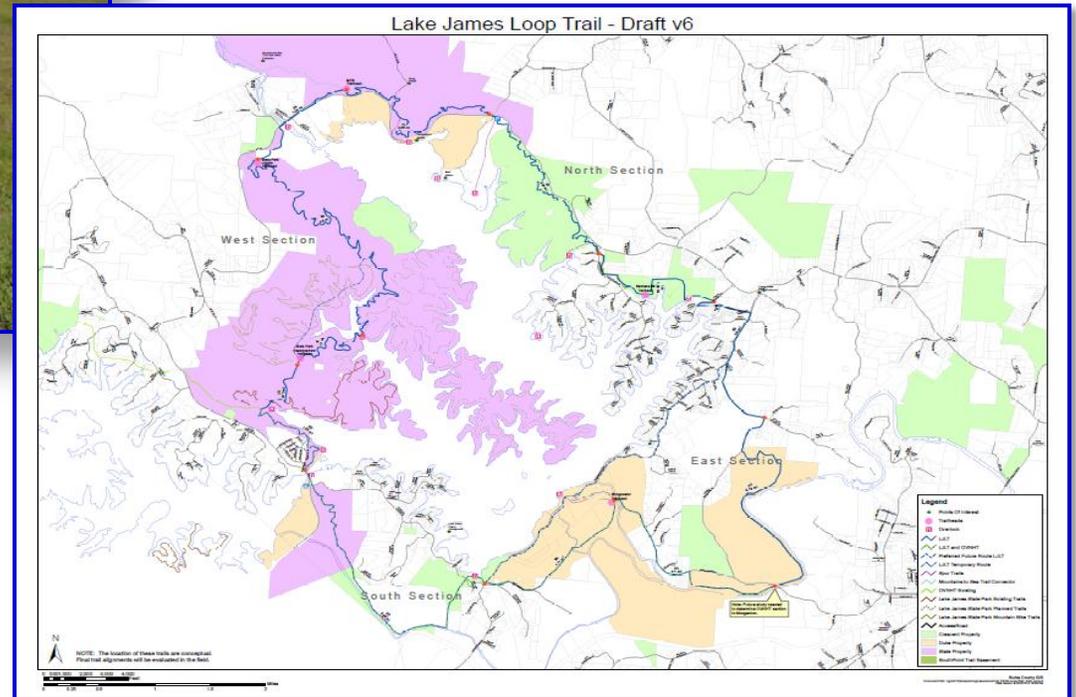


# LAKE JAMES LOOP TRAIL



# MASTER PLAN



*LAKE JAMES LOOP TRAIL MASTER PLAN*

Lake James Loop Trail Work Group:

Scott Black – *Burke Co. GIS*

Paul Braun – *Save Lake James*

Scott Carpenter – *Deputy Co. Manager*

Johnnie Carswell – *Burke Co. Commissioner*

Sara Chester – *BDI Inc.*

Nora Coffey – *Lake James State Park*

Crawford Craig – *Crescent Communities*

Tim Johnson – *NC Dept. of  
Parks & Rec.*

Tom Kinney – *Foothills Land Conservancy*

Lee Kiser - *WPCC*

Polly Leadbetter – *Lake James Real Estate*

Bryant Lindsey - *Citizen*

Mike Long – *Burke Co. EM Director*

Christy Magas – *Duke Energy Carolinas*

Jason May – *Burke Co. Senior Services*

Ed Phillips – *Tourism Development Authority*

Travis Ruff – *BRIDGE Program*

Nick Shaver – *NC Wildlife Commission*

Shelly Stevens - *WPCOG*

Kristina Solberg – *NC-DOT*

David Wright - *Cyclewright*



Work Group flagging trail at Lake James State Park

## **Table of Contents**

Page

- 3. Executive Summary
- 5. Vision Statement
- 6. Lake James Loop Trail Background
- 8. General Information about the Lake James Loop Trail
- 10. Map
- 11. Lake James Loop Trail Corridor Summary
- 12. Lake James Loop Trail Section Descriptions and Maps
- 45. Implementation Timeline
- 49. Trail Highlights
- 52. Area Information
- 54. Benefits of the Loop Trail
- 58. Planning, Construction, Management, Maintenance & Funding
- 65. Sources & Reference
- 66. Letters of Support

## **Executive Summary**

The Lake James region in western Burke County, North Carolina, has provided recreational amenities for local residents and visitors since the lake's creation in the early 1920s. Water based recreational activities, hiking, fishing, and hunting have been the primary uses of the lake and surrounding lands. More recently, expansion of Lake James State Park has allowed valuable public access to this recreational asset, and it has created additional recreational opportunities to include mountain biking, swimming, and picnicking. Many bicyclists and runners also use the roads that travel around the lake on a regular basis.

The primary objective of the Lake James Loop Trail Master Plan is to provide a conceptual framework and implementation plan to guide future trail development. The Lake James Loop will be an easy to moderate multi-use hiking and mountain biking trail with a natural mineral soil surface that circumnavigates Lake James within Burke County. It will provide a multitude of economic, recreational, health, environmental, community, and transportation benefits. The Lake James Loop Trail will serve residents and visitors and represent a cooperative venture between Burke County, Duke Energy, Crescent Communities, North Carolina State Parks, North Carolina Wildlife Resources Commission, private landowners, area residents, and volunteers.

