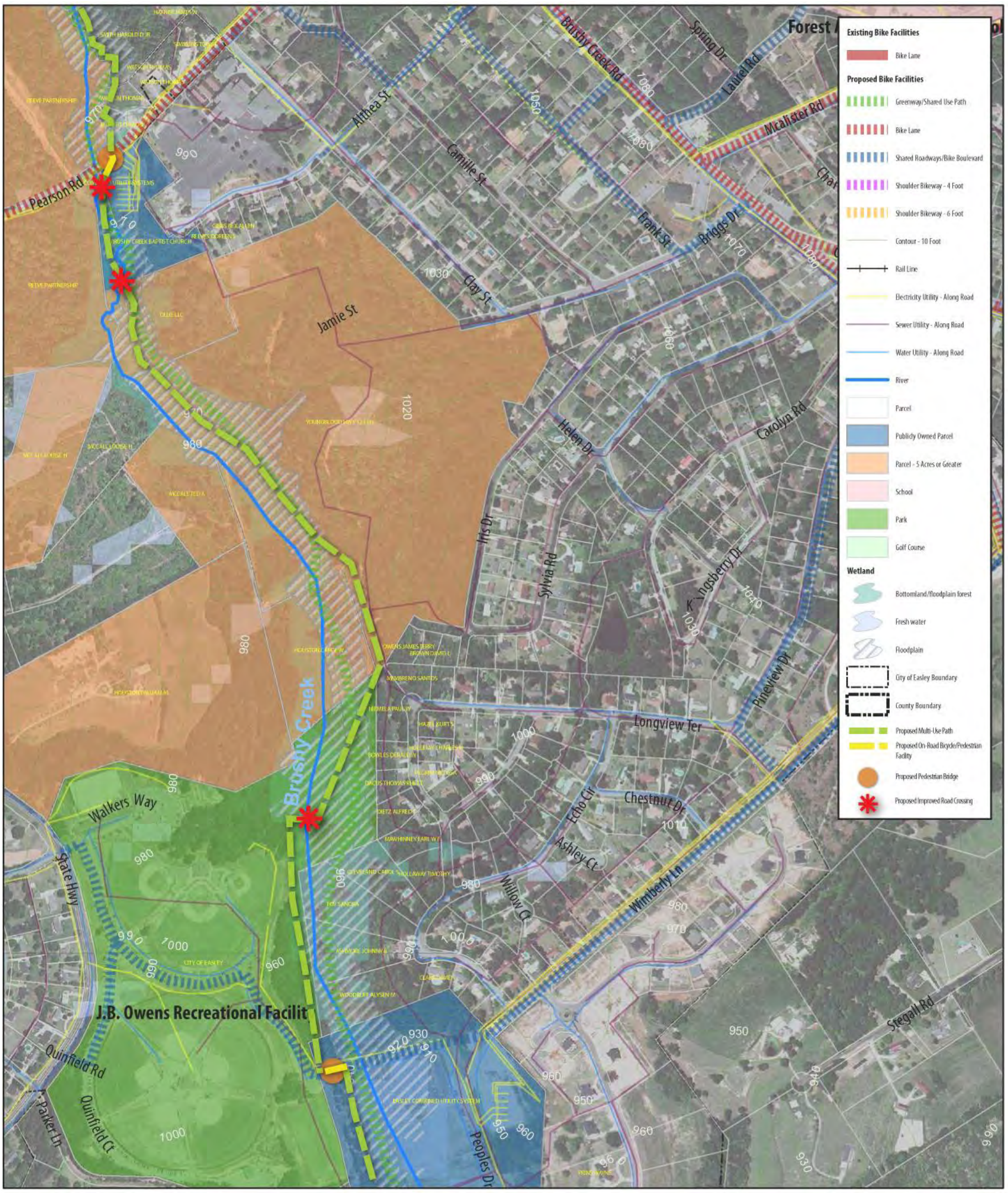
0 1,100 2,200 Feet

alta PLANNING + DESIGN

Map XV-2: Map 1 - North Section



Map XV-3: Map 2 - Central Section



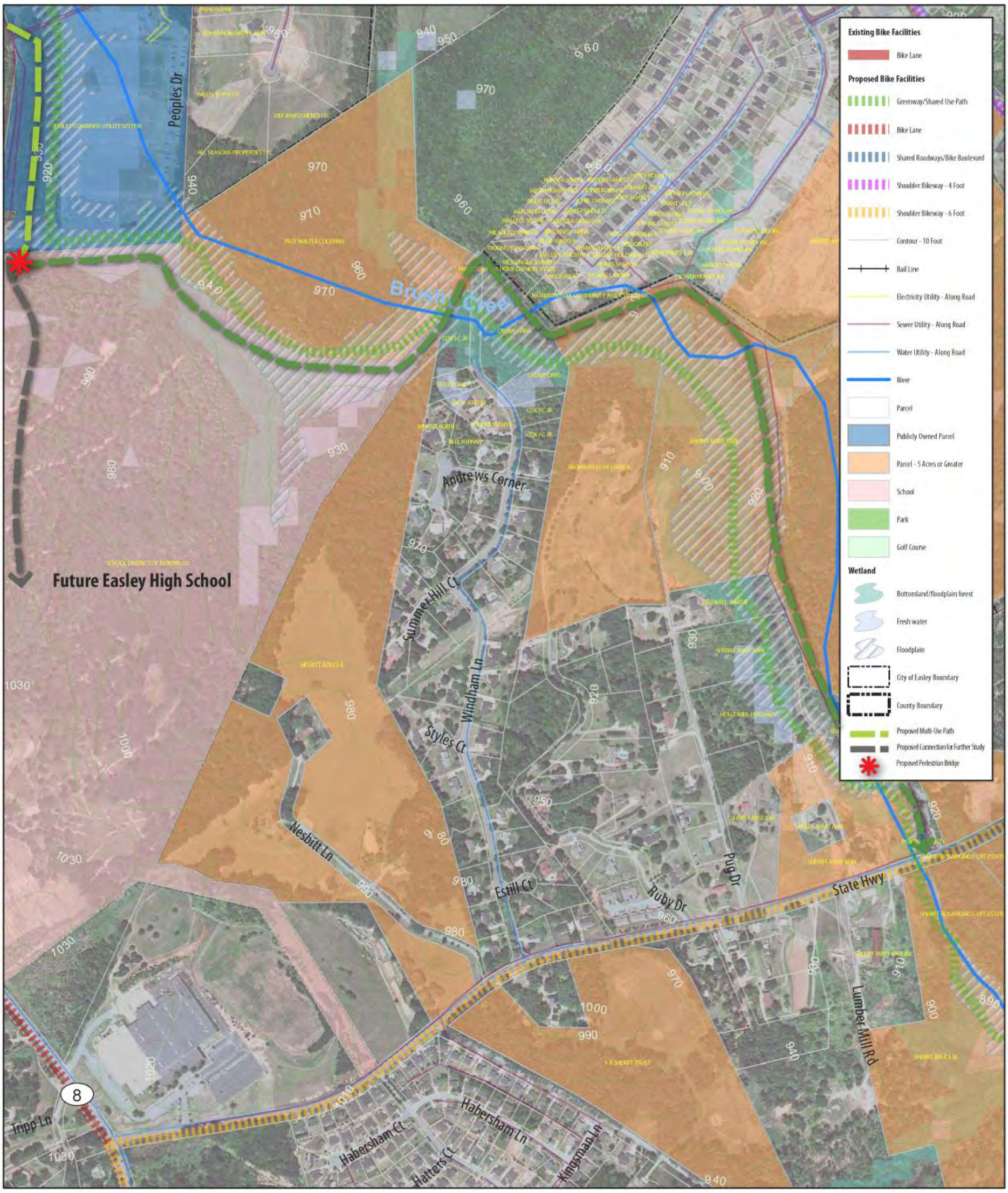
Map 2

Easley Greenway Study
Easley, SC

Source: Data obtained from Pickens County, SC. Wetland data from SC Department of Natural Resources.
Author: Roy Harju
Date: 10/06/10

0 600 1,200 Feet

Map XV-4: Map 3 - South Section



Map 3

Easley Greenway Study
Easley, SC

Source: Data obtained from Pickens County, SC. Wetland data from SC Department of Natural Resources.
Author: Roy Harju
Date: 10/06/10

0 550 1,100 Feet

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XVI. Appendix E – Detailed Cost Estimate

Table XVI-1: Detailed cost estimate

Item	Description	Unit	Unit Cost	Quantity	Segment: Northern Terminus to Highway 123	Quantity	Segment: Highway 123 to Pearson Road	Quantity	Segment: Pearson Road to Southern Terminus
Off-road Pedestrian and Bicycle Facilities									
1.00	Construct 12-foot shared-use path	LF	$200.00	3769.08	$753,816.00	3,461.40	$692,280.00	4153.68	$830,736.00
1.01	Construct 10-foot crushed stone walkway	LF	$31.25						
1.02	Construct 12-foot wooden or recycled synthetic material boardwalk	LF	$518.75	1076.88	$558,631.50			1923	$997,556.25
1.03	Crosswalk: High Visibility Striping - Thermo	LF	$18.75	240.00	$4,500.00	48.00	$900.00	48.00	$900.00
1.04	Crosswalk: High Visibility Striping - Paint	LF	$2.00						
1.05	Small Bike/Ped Bridge 12' width	LF	$2,025.00	108	$218,700.00	36.00	$72,900.00	108	$218,700.00
1.06	Cross-bike	LF	$18.75	48	$900.00				
On-road Bicycle and Pedestrian Facilities									
1.07	Curb Ramps	ea	$1,875.00	2	$3,750.00	2	$3,750.00	2	$3,750.00
1.08	Raised Median Refuge Island	ea	$25,000.00	1	$25,000.00				
1.09	Mid-block ped signal across 2 or 3 lanes	ea	$46,250.00	1	$46,250.00				
1.10	HAWK (crossing 2 to three vehicle travel lanes)	ea	$33,333.00	2	$66,666.00	1	$33,333.00		