Various stakeholders and work groups have discussed the Lake James Loop Trail concept for over a decade. In 2004, a formal agreement with Crescent Resources allowed the State of NC to purchase land to be added to the existing Lake James State Park located in McDowell County. In addition, Crescent Resources committed to dedicating trail easements for the Lake James Loop Trail and Overmountain Victory National Historic Trail on properties they owned.



*LAKE JAMES LOOP TRAIL MASTER PLAN*

Recreation commitments made as a part of the Federal Energy Regulatory Commission relicensing process include easements across Duke Energy properties and approximately \$1.1 million for development of the Lake James Loop Trail and the Overmountain Victory National Historic Trail. This combination of events has resulted in a renewed interest in development of the Lake James Loop Trail.

This long-term plan provides a blueprint, in the form of achievable trail sections and segments, to move forward towards implementation. It must be recognized that this document is fluid and is subject to change as conditions warrant. Unforeseen circumstances can change some aspects of the development of the Loop Trail. The Lake James Loop Trail Master Plan will provide the vision and framework needed to make the Lake James Loop Trail a reality.

Through a collaborative planning process, community members articulated a vision for a linear park trail and put forth thoughtful recommendations for how best to connect people and places with trails around Lake James. The many community partners who have been involved in the planning process recognize the urgency of starting a linear park system now, while opportunities still exist for making connections and linking important places. They also recognize that this plan will not be implemented overnight, and that while segments should begin appearing soon, it will take years, if not decades, to link them all together. The time to start is now.

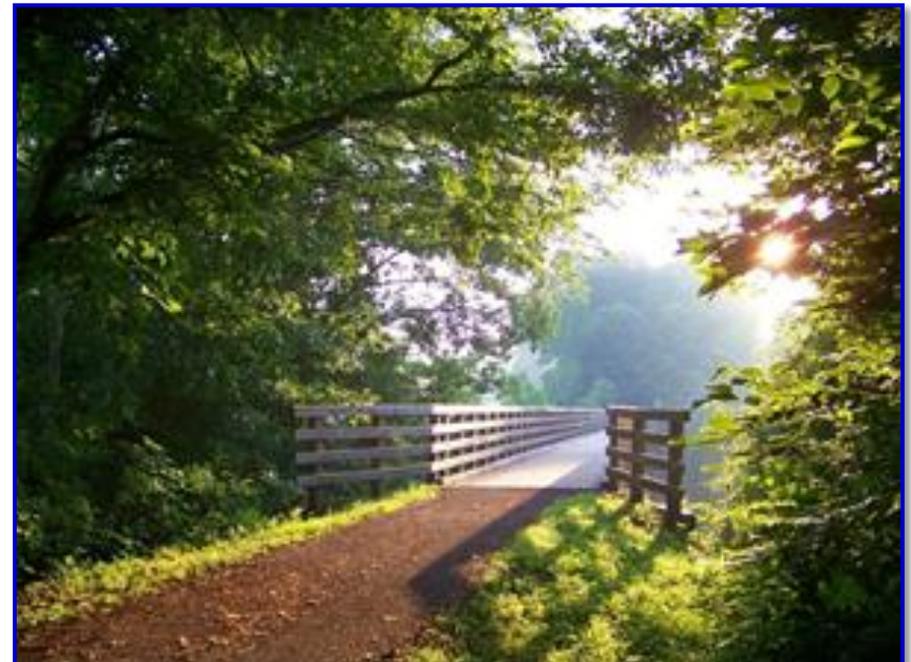
## **Vision Statement**

The Lake James Loop Trail will provide pedestrians and bicyclists of all abilities a safe and legal route to circumnavigate Lake James within Burke County. The trail will allow users to experience the natural diversity of the area, incorporate multiple access points and support facilities, and create a community and regional asset that will provide a variety of opportunities for local residents and visitors; and promote tourism and low infrastructure economic development within Burke County and the surrounding region.

## **Why Now?**

The purpose of this master plan is to determine the most sustainable alignment and location of access points for the Lake James Loop Trail and create a realistic and accomplishable implementation plan. There are several reasons why the development of this master plan is appropriate at this time:

- The Lake James Loop Trail concept has been discussed for over a decade and past planning efforts have assisted with facilitating the development of a trail around the lake.
- The proposed expansion of Lake James State Park is now a reality and will provide an important component of the Lake James Loop Trail.
- Duke Energy's receipt of a new license from the Federal Energy Regulatory Commission (FERC) for the Catawba-Wateree Project is expected in the near future. Once the license is issued, approximately \$1.1 million will be available for development of the Lake James Loop Trail and the Overmountain Victory National Historic Trail.
- There has never been a better opportunity to leverage so many resources from public and private entities into a regional economic development effort that is supported by a diverse group of residents, business owners, land developers, environmentalists, and others.