Item	Description	Unit	Unit Cost	Quantity	Segment: Northern Terminus to Highway 123	Quantity	Segment: Highway 123 to Pearson Road	Quantity	Segment: Pearson Road to Southern Terminus
1.11	Sharrow	ea	$100.00	9	$900.00	3	$300.00		
Item	Description	Unit	Unit Cost	Quantity	Segment: Northern Terminus to Highway 123	Quantity	Segment: Highway 123 to Pearson Road	Quantity	Segment: Pearson Road to Southern Terminus
Site Amenities									
1.12	Benches (2 per mile recommended)	ea	$1,125.00	2	$2,250.00	2	$2,250.00	2	
1.13	Bicycle rack (at trailheads)	ea	$281.25	2	$562.50				
1.14	Drinking fountains, with pet fountain (1/mile)	ea	$2,500.00	1	$2,500.00				
1.15	Picnic tables/ tables (at trailheads)	ea	$687.50	2	$1,375.00				
1.16	Trash receptacles (32-gallon, steel)(at trailheads)	ea	$375.00	1	$375.00				
1.17	Bollards (1 at each trail/road intersection)	ea	$750.00	10	$7,500.00	2	$1,500.00	2	
1.18	Parking (10-car lot)(at trailheads)	ea	$27,500.00						
1.19	Parking (20-car lot)(at trailheads)	ea	$68,750.00	1	$68,750.00				

Item	Description	Unit	Unit Cost	Quantity	Segment: Northern Terminus to Highway 123	Quantity	Segment: Highway 123 to Pearson Road	Quantity	Segment: Pearson Road to Southern Terminus
Signage									
1.20	Mile Markers	ea	$275.00	2	$550.00	2	$550.00	2	$550.00
1.21	Trail and street regulatory/warning signs	ea	$275.00	3	$825.00	2	$550.00	2	$550.00
1.22	Directional signs	ea	$275.00	6	$1,650.00	2	$550.00	3	$825.00
1.23	Educational signs	ea	$412.50	1	$412.50				
	Subtotal				$1,765,863.50		$808,863.00		$2,053,567.25
	Engineering fee 10% (includes construction admin)				$176,586.35		$80,886.30		$205,356.73
	Contingency 10%				$176,586.35		$80,886.30		$205,356.73
	TOTAL				**$2,119,036.20**		**$970,635.60**		**$2,464,280.70**
								GRAND TOTAL	**$5,553,952.50**

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XVII. Appendix F: Property Owners Along Proposed Alignment