The Lake James Loop Trail Will Offer Peaceful Travels

### **The Lake James Loop Trail will . . .**

- provide a multitude of economic, recreational, health, environmental, community, and transportation benefits;
- provide a “center piece” for Burke County’s recreational, eco, and nature-based tourism development efforts;
- enhance the appreciation of the region’s beauty and natural resources by residents and visitors;
- boost regional economic development opportunities and growth through business and event development, increased property values, and increased sales and property tax revenue;
- connect a multitude of recreational assets that offer a variety of opportunities;
- provide access to a much larger comprehensive trail network in western North Carolina;
- serve as a health wise amenity for residents and visitors;
- preserve valuable habitat and a “green” corridor for wildlife;
- assist with protection of water quality;
- promote a deeper understanding of the area’s history and culture by residents and visitors;
- provide an outdoor classroom for experiential education experiences;
- provide a safe transportation alternative around the lake for pedestrians and mountain bikers; and
- help strengthen the feeling and sense of community among Burke County citizens by focusing attention on a unique project that brings together a diverse group of stakeholders and the general public.

### **Lake James Loop Trail Background**

The Lake James Loop Trail finds its origins in the desires of Burke County citizens to increase the quality of life enjoyed by current and future residents, provide a recreational amenity for visitors and the region’s diverse population, and preserve and provide public access to the area’s cultural and natural resources. *Blueprint Burke* (2002), Burke County’s Strategic Plan, first mentioned a linear park and spoke of the County’s need to develop a system of greenways, trails, and avenues to connect major areas of recreational and cultural value. Prompted by the strategic plan and concerns about development around Lake James, the Burke County Board of Commissioners passed new zoning measures based on the creation of Lake James Small Area Plan Phases I and II limiting future development around the Lake. The Catawba River and Lake Overlay District and the Scenic Overlay District were also implemented to provide design criteria for future development and create recommendations for the establishment of recreational trails around Lake James. They also protected and supported the establishment of the Overmountain Victory National Historic Trail (OVNHT) through Burke County.

## LAKE JAMES LOOP TRAIL MASTER PLAN

As a result of the limitations placed on subdivisions and housing developments on Lake James, Crescent Resources, a major developer and previously a subsidiary of Duke Energy, began proceedings against Burke County in a lawsuit which involved several federal, state, and local agencies and organizations. The lawsuit advanced through the legal system over the next two years and in 2004 it was settled. The resulting agreement allowed the State of North Carolina to purchase 2,915 acres from Crescent Resources for \$18.3 million to add to the existing Lake James State Park located in McDowell County. In addition, Crescent Resources committed to dedicating trail easements for the Lake James Loop Trail and OVNHT on properties they owned.

In 2006, Duke Energy filed a new license application with the Federal Energy Regulatory Commission (FERC) to operate the Catawba-Wateree Project. As part of the recreation commitments per the comprehensive relicensing agreement, several recreational assets will be added and improved around Lake James. Easements across Duke Energy properties and approximately \$1.1 million for development of the Lake James Loop Trail and the OVNHT are also included in the commitments.

Work groups have been formed in the past with a common goal to protect and promote the Lake James area. One of these groups examined the greenway recommendations contained in *Blueprint Burke* for the Lake James area and began preliminary planning work for a loop trail around Lake James. In 2005, the Burke County Planning Department and Lake James Trails Association, in partnership with the National Park Service – Rivers, Trails, and Conservation Assistance Program, began the process of creating an “implementation plan” for a proposed Lake James Loop Trail. The first draft of the implementation plan outlined the work of the group, provided topics for future discussion, and included suggestions for funding. Unfortunately, the plan was never completed or adopted. In 2007, the Burke County Planning Director resigned and coordinated efforts toward developing the Loop Trail ceased.



Catawba Bridge Being Disassembled (may be able to salvage parts for use around the loop trail)

In early 2013, the Burke County Community Development Director began a new planning effort to jumpstart the Loop Trail initiative and promoted the project to the top of his priority list. Initially, research was conducted with potential stakeholders and Burke County citizens to understand the history of the project. Next, the community development director decided to create a Lake James Loop Trail Master Plan to serve as a guide for the development, management, and implementation of the trail. In September 2013, a work group consisting of a variety of stakeholders met to begin this process.

### General Information about the Lake James Loop Trail

The proposed Lake James Loop Trail will be an easy to moderate multi-use hiking and mountain biking trail with a natural mineral soil surface. It will be sustainably designed and constructed to minimize erosion and require minimal maintenance. The trail will average a width of five feet wide and will be between 23.7 to 26.6 miles long, depending on the final tread location, and the overall average trail grade or steepness will be 10% or less. This will allow the Lake James Loop Trail to provide an enjoyable experience for trail users while protecting the natural resources through which it traverses.



#### Proposed Loop Trail Marker

A feather received the most votes (90%) by the public to be used as the official trail marker for the LJLT. Design variations will be proposed at a later date.

The trail will incorporate multiple trailheads, supporting facilities, and trail connections around Lake James. Information detailing these amenities will be identified and provided at each trailhead. Each trailhead kiosk associated with the Lake James Loop Trail will appear similar in design and rustic appearance. A white or color feather will be the blaze or symbol that guides trail users and ties the trail together. The consistent kiosk design and blaze of the Loop Trail will help users quickly identify access points and sections of trail as the Lake James Loop Trail. Appropriate loop and out-and-back trail options will be detailed for trail users not interested in completing the entire loop at once. The target user group will be families and inexperienced trail users that are uncomfortable sharing the paved roads around the Lake with vehicular traffic. However, the hope is that a variety of trail users with all experience levels will utilize the trail.

A number of existing trails will be connected by the Lake James Loop Trail including the Upper Catawba River Paddle Trail, Mountains to Sea Trail (MST) connector trail, Overmountain Victory National Historic Trail (OVNHT), and hiking and biking trails at Lake James State Park. The OVNHT will follow the same route

as the Lake James Loop Trail for the southern section of the trail. The MST connector trail will provide access to additional trails in the Linville Gorge, Wilson Creek, Pisgah National Forest, and over 300 miles of the MST from Clingmans Dome in the Great Smoky Mountains National Park to Stone Mountain State Park in Wilkes County. Proposed trails within and connected to the Burke County Park, Lake James State Park, and the Catawba River Greenway in Morganton will also be accessible from the Lake James Loop Trail.

Burke County will initially be the lead agency in managing the development of the LJT, but will work in partnership with stakeholders, volunteers, land managers, and landowners on the construction, management, and maintenance of the Lake James Loop Trail. This will increase support and perceived feelings of ownership for the trail. Involvement and participation of partners may take a variety of forms. Memorandums of Understanding and/or Agreements (MOUs/MOAs) between Burke County and trail partners can specifically outline tasks, responsibilities, required commitments, deadlines, and general management. The landowner/manager of the lands over which the trail passes will guide the general management of each section of the loop trail. Any rules or regulations that may be in effect for their lands will also extend to those sections of the Lake James Loop Trail. Another possibility for managing the trail would be to request that the LJT be incorporated into Lake James State Park or designated as a “State Trail” unit of the State Parks System, which would have to be approved by the General Assembly.



Family Time

The Lake James Loop Trail will serve as a “community ribbon” tying together many important assets in the Lake James area. Existing assets include residential neighborhoods, small commercial service areas and businesses, Lake James State Park, NC Wildlife Resources Commission (NCWRC) Gamelands, a boat launch, and a multitude of recreational activities. Planned future amenities include a Burke County Park with proposed rustic cabins, zip-lines, and trails; a small pocket park near the Bridgewater access area; additional residential development; and a kayak/canoe only boat launch.



Lake James Loop Trail (LJLT) Corridor Summary

Section	Trail Component	Easement Acquisition	Distance (miles)	Tread Surface	Maintenance	Cost Estimate	Funding Source
West	LJLT OVNHT	NCWRC NCDOT Private Lake James State Park NCDOT Encroachment	9.33	Natural	NCWRC Burke County Volunteers Lake James State Park	Trail: \$246,312 Bridges: \$450,000  Total: \$696,312	FERC (loop trail) NC State Parks
North	LJLT	Private Crescent Resources NCWRC NCDOT Encroachment	6.92	Natural	Volunteers Burke County NCWRC	Trail: \$182,688 Bridges: \$50,000  Total: \$232,688	FERC (loop trail) TBD
South	LJLT OVNHT	State Parks Duke Energy Private	Preferred 3.95 Alternate 4.45	Natural & Paved	State Parks Public / Private NCWRC	Preferred Trail: TBD Alternate Trail: \$117,480 Bridges: \$0 Total: TBD	FERC (OVNHT) TBD
East	LJLT OVNHT	Private Duke Energy NC DOT Encroachment	Preferred 3.50 Alternate 5.89	Natural & Paved	NCWRC Burke County	Preferred Trail: TBD Alternate Trail: TBD Bridges: n/a Total: TBD	FERC (OVNHT) TBD
<b>TOTALS</b>			Preferred 23.70 Alternate 26.59			Trail: TBD Bridges: \$500,000 Contingency: \$75,000 Total: TBD	

Note #1: A contingency fund for trail maintenance will be established and based on 25% of the natural surface trail length at \$2.00 per linear ft.

Note #2: All segments are subject to change or adjust, based on implementation and getting sections on the ground.

Note #3: Additional fees for planning and engineering may also be necessary.

Note #4: Paved trail sections will only be considered for trail located adjacent to a public road or right-of-way.

Note #5: Costs for crossing the dams in sections 3 & 4 along N. Powerhouse Road TBD.

## **Lake James Loop Trail Section Descriptions – in order of proposed implementation**

### **WEST: Mountains to Sea Trail Connector Trailhead to Canal Bridge Parking Area**

#### **General Description:**

This section of the Lake James Loop Trail is located primarily in Lake James State Park – Paddy’s Creek Section. It provides access to all recreational opportunities offered by the Park through preserved lands with minimal development. A large bridge that connects the Long Arm and Paddy’s Creek Peninsulas will be a highlight of the Loop Trail. Also, the primary trailhead and Lake James Loop Trail headquarters will be located at the proposed Lake James State Park Visitor Center. The Loop Trail joins and utilizes the Overmountain Victory National Historic Trail for the first time within the park boundaries and provides access to expansive lakeshore views along this segment. This section of trail is approximately 9 miles (47,678 ft.) in length.