Table XVII-1: Property owners along proposed alignment

Pin Number	Acreage	Property Owner Name	Property Address	City	Zip	Property Owner Address	City	Zip
5028-14-43-1822	63.92	City Of Easley	Po Box 466	Easley	296410466	201 Peoples Dr	Easley	296420000
5027-07-59-1812	166.12	School District Of Pickens Co	1348 Griffin Mill Rd	Easley	29640	1249 Pelzer Hwy	Easley	296420000
5027-08-89-5590	3.80	Sheriff Mary Ann	525 Sheriff Mill Rd	Easley	296429783	531 Sheriff Mill Rd	Easley	296420000
5027-08-89-5590	20.12	Sheriff Mary Ann	525 Sheriff Mill Rd	Easley	296429783	531 Sheriff Mill Rd	Easley	296420000
5028-20-81-9447	13.42	Habersham Inc	1909 East Main St	Easley	29640			000000000
5028-14-43-8652	2.83	Woodruff Alysen M	508 Echo Cir	Easley	29642	508 Echo Cir	Easley	29642
5028-15-54-1107	1.99	Cleveland Carol S	502 Echo Cir	Easley	296423013	502 Echo Cir	Easley	29642
5028-14-44-8122	2.80	Foy Sandra	504 Echo Cir	Easley	296423013	504 Echo Cir	Easley	29642
5028-14-43-8837	2.49	Ashmore Johnny B	506 Echo Cir	Easley	296423013	506 Echo Cir	Easley	29642
5028-15-54-2796	0.43	Pilgrim Melissa	311 Longview Terrace	Easley	29642	311 Longview Ter	Easley	29642
5028-15-54-2897	0.48	Holliday Charles H	309 Longview Ter	Easley	296423020	309 Longview Ter	Easley	29642
5028-15-54-1507	0.75	Dietz Alfred T	318 Longview Ter	Easley	296423019	318 Longview Ter	Easley	29642
5028-15-54-2996	0.55	Hazel Kurt S	307 Longview Ter	Easley	296423020	307 Longview Ter	Easley	29642
5028-15-54-0885	0.50	Bowles Derald W	314 Longview Ter	Easley	296423019	314 Longview Ter	Easley	29642
5027-08-89-5590	7.37	Sheriff Mary Ann	525 Sheriff Mill Rd	Easley	296429783	531 Sheriff Mill Rd	Easley	296420000
5028-15-54-0781	0.52	Dacus Thomas Rhett	316 Longview Ter	Easley	29642	316 Longview Ter	Easley	29642
5019-19-62-7343	0.52	Duke Energy Corporation	422 S Church St	Charlotte	282420001			

Pin Number	Acreage	Property Owner Name	Property Address	City	Zip	Property Owner Address	City	Zip
5029-17-01-5980	0.41	Prindle Christine L	114 Saint Lo Cir	Easley	296403518	114 Saint Lo Cir	Easley	29640
5029-17-01-7932	0.25	Oakley Daniel L	113 Saint Lo Cir	Easley	296403517	113 Saint Lo Cir	Easley	296400000
5019-19-62-7343	0.28	Duke Energy Corporation	422 S Church St	Charlotte	282420001			
5029-17-01-6644	0.86	Crisp Kevin C	116 Saint Lo Cir	Easley	29642	116 Saint Lo Cir	Easley	29640
5029-17-01-4533	2.00	Winslett Hazeleen M	201 Mcbee Ave	Easley	29640	201 Mcbee Ave	Easley	29640
5029-17-20-4133	0.34	Oates Robert C Jr. As Trustee	111 Hale St	Easley	296421019	303 Gail St	Easley	296420000
5019-20-92-9254	24.25	Fort Hill Natural Gas Authority	Po Box 189	Easley	296410272	311 S Pendleton St	Easley	296400000
5029-17-02-6212	2.63	Ellenburg M L Living Trust	204 E 2nd Ave	Easley	296403006	204 E 2nd Ave	Easley	29640
5029-17-01-8822	0.34	Vickery Beverly H	Po Box 708	Easley	29641	115 Saint Lo Cir	Easley	29640
5029-17-01-7773	0.36	O`Shields Sarah G	117 Saint Lo Cir	Easley	296403517	117 Saint Lo Cir	Easley	29640
5029-17-20-4249	0.17	Connelly Scott R	139 Hollow Oaks Lane	Easley	29642	139 Hollow Oaks Ln	Easley	29642
5028-15-62-0504	2.02	Bohannon Nikole Ann	232 Wimberly Farms Ln	Easley	296420000	232 Wimberly Farms Ln	Easley	296420000
5028-20-90-4755	67.20	Jones Family Limited Partnership	15 Bachman Ct	Greenville	296053102	1338 Brushy Creek Rd	Easley	296420000
5028-06-39-2705	22.35	Ddrm Center Pointe Plaza Ii Llc	3300 Enterprise Parkway	Beachwood	44122			
5028-05-29-1749	3.13	Galloway Gale C	Po Box 1335	Pickens	296711335	123 Cotton Ln	Easley	29642
5028-05-29-2960	0.34	Kalchthaler Cynthia M	Po Box 74	Sunset	29685	105 Creek Side Ct	Easley	29642
5028-05-29-3889	0.15	Woody Chris A	101 Fox Hollow Ct	Simpsonville	29680	108 Wells St B	Easley	29642
5028-05-29-3822	0.25	Fogarty Michael F	411 Jameson Dr	Piedmont	29673	118 Wells St	Easley	29642
5028-05-19-8777	0.51	Wilkes Regina A	101 Ware Ln	Easley	29642	101 Ware Ln	Easley	29642

Pin Number	Acreage	Property Owner Name	Property Address	City	Zip	Property Owner Address	City	Zip
5028-05-19-9697	0.55	Ware Bertie G Life Estate	103 Ware Ln	Easley	29642	103 Ware Ln	Easley	29642
5028-05-19-7921	1.20	Looper Leonard P Jr	415 Washington Ave	Easley	296421101			
5028-05-19-6654	0.50	Moore Patricia L	200 Lakeshore Dr	Easley	29642			
5028-06-39-6376	0.44	Way Jerry E	210 Brookview Cir	Easley	296421714	210 Brookview Cir	Easley	29642
5028-05-29-4860	0.66	Walker William S	Po Box 766	Liberty	296579002	121 Wells St	Easley	296420000
5028-06-29-6802	0.26	Davis Ellis H Jr	408 Gail St	Easley	296421168			
5028-06-38-9978	0.34	Brown Douglas M	127 Ballentine St	Easley	29642	127 Ballentine St	Easley	29642
5028-06-38-7995	0.50	Baldwin Ray H	201 Brookview Cir	Easley	296421715	201 Brookview Cir	Easley	29642
5028-06-38-6837	0.40	Cash Richard C	103 Timber Trace Way	Easley	296421715	213 Brookview Cir	Easley	29642
5028-06-38-7742	0.69	Chappell Brackett	219 Brookview Cir	Easley	296421715	219 Brookview Cir	Easley	29642
5028-06-39-8224	0.25	Young Jeff R	204 Brookview Cir	Easley	29640	204 Brookview Cir	Easley	29642
5028-06-39-8173	0.34	Hayes James M	126 Ballentine St	Easley	29642	126 Ballentine St	Easley	29642
5028-06-38-8835	0.56	Hall Charles D	103 Brookview Cir	Easley	296421713	103 Brookview Cir	Easley	29642
5028-06-39-3154	4.06	Joseph Enterprises Inc	303 Haverhill Cir	Easley	296421223			
5028-05-19-5864	0.96	Looper Leonard P Jr	415 Washington Ave	Easley	296421101	415 Washington Ave	Easley	29642
5028-05-29-1506	0.51	Lewis J Gregory	450 Newton Rd	Pickens	29671	107 Ware Ln	Easley	29642
5028-05-19-5864	0.65	Looper Leonard P Jr	415 Washington Ave	Easley	296421101	415 Washington Ave	Easley	29642
5028-06-39-7371	0.23	Alexander Nicholas O	206 Brookview Cir	Easley	29642	206 Brookview Cir	Easley	29642
5028-06-38-8184	0.26	Watson Thomas	486 Pearson Rd	Easley	29642	486 Pearson Rd	Easley	296420000