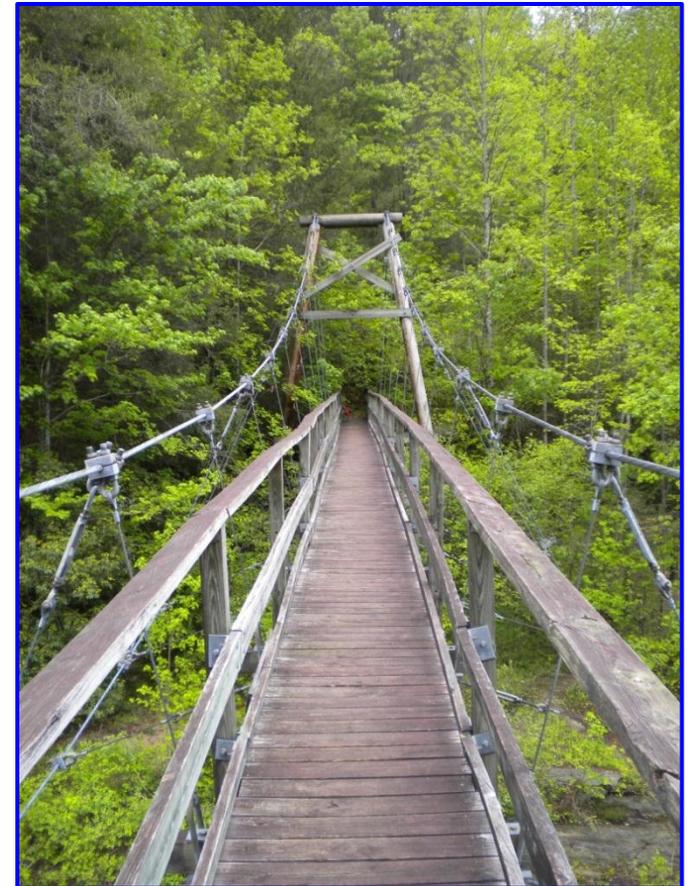
**West A:** This segment of the trail begins at the MST Connector Trailhead on NCWRC Gamelands and travels west for approximately 2,000 feet before crossing to the south side of NC Hwy 126. An improved road crossing with appropriate signage and markings will be coordinated with NCDOT to ensure trail users can cross safely. The trail will utilize an existing 100 ft. right-of-way along this section of NC Hwy 126 as it continues west across the Linville River bridge. A new bridge is currently being built and will provide a six-foot wide shoulder to accommodate trail users. An encroachment agreement will need to be made between Burke County and NCDOT for this section of trail. Immediately after crossing the bridge, the trail will turn left and follow a public trail easement across private property to the proposed Linville River Trailhead. This segment of trail is approximately 1.3 miles (6,811 ft.) in length.



**New Linville River Bridge Will Accommodate Trail**

**West B:** The trail heads south from the proposed Linville River Trailhead and quickly enters Lake James State Park. The trail will continue southeast across the Long Arm Peninsula to the head of a quiet cove with the Paddy's Creek Peninsula located on the other side. As mentioned in the Lake James State Park Master Plan (2006), a bridge is proposed to link these two peninsulas near the middle of the park. The Cove Bridge will be approximately 200 feet in length and will include a large open span across its middle section for boat traffic. Two bridge styles are being considered – a traditional bridge structure made of wood and a suspension bridge. Both bridge options will be a challenge to permit, fund, and construct and both have advantages and disadvantages. If funding for the bridge is not secured prior to construction of this trail segment, an alternate (temporary) route will utilize the existing mountain bike trails across the Center Parcel of the park. The trail will continue southwest from the Cove Bridge to the existing parking area for the mountain bike trail system. This is also in close proximity to the site of the proposed Lake James State Park Visitor Center. A significant portion of this segment may take advantage of existing logging roads that are well constructed and in good condition. Burke County will work in cooperation with Lake James State Park on the planning, permitting, funding, and construction of this segment of the Lake James Loop Trail. It is also proposed that the future Lake James State Park Visitor Center will serve as the primary trailhead and headquarters of the Lake James Loop Trail. This segment of trail is approximately 6.1 miles (32,419 ft.) in length.

**West C:** The trail continues south using existing bike lanes on the Lake James State Park entrance road, crosses the Paddy's Creek Bridge and then merges with the existing OVNHT. It travels southeast on the OVNHT within view of the lakeshore to NC Hwy 126 at Canal Bridge. The OVNHT currently exists as a three foot wide hiking trail. Burke County will work with Lake James State Park to determine the feasibility of widening and improving the existing trail to allow mountain bike use and match the specifications of the Lake James Loop Trail. Two existing narrow bridges, the close proximity of property boundaries, and a steep grade at the intersection with NC Hwy 126 along this segment of the trail will present challenges. The trail continues south along NC Hwy 126 and crosses Canal Bridge to the intersection of NC Hwy 126 and Benfield's Landing Road. The proposed Canal Bridge Parking Area will be located on the west side of NC Hwy 126 on property owned by Duke Energy.



**A Suspension Bridge Proposed for State Park**

*LAKE JAMES LOOP TRAIL MASTER PLAN*

Burke County will need to work with NCDOT on encroachment agreements and construction of safe road crossings for trail users at this location. This segment of trail is approximately 1.6 miles (8,448 ft.) in length.