Pin Number	Acreage	Property Owner Name	Property Address	City	Zip	Property Owner Address	City	Zip
5028-15-54-2255	0.97	Hollaway Timothy	500 Echo Cir	Easley	29642	500 Echo Cir	Easley	29642
5028-15-53-3705	0.53	Clark David L	510 Echo Cir	Easley	296423013	510 Echo Cir	Easley	29642
5028-19-70-2609	0.61	Knox Jeffery	509 Windham Ln	Easley	29642	509 Windham Ln	Easley	296420000
5028-19-70-0538	0.75	Wright Robin C	104 Andrews Corner	Easley	29642	104 Andrews Corner	Easley	296420000
5028-19-71-4459	0.30	Truong Tuan Quoc	444 Hamilton Pkwy	Easley	29642	444 Hamilton Pkwy	Easley	296420000
5028-20-71-5647	0.22	Kaplan Bruce W	432 Hamilton Pkwy	Easley	29642	432 Hamilton Pkwy	Easley	296420000
5028-20-71-6416	0.21	Mauzey Timothy A	439 Hamilton Pkwy	Easley	29642	439 Hamilton Pkwy	Easley	296420000
5028-20-71-6597	0.21	Bracknell Anna	431 Hamilton Pkwy	Easley	29642	431 Hamilton Pkwy	Easley	296420000
5028-20-71-6386	0.37	Wood Rick J	240 Worcester Ln	Easley	29642	240 Worcester Ln	Easley	296420000
5028-20-71-9451	0.19	Rivers Sharon	229 Worcester Ln	Easley	29642	229 Worcester Ln	Easley	296420000
5028-20-70-5573	0.56	Cox J C Jr	213 Easley Hwy	Pelzer	296691046	504 Windham Ln	Easley	296420000
5028-20-70-5896	1.47	Crowe Greg	512 Windham Lane	Easley	29642	508 Windham Ln	Easley	296420000
5028-20-71-7272	2.59	Hamilton Park Community Association Inc	501 W Butler Rd Ste B	Greenville	29607			00000
5028-20-81-1824	0.23	Hyatt Robert Jr	202 Worcester Ln	Easley	29642	202 Worcester Ln	Easley	296420000
5028-20-71-8589	0.20	Burgess Michael P	224 Worcester Ln	Easley	296420000	224 Worcester Ln	Easley	296420000
5028-20-71-8544	0.20	Hurst Janice Dalton	228 Worcester Ln	Easley	29642	228 Worcester Ln	Easley	296420000
5028-20-71-7489	0.18	Tarbutton Kenneth Scott	7 Sweet Meadow Lane	Laguna Niguel	92677	232 Worcester Ln	Easley	296420000
5028-20-81-3346	0.70	Tower Homes Inc	Po Box 448	Greer	29652	245 Eastpark Way	Easley	296420000
5028-20-81-4349	0.42	Habersham Inc	1909 E Main St	Easley	29640	241 Eastpark Way	Easley	296420000

Pin Number	Acreage	Property Owner Name	Property Address	City	Zip	Property Owner Address	City	Zip
5028-20-81-4495	0.38	Tower Homes Inc	Po Box 448	Greer	29652	237 Eastpark Way	Easley	296420000
5028-20-81-5469	0.29	Tower Homes Inc	Po Box 448	Greer	29652	233 Eastpark Way	Easley	296420000
5028-19-70-1570	0.67	Bell Johnny	18 Shelton Rd	Greenville	29611	102 Andrews Corner	Easley	296420000
5028-20-71-5434	0.35	Messenger Shawn L	443 Hamilton Pkwy	Easley	296420000	443 Hamilton Pkwy	Easley	296420000
5028-19-71-4308	0.77	Hamilton Park Home Owners Assoc	501 W Butler Rd Suite B	Greenville	29607			
5028-20-71-6883	0.22	Painter John J	420 Hamilton Pkwy	Easley	29642	420 Hamilton Pkwy	Easley	296420000
5028-20-71-6738	0.22	Mason Kimberly R	424 Hamilton Pkwy	Easley	29642	424 Hamilton Pkwy	Easley	296420000
5028-20-81-0406	0.20	Reliant Holdings Llc	46 Saint Mark Road	Taylors	29687	225 Worcester Ln	Easley	296420000
5028-20-81-2606	0.21	Roberts Gina	209 Worcester Ln	Easley	29642	209 Worcester Ln	Easley	296420000
5028-20-81-1506	0.20	Bost Loujeania W	217 Worcester Ln	Easley	29642	217 Worcester Ln	Easley	296420000
5028-20-81-2750	0.21	Grant Lee E	205 Worcester Ln	Easley	29642	205 Worcester Ln	Easley	296420000
5028-20-81-3705	0.21	Jackson Norma	201 Worcester Ln	Easley	29642	201 Worcester Ln	Easley	296420000
5028-19-62-3113	2.00	Mee Investments Llc	100 Barfield Dr	Easley	29642	241 Wimberly Farms Ln	Easley	296420000
5028-19-52-9246	3.07	Willis Jeffrey S	200 Saddlehorn Ln	Easley	29642	238 Wimberly Farms Ln	Easley	296420000
5029-17-11-9035	0.41	Atieh Mohammad	313 Parkway Dr	Easley	29640	313 Parkway Dr	Easley	296400000
5029-17-10-4850	0.69	Willis Joe Andrew	309 Mcbee Ave	Easley	296403511	309 Mcbee Ave	Easley	29640
5029-17-20-3534	0.25	Pwj Lp	625 Shefwood Dr	Easley	29642	6781 Calhoun Mem Hwy	Easley	296400000
5029-17-10-4690	1.53	Wmr Properties Llc	107 Deer Wood	Easley	29642	6932 Calhoun Mem Hwy A	Easley	296400000
5029-17-11-4251	0.78	Wilson Wayne M	109 Pinewood Dr	Easley	296403515	109 Pinewood Dr	Easley	29640

Pin Number	Acreage	Property Owner Name	Property Address	City	Zip	Property Owner Address	City	Zip
5028-20-81-2555	0.29	Tower Homes Inc	Po Box 448	Greer	29652	240 Eastpark Way	Easley	296420000
5028-20-81-3631	0.23	Tower Homes Inc	Po Box 448	Greer	29652	236 Eastpark Way	Easley	296420000
5028-06-39-5083	0.72	Maughan David E	207 Brookview Cir	Easley	29642	207 Brookview Cir	Easley	29642
5028-06-38-7437	3.58	Smith Harold D Jr	79 Brookview Cir	Easley	29642	226 Brookview Cir	Easley	296420000
5028-06-38-8699	0.36	Mayes Jeanette Henson	302 Oaklane Dr	Easley	296421733	302 Oaklane Dr	Easley	29642
5029-17-11-3454	0.73	Strong Hazel M	204 Saint Lo Cir	Easley	296403520	204 Saint Lo Cir	Easley	29640
5029-17-11-6013	0.98	Holder Henry F	312 Parkway Dr	Easley	296403637	312 Parkway Dr	Easley	29640
5029-17-10-9845	0.30	Easley Real Estate Llc	Po Box 1946	Easley	296411946	317 Parkway Dr	Easley	29640
5029-17-10-8740	0.67	Merritt J B	109 Moore Rd	Piedmont	296737556	6818 Calhoun Mem Hwy A	Easley	296400000
5028-15-54-1484	1.14	Mawhinney Earl W F	320 Longview Ter	Easley	296423019	320 Longview Ter	Easley	29642
5028-19-70-1719	0.61	Tatum Gail F	515 Windham Ln	Easley	29642	515 Windham Ln	Easley	29642
5028-19-70-3519	0.62	Wilkins Brian B	505 Windham Ln	Easley	29642	505 Windham Ln	Easley	296420000
5028-19-71-4548	0.24	Milano Dolores R	440 Hamilton Parkway	Easley	29642	440 Hamilton Pkwy	Easley	296420000
5028-20-70-5687	0.60	Cox J C Jr	213 Easley Hwy	Pelzer	296691046	506 Windham Ln	Easley	296420000
5028-19-71-3077	2.85	Crowe Greg	512 Windham Lane	Easley	29642	512 Windham Ln	Easley	296420000
5028-19-71-4693	0.19	Walleck Nick W	436 Hamilton Pkwy	Easley	29642	436 Hamilton Pkwy	Easley	296420000
5028-20-71-6552	0.20	Regil Mario A	435 Hamilton Pkwy	Easley	29642	435 Hamilton Pkwy	Easley	296420000
5028-20-71-7652	0.21	Sweitzer Gerald W	427 Hamilton Pkwy	Easley	29642	427 Hamilton Pkwy	Easley	296420000
5028-20-71-7434	0.17	Tharpe Jeffrey E	236 Worcester Ln	Easley	29642	236 Worcester Ln	Easley	296420000

Pin Number	Acreage	Property Owner Name	Property Address	City	Zip	Property Owner Address	City	Zip
5028-20-71-9316	0.17	Bagwell Bryan	233 Worcester Ln	Easley	29642	233 Worcester Ln	Easley	296420000
5028-20-81-0550	0.20	Nelson Fay	221 Worcester Ln	Easley	29642	221 Worcester Ln	Easley	296420000
5028-20-81-4605	0.27	Tower Homes Inc	Po Box 448	Greer	29652	232 Eastpark Way	Easley	296420000
5028-20-81-2423	0.65	Kopp James T Jr	300 Shefwood Dr	Easley	296423328	244 Eastpark Way	Easley	296420000
5028-20-81-6515	0.23	Tower Homes Inc	Po Box 448	Greer	29652	229 Eastpark Way	Easley	296420000
5028-19-61-0927	3.13	All Seasons Properties Llc	6602 Calhoun Memorial Highway	Easley	29640	242 Wimberly Farms Ln	Easley	296420000
5028-15-62-0744	2.03	Prins Wayne	224 Wimberly Farms Ln	Easley	29642	224 Wimberly Farms Ln	Easley	296420000
5029-17-11-5502	0.56	Bundrick Jerome O	206 Saint Lo Cir	Easley	29640	206 Saint Lo Cir	Easley	29640
5029-17-10-7932	0.40	Rogers Eric C	314 Parkway Dr	Easley	296403637	314 Parkway Dr	Easley	29640
5029-17-10-8996	0.23	Zahran Zachy	214 Georgetown Rd	Easley	29640	315 Parkway Dr	Easley	296400000
5029-17-11-2048	1.17	Pool Eleanor Mcwhite	305 Mcbee Ave	Easley	296403511	305 Mcbee Ave	Easley	29640
5027-08-99-3154	0.54	Sheriff Bobby D	574 Sheriff Mill Rd	Easley	29642			
5027-08-88-5693	4.35	Sheriff Bruce M	Po Box 1288	Easley	296411288	519 Sheriff Mill Rd	Easley	296420000
5027-08-98-4552	0.17	Pickens County	Po Box 275	Pickens	296710275	545 Sheriff Mill Rd	Easley	296420000
5027-08-89-6116	4.80	Holcombe J Michael	149 Pug Dr	Easley	29642			
5028-20-70-8586	19.11	Brown Billy Hilliard Ii	256 Ruby Dr	Easley	29642	256 Ruby Dr	Easley	29642
5027-08-99-0069	3.20	Granger Billy F	525 Sheriff Mill Rd	Easley	29642	186 Estates Dr	Easley	29642
5037-05-07-1679	14.08	Sheriff Rosamond S Life Estate	574 Sheriff Mill Rd	Easley	29642			
5037-05-07-7918	46.23	Sheriff Rosamond S Life Estate	574 Sheriff Mill Rd	Easley	29642	562 Sheriff Mill Rd	Easley	29642

Pin Number	Acreage	Property Owner Name	Property Address	City	Zip	Property Owner Address	City	Zip
5027-08-88-9539	1.00	Sheriff Mary Ann	525 Sheriff Mill Rd	Easley	296429783	525 Sheriff Mill Rd	Easley	29642
5029-17-10-2270	0.62	Alexander Sidney M	104 Canterbury Dr	Easley	296423105	6959 Calhoun Mem Hwy	Easley	296400000
5029-17-10-3283	0.53	Pdy Llc	1909 East Main St	Easley	29640	6949 Calhoun Mem Hwy	Easley	296400000
5029-17-10-6289	1.28	Hwy 52 And Uni Llc	6819 Creek Wood Dr	Chappell Hill	27514	6919 Calhoun Mem Hwy	Easley	296400000
5029-17-10-1095	0.23	Sexton Charles Ted	307 Pumpkintown Hwy	Pickens	296712026	408 Washington Ave	Easley	296420000
5029-17-10-5123	0.29	Moore Patricia L	200 Lakeshore Dr	Easley	29642			
5029-17-10-1138	0.44	Jonbro Llc	836 Powdersville Road Ste 11	Easley	29642	7005 Calhoun Mem Hwy A	Easley	29640
5029-17-10-6123	0.42	Youngblood Daniel E	1909 E Main St	Easley	29640			
5027-08-98-7892	6.97	Sheriff Bobby D	574 Sheriff Mill Rd	Easley	29642	211 Estates Dr	Easley	296420000
5027-08-98-7892	0.40	Sheriff Bobby D	574 Sheriff Mill Rd	Easley	29642	211 Estates Dr	Easley	296420000
5027-00-97-6225	0.00							
5027-00-97-6225	0.00							
5027-08-97-2966	4.85	Sheriff Mary Pauline	P O Box 1288	Easley	29641	111 Lumber Mill Dr	Easley	296420000
5027-00-97-7216	27.04	Sheriff Bruce M	P O Box 1288	Easley	29641	121 Lumber Mill Dr	Easley	296420000
5027-00-96-2263	100.47	F A Sheriff Trust	400 High Point Dr	Cocoa	329266661			
5019-20-91-9164	0.26	Gilstrap Jeffrey D	108 Mcbee Ave	Easley	296403508	108 Mcbee Ave	Easley	29640
5029-17-01-9755	0.25	Boone Charles Francis	200 Anzio St	Easley	29640	200 Anzio St	Easley	29640
5029-17-11-3602	0.17	Mcelhannon James Anthony	207 St Lo Cir	Easley	29640	207 Saint Lo Cir	Easley	29640
5029-17-11-1406	0.45	Simpson Janice M	810 Cardinal Dr	Easley	29640	200 Saint Lo Cir	Easley	29640