**Overall Land Ownership:**

NC Division of Parks and Recreation – Lake James State Park (NCDPR)	90%
NC Wildlife Resources Commission (NCWRC)	6%
NC Department of Transportation (NCDOT)	2%
Private Property	2%

Segment	Land Ownership	Trailheads	Maintenance	Length (ft.)	Cost	Bridges (ft.)	Cost
West A	NCWRC NCDOT Private	-Existing MST Connector	NCWRC Burke County Volunteers	6,811	\$34,055	n/a	n/a
West B	NCDPR Private	-Proposed Linville River -Existing Lake James State Park Mountain Bike /Proposed Visitor Center	NCDPR Volunteers	32,419	\$162,095	200	\$450,000
West C	NCDPR NCDOT	-Proposed Canal Bridge	NCDPR Volunteers	8,448	\$42,240	n/a	n/a
<b>Totals</b>				<b>47,678</b>	<b>\$238,390</b>	<b>200</b>	<b>\$450,000</b>

**Grand Total – Section 1: \$688,390**

Note #1: As of 2013, the typical cost of natural surface trail constructed five feet wide in mountainous terrain by a PTBA contractor is approximately \$5/linear foot. This figure was used for the entire length of the trail alignment.

Note #2: Sections along existing roads are expected to cost significantly more than sections in natural areas.

Note #3: Planning level estimates do not include ROW acquisition costs; possible additional structure costs (retaining walls); or costs for amenities including lighting, benches, bicycle parking, signage, interpretive kiosks, etc.

Note #4: Bridge estimated cost depends on type of bridge and engineering - \$450,000 is an estimate.

**Connecting Trails**

Overmountain Victory National Historic Trail	1 miles
MST Connector Trail	3 miles
Lake James State Park Hiking trails	3.5 miles
Lake James State Park Mountain Bike Trails	14 miles
Linville River Blueway Trail (Linville Falls to Lake James)	11 miles
Proposed Lake James State Park Mountain Bike and Hiking Trails	20+ miles
Upper Catawba River Paddle Trail	80+ miles

**Approximate Additional Trail Mileage**

**Additional Points of Interest**

- Bridge crossing of the Linville River on NC Hwy 126
- Proposed canal bridge connecting Long Arm and Paddy’s Creek Peninsulas
- Proposed Lake James State Park Visitor Center/Lake James Loop Trail Headquarters
- Proposed Canal Bridge Overlook on the OVNHT

**Lake Views**

- Existing Linville River bridge offers views to the southeast
- Proposed hiking and mountain bike trails on the Long Arm Peninsula may offer lake views
- Proposed canal bridge will offer views to the southeast
- Existing Paddy’s Creek bridge offers views to the east
- OVNHT before Canal Bridge offers good views to the north and east
- Existing Canal Bridge offers views to the north and south



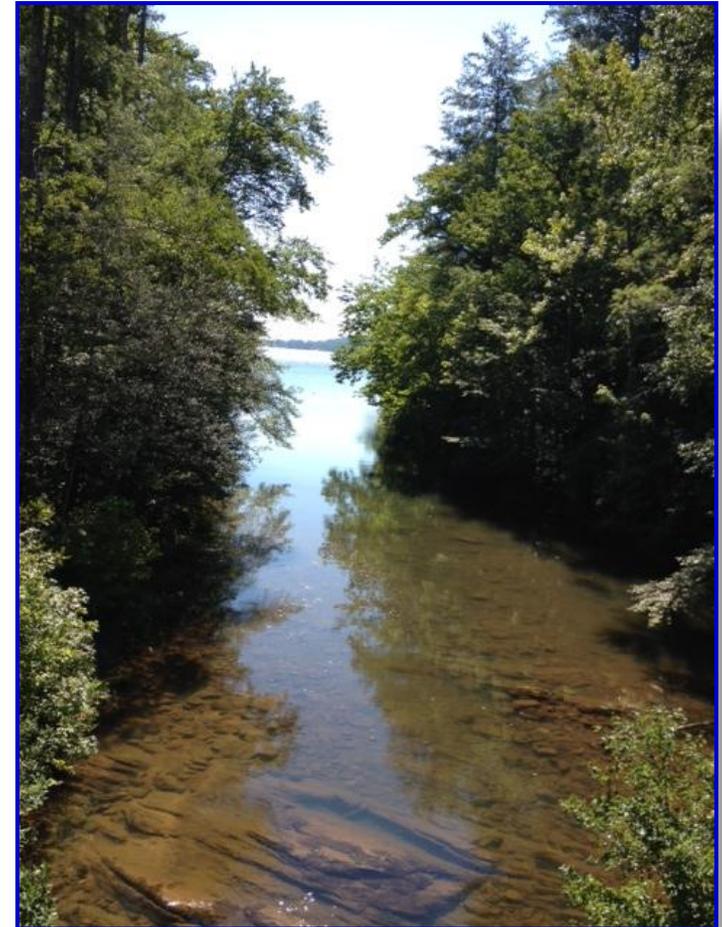
Parking Area for Mountain Biking at State Park