Pin Number	Acreage	Property Owner Name	Property Address	City	Zip	Property Owner Address	City	Zip
5029-17-01-8269	1.13	Smith Inez H	207 Mcbee Ave	Easley	29640	207 Mcbee Ave	Easley	29640
5029-17-11-0375	0.12	White Keith E	103 Pinewood Dr	Easley	296403515	103 Pinewood Dr	Easley	29640
5029-17-01-2203	0.42	Abercrombie George Dale	114 Mcbee Ave	Easley	296403508	114 Mcbee Ave	Easley	29640
5029-17-01-4188	0.45	Burnett Patricia M	202 Mcbee Ave	Easley	296403510	202 Mcbee Ave	Easley	29640
5029-17-00-6922	0.26	Miller Zackary B	116 Welborn Cir	Easley	296421041	205 Washington Ave	Easley	296400000
5029-17-10-7893	0.38	Harrison Allen D	316 Parkway Dr	Easley	296403637	316 Parkway Dr	Easley	29640
5029-17-00-8870	0.54	Jennings Charles E	221 Washington Ave	Easley	296403545	221 Washington Ave	Easley	29640
5029-17-11-1752	0.26	Pierce Dana L	100 Crest Ct	Easley	29640	100 Crest Ct	Easley	29640
5029-17-01-8688	0.16	Cannon Reginald Ray	119 Saint Lo Cir	Easley	29640	119 Saint Lo Cir	Easley	29640
5029-17-01-9677	0.25	Vinson Keith H	202 Anzio St	Easley	296403504	202 Anzio St	Easley	29640
5029-17-11-2415	0.28	Reese Robert Lee	202 Saint Lo Cir	Easley	296403520	202 Saint Lo Cir	Easley	29640
5029-17-01-6357	1.30	Mccall Crystal S	203 Mcbee Ave	Easley	296403509	203 Mcbee Ave	Easley	29640
5029-17-11-2631	0.15	Jennings Steven Bradley	203 Saint Lo Cir	Easley	29640	203 Saint Lo Cir	Easley	296400000
5029-17-01-7545	0.48	Drawdy Sarah A	120 Saint Lo Circle	Easley	29640	120 Saint Lo Cir	Easley	29640
5029-17-01-8533	0.25	Ellenburg Bobby Earl Life Est	122 Saint Lo Cir	Easley	296403518	122 Saint Lo Cir	Easley	29640
5029-17-11-3320	0.27	Owen Lon A	107 Pinewood Dr	Easley	296403515	107 Pinewood Dr	Easley	29640
5029-17-01-3282	0.55	Moffett James L	644 Russell Blvd	Ft Walton Beach	32547	200 Mcbee Ave	Easley	29640
5029-17-10-3990	0.47	Jackson Jerome I	110 Pinewood Dr	Easley	29640	110 Pinewood Dr	Easley	29640
5029-17-10-0878	0.31	Nicholson Colleen O	304 Mcbee Ave	Easley	296403512	304 Mcbee Ave	Easley	29640

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5029-17-10-6823	0.51	Kearns Phil	117 Pinewood Dr	Easley	29640	117 Pinewood Dr	Easley	29640
5029-17-10-0659	0.39	H W Storage Buildings Inc	Po Box 665	Easley	29641	231 Washington Ave A	Easley	296400000
5029-17-00-8604	0.30	Posey Jerry	210 Washington Ave	Easley	29640	210 Washington Ave	Easley	29640
5029-17-20-0442	0.83	Lafrance Partners Llc	815 Bracken Rd	Piedmont	29673	6811 Calhoun Mem Hwy A	Easley	29640
5029-17-20-1487	0.34	Walker William S	Po Box 766	Liberty	296579002	6793 Calhoun Mem Hwy	Easley	296400000
5029-17-01-9426	0.25	Development Enterprises Inc	Po Box 553	Easley	296410563	302 Anzio St	Easley	29640
5029-17-01-5152	0.34	Burnett Patricia M	202 Mcbee Ave	Easley	29640	204 Mcbee Ave	Easley	296400000
5029-17-00-9966	0.98	Tinsley Neal F	300 Mcbee Ave	Easley	296403512	300 Mcbee Ave	Easley	29640
5029-17-10-1787	0.30	Hilton Gregory G	308 Mcbee Ave	Easley	29640	308 Mcbee Ave	Easley	29640
5029-17-20-0794	0.28	Walker William S	Po Box 766	Liberty	29657	6798 Calhoun Mem Hwy	Easley	296400000
5029-17-00-9775	0.28	Jennings Charles E	221 Washington Ave	Easley	29640	225 Washington Ave	Easley	296400000
5029-17-00-8598	0.28	Bridges Belle D	212 Washington Av	Easley	29640	212 Washington Ave	Easley	29640
5029-17-10-3504	0.20	Gaughf A J Jr	136 Pinnacle Falls Dr	Pickens	296719554	6944 Calhoun Mem Hwy	Easley	29640
5029-17-10-1556	0.53	Alexander Charles E	102 Belmont Cir	Easley	296422302	301 Washington Ave	Easley	29640
5029-17-20-2282	0.22	Hill Mark A	209 Gail St	Easley	296421138	209 Gail St	Easley	29642
5029-17-20-3158	0.33	Mckenzie Robert	215 Gail St	Easley	29642	215 Gail St	Easley	29642
5029-17-20-0118	0.51	Davis Charles W	1000 Bolt Dr	Anderson	296216743	200 Gail St	Easley	29642
5029-17-20-2029	0.13	Kalchthaler Cynthia M	Po Box 74	Sunset	29685	210 Gail St	Easley	29642
5029-17-01-7093	0.63	Jb Grace Investments Llc	215 N Severn Circle	Easley	29642	208 Mcbee Ave	Easley	29640