### **Facilities/Services**

- Linville River End RV Park (private)
- Proposed Lake James State Park Visitor Center
- Lake James State Park educational programs
- Trail access to existing swim beach, concessions stand, canoe and kayak rentals, picnic shelters, and bathrooms
- Trail access to proposed Lake James State Park family tent campground and boat-in campsites

### **Opportunities**

- A majority of the land for this section is owned by the State of North Carolina and preserved in perpetuity.
- Existing mountain bike trails within Lake James State Park can provide temporary connectivity within the park until the proposed alignment can be funded and constructed.
- The segments within Lake James State Park will allow access to facilities and services that will not be available anywhere else on the Loop Trail.
- One segment of the trail could include a 200' multi-use bridge connecting Long Arm and Paddy's Creek Peninsulas that could be a highlight and point of interest on the Loop Trail.
- The proposed Lake James State Park Visitor Center and associated existing and proposed facilities could provide a central location for information about the Lake James Loop Trail and a "basecamp" for visitors to explore the Loop Trail and other attractions in the region.
- A commercial campground is located on this section of the Loop Trail.



View from Paddy's Creek Bridge

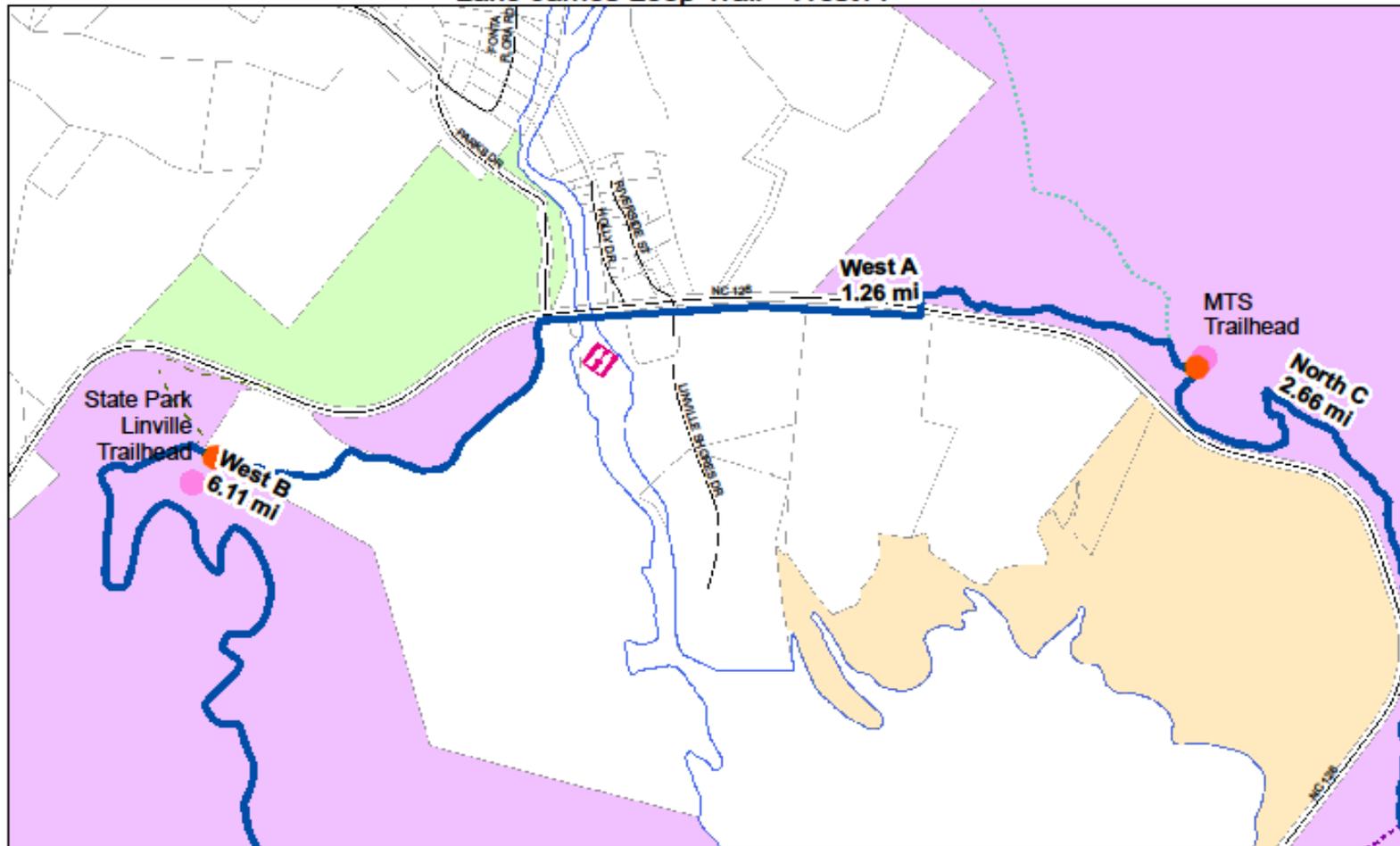
**Concerns**

- Existing NCDOT challenges – segments of the Loop Trail on each end of this section may follow NC Hwy 126; road crossings just before the Linville River bridge and near the intersections of Benfield’s Landing Road and NC Hwy 126
- If ever developed, an inholding within Lake James State Park on the Long Arm Peninsula could change the character of the Loop Trail.
- The trailheads, associated facilities, and segments of the Loop Trail within Lake James State Park will be accessible during gate hours only.
- The proposed Loop Trail alignment would require an expensive multi-use bridge.