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5029-17-00-7865	0.31	Gray Mildred M Life Estate	217 Washington Ave	Easley	29640	217 Washington Ave	Easley	29640
5029-17-00-6899	0.28	Malone Michelle Harden	121 Old Cedard Rock Rd	Easley	296401208	211 Washington Ave	Easley	296400000
5029-18-20-6118	0.16	Rowland Benny	137 Spivey Dr	Liberty	29657	129 Hollow Oaks Ln	Easley	29642
5029-17-10-2604	0.33	Alexander Charles E	301 Washington Av	Easley	29640			
5029-17-20-2550	0.20	W And S Enterprises Inc	Po Box 51045	Piedmont	29673	6787 Calhoun Mem Hwy	Easley	29640
5029-17-20-3326	0.45	Gantt Eunice	105 Northway Dr	Easley	296421341			
5029-17-20-1298	0.47	Nesbitt Iris O	302 Williams Ave	Easley	296421106	302 Williams Ave	Easley	29642
5029-17-01-1096	0.58	Drake Carolyn M	202 Oakfield Ave	Easley	29640	117 Washington Ave	Easley	29640
5029-17-00-9474	0.51	Cox James Samuel	1639 Earls Bridge Rd	Easley	296406307	7014 Calhoun Mem Hwy	Easley	29640
5029-17-10-2427	0.34	Huffman Willam C Aka	6952 Calhoun Mem Hwy	Easley	29640	6952 Calhoun Mem Hwy	Easley	296400000
5029-17-11-3063	0.42	Brodrick Betty J	201 Walter St	Easley	29642	108 Pinewood Dr	Easley	296400000
5029-17-10-8364	0.90	J C Smith Properties Llc	6907-C Calhoun Mem Hwy	Easley	29642	6907 Calhoun Mem Hwy A	Easley	296400000
5029-17-20-4274	0.17	Hamilton Frank M	1308 Brushy Creek Rd	Easley	296423103	135 Hollow Oaks Ln	Easley	296420000
5029-18-20-5234	0.17	Byers Robbie	133 Hollow Oaks Ln	Easley	296421152	133 Hollow Oaks Ln	Easley	29642
5029-17-11-1642	0.30	Smith Michael Warren	201 Saint Lo Cir	Easley	29640	201 Saint Lo Cir	Easley	29640
5029-17-01-1483	0.87	Moore Jeffrey R	113 Mcbee Av	Easley	29640	113 Mcbee Ave	Easley	29640
5029-17-11-0326	0.11	Roper Jo Faye	119 Courtland Drive	Greenville	29617	101 Pinewood Dr	Easley	29640
5029-17-11-1383	0.40	Cantrell J R	105 Pinewood Dr	Easley	296403515	105 Pinewood Dr	Easley	29640
5029-17-11-6175	0.73	Gilstrap Loyce Eugene	310 Parkway Dr	Easley	296403637	310 Parkway Dr	Easley	29640

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5029-17-11-0177	1.03	Stone Miriam C	303 Mcbee Ave	Easley	29640	303 Mcbee Ave	Easley	29640
5029-17-00-5955	0.26	Carlie Nathan A	203 Washington Ave	Easley	29640	203 Washington Ave	Easley	29640
5029-17-10-1833	0.30	Rumsby Andrew J	306 Mcbee Ave	Easley	29640	306 Mcbee Ave	Easley	29640
5029-17-10-2742	0.33	Moreland Michael A	310 Mcbee Ave	Easley	296403512	310 Mcbee Ave	Easley	29640
5029-17-10-7636	0.46	Merritt J B Jr	109 Moore Rd	Piedmont	29673	6824 Calhoun Mem Hwy	Easley	296400000
5029-17-20-4301	0.16	Camp Kevin E	141 Hollow Oaks Ln	Easley	29642	141 Hollow Oaks Ln	Easley	29642
5029-17-20-2075	0.13	Kalchthaler Cynthia M	Po Box 74	Sunset	29685	102 Creek Side Ct	Easley	29642
5029-17-01-1119	0.23	Albert Nancy W	112 Mcbee Ave	Easley	296403508	112 Mcbee Ave	Easley	29640
5019-20-91-8372	0.61	Johnson Jasper Melton	109 Mcbee Ave	Easley	296403507	109 Mcbee Ave	Easley	29640
5027-08-89-4750	2.58	Stillwell Janit B	162 Pug Dr	Easley	29642	162 Pug Dr	Easley	29642
5029-17-01-0060	0.43	Bagwell Thomas Donald	728 Cherokee Rd	Pelzer	29669	115 Washington Ave A	Easley	296400000
5029-17-20-3052	0.21	Kalchthaler Cynthia M	Po Box 74	Sunset	29685	103 Creek Side Ct	Easley	29642
5028-06-29-6778	0.23	Davis Ellis H Jr	408 Gail St	Easley	296421168	408 Gail St	Easley	29642
5029-17-01-9534	0.25	Minnis Daniel B	127 Lakeshore Dr	Easley	296421160	124 Saint Lo Cir	Easley	29640
5029-17-01-6068	0.68	Grant Denise T	206 Mcbee Ave	Easley	29640	206 Mcbee Ave	Easley	29640
5029-17-10-4297	0.58	Pdy Llc	1909 E Main St	Easley	29640	6935 Calhoun Mem Hwy	Easley	296400000
5029-17-10-9689	0.39	Boling Thomas	1941 Five Forks Rd	Pendleton	296709378	6804 Calhoun Mem Hwy	Easley	29640
5029-18-20-5271	0.16	Clardy Denni N	206 Brookview Circle	Easley	29642	131 Hollow Oaks Ln	Easley	29642
5029-17-01-0347	0.59	Pope Dianne Mays	111 Mcbee Ave	Easley	29640	111 Mcbee Ave	Easley	29640

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5029-17-01-0146	0.29	Clardy Katie W	110 Mcbee Ave	Easley	29640	110 Mcbee Ave	Easley	29640
5029-17-20-1111	0.45	Fowler Cheryl L	206 Gail St	Easley	29642	206 Gail St	Easley	29642
5029-17-10-8059	0.51	Galloway Gale C	Po Box 1335	Pickens	296711335			
5029-17-20-1072	0.20	Kalchthaler Cynthia M	Po Box 74	Sunset	29685	212 Gail St	Easley	29642
5028-06-39-7045	0.44	Eads Bannister F	203 Brookview Cir	Easley	296421715	203 Brookview Cir	Easley	29642
5028-06-38-9784	0.15	Foxworth Ivan C	30 Etowah Dr	Greenville	29617	300 Oaklane Dr A	Easley	296420000
5028-05-19-8334	0.87	Oates Robert C Jr Tr	111 Hale St	Easley	296421019			
5028-06-29-5670	1.15	Kelley Marvin H	512 E Main St	Liberty	29657	125 Wells St	Easley	296420000
5028-05-29-3314	2.31	Moore Patricia L	200 Lakeshore Dr	Easley	29642			
5028-06-48-0529	0.61	Hafner James W	Po Box 1554	Easley	296411554	303 Oaklane Dr	Easley	29642
5028-11-55-1379	0.51	Owens James Terry	405 Sylvia Rd	Easley	296422241	405 Sylvia Rd	Easley	296422241
5028-11-55-2367	0.34	Brown David L	403 Sylvia Rd	Easley	29642	403 Sylvia Rd	Easley	29642
5028-05-29-2905	0.17	Kalchthaler Cynthia M	Po Box 74	Sunset	29685	104 Creek Side Ct	Easley	29642
5028-05-29-4935	0.12	Mendez Ramon	3300 Harrison Rd	Columbia	29204	310 Gail St	Easley	296420000
5028-06-39-6176	0.43	Hunter Louise F	205 Brookview Cir	Easley	29642	205 Brookview Cir	Easley	29642
5028-06-38-5795	0.31	Ziegler Reba	606 Golf Coourse Rd	Piedmont	29673	215 Brookview Cir	Easley	29642
5028-06-48-0480	1.04	Simmons Tony K	462 Pearson Rd	Easley	296421741	462 Pearson Rd	Easley	29642
5028-06-38-9739	0.14	Hestia Housing Llc	300 Heathwood Ln	Easley	29640	101 Brookview Cir A	Easley	296420000
5028-10-47-3404	0.59	Gibbs Rex Allen	411 Alethia St	Easley	29642	411 Alethia St	Easley	29642

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5028-20-71-5793	0.22	Moeller Eric	428 Hamilton Pkwy	Easley	296420000	428 Hamilton Pkwy	Easley	296420000
5028-20-71-7698	0.21	Davis Pamela D	423 Hamilton Pkwy	Easley	29642	423 Hamilton Pkwy	Easley	296420000
5028-20-71-9689	0.20	Reliant Holdings Llc	46 Saint Mark Road	Taylors	29687	216 Worcester Ln	Easley	296420000
5028-20-81-1650	0.20	Bouter Samuel	213 Worcester Ln	Easley	29642	213 Worcester Ln	Easley	296420000
5028-20-71-9833	0.21	Bridges James D	411 Hamilton Pkwy	Easley	29642	411 Hamilton Pkwy	Easley	296420000
5028-20-81-0789	0.20	Stewart Ida J	208 Worcester Ln	Easley	29642	208 Worcester Ln	Easley	296420000
5029-17-11-7243	0.48	Laclair Linda R	308 Parkway Dr	Easley	29640	308 Parkway Dr	Easley	29640
5029-17-11-5358	0.74	Pepper Ronald H	3709 Savoy Ln # F	West Palm Beach	33417			
5028-10-37-9083	5.92	Ollie Llc	Po Box 1419	Easley	29641			000000000
5028-10-46-0144	5.24	Mccall Ted A	Po Box 2115	Easley	296412115			
5028-11-55-1273	0.67	Membreno Santos	308 Longview Terrace	Easley	29642	308 Longview Ter	Easley	29642
5028-10-36-6333	4.17	Mccall Louise H	595 Pope Field Rd	Easley	296422110			
5028-20-71-8742	0.21	Klebe Zachary	419 Hamilton Pkwy	Easley	29642	419 Hamilton Pkwy	Easley	296420000
5028-20-81-0733	0.20	Kopp James T	212 Worcester Ln	Easley	29642	212 Worcester Ln	Easley	296420000
5028-20-71-9634	0.20	Reliant Holdings Llc	46 Saint Mark Road	Taylors	29687	220 Worcester Ln	Easley	296420000
5028-20-71-8798	0.21	Roper Bobby W	415 Hamilton Pkwy	Easley	29642	415 Hamilton Pkwy	Easley	296420000
5028-10-45-7319	6.67	Houston Carol W	647 Pope Field Rd	Easley	296422112			
5028-06-38-9216	0.84	Watson Thomas	486 Pearson Rd	Easley	29642			
5028-06-38-5072	0.56	Watson Thomas	486 Pearson Rd	Easley	29642	486 Pearson Rd	Easley	29642

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5028-06-37-7618	1.01	Combined Utility Systems	Po Box 605	Easley	296410605	495 Pearson Rd	Easley	296420000
5028-10-47-1491	0.53	Reeves Doreen S	415 Alethia St	Easley	29642	415 Alethia St	Easley	29642
5028-10-46-8403	58.24	Youngblood Hwy 123 Llc	1909 E Main St	Easley	29640			
5028-06-37-8514	4.15	Brushy Creek Baptist Church	100 Clay St	Easley	29642			
5028-06-37-7908	0.70	Bossert David J	305 Briggs Dr	Easley	296421805	494 Pearson Rd	Easley	296420000
5028-10-36-2111	12.51	Mccall Louise H	595 Pope Field Rd	Easley	296422110	595 Pope Field Rd	Easley	29642
5028-11-55-0066	1.09	Niemela Paul W	312 Longview Ter	Easley	29642	312 Longview Ter	Easley	296420000
5028-10-45-0356	29.59	Houston William M	647 Pope Field Rd	Easley	296422112	647 Pope Field Rd	Easley	29642
5029-18-20-5056	0.51	Kelley Marvin H	512 E Main St	Liberty	29657	101 Madison St	Easley	296420000
5029-18-20-6043	0.17	Harris Mary Powell	401 Gail St	Easley	296421168	401 Gail St	Easley	29642
5029-18-20-6193	0.22	Ct And Mm Llc	Po Box 1507	Easley	296411507	127 Hollow Oaks Ln	Easley	29642
5028-06-29-7914	0.52	Morgan John H Le	405 Gail St	Easley	29642	405 Gail St	Easley	29642
5029-18-20-6193	0.49	Ct And Mm Llc	Po Box 1507	Easley	296411507	127 Hollow Oaks Ln	Easley	29642
5029-18-20-7097	0.25	Crown Atlantic Company Llc	510 Bering Dr Ste 500	Houston	77057	125 Hollow Oaks Ln	Easley	296420000
5028-05-27-3875	102.73	Reeve Partnership	Po Box 645	Easley	29641			
5029-17-00-4988	0.26	Holcombe Whitney T	201 Washington Ave	Easley	29640	201 Washington Ave	Easley	29640
5029-17-01-3080	0.24	Rigdon Steven	113 Jasper Street	Easley	29640	113 Jasper St	Easley	29640
5029-17-01-3097	0.26	Young Andrew T	109 Jasper St	Easley	296403531	109 Jasper St	Easley	29640
5028-05-29-0335	4.12	Moore Patricia L	200 Lakeshore Dr	Easley	29642			

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5027-07-68-4848	44.29	Nesbitt Azilee B	136 Nesbitt Ln	Easley	296428004	136 Nesbitt Ln	Easley	29642
5028-19-61-5500	28.55	Pace Walter Coleman	105 Wyatt Avenue	Easley	29640			
5028-19-71-1021	1.18	Cox J C Jr	213 Easley Hwy	Pelzer	296691046	517 Windham Ln	Easley	296420000
5028-15-53-4002	45.14	Easley Combined Utility System	Po Box 619	Easley	29641	499 Wimberly Ln	Easley	296420000