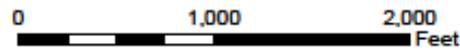


126 Proposed Canoe / Kayak Boat Launch Area

Lake James Loop Trail - West A



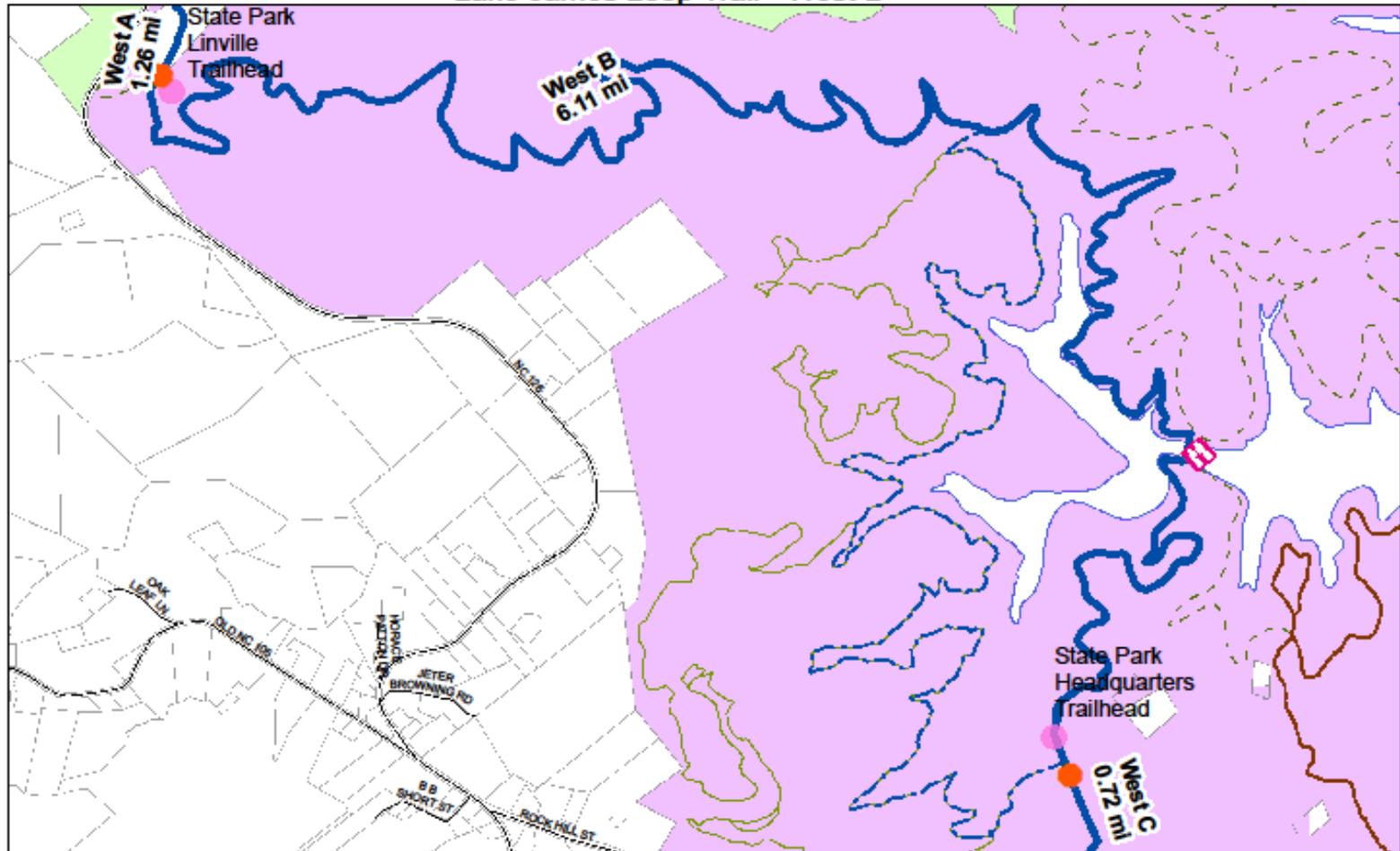
NOTE: The location of these trails are conceptual. Final trail alignments will be evaluated in the field.



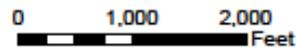
	Trail Section Breaks		Overlook		LJT		Mountain to Sea Trail Connector		Crescent Property
	Points Of Interest		parking		LJT and OVNHT		OVNHT Existing		Duke Property
	Trailheads				OVNHT and LJT Alternate		Lake James State Park Existing Trails		State Property
					LJT Alternate		Lake James State Park Planned Trails		SouthPoint Trail Easement
					Spur Trails		Lake James State Park Mountain Bike Trails		
					LJT Temporary Route		Access Road		

Burke County GIS  
 Document Path: Y:\gisdb\data\planning\LakeJamesTrail\_2013\LJT\_WestA.mxd  
 Date Saved: 8/5/2014 1:52:00 PM

Lake James Loop Trail - West B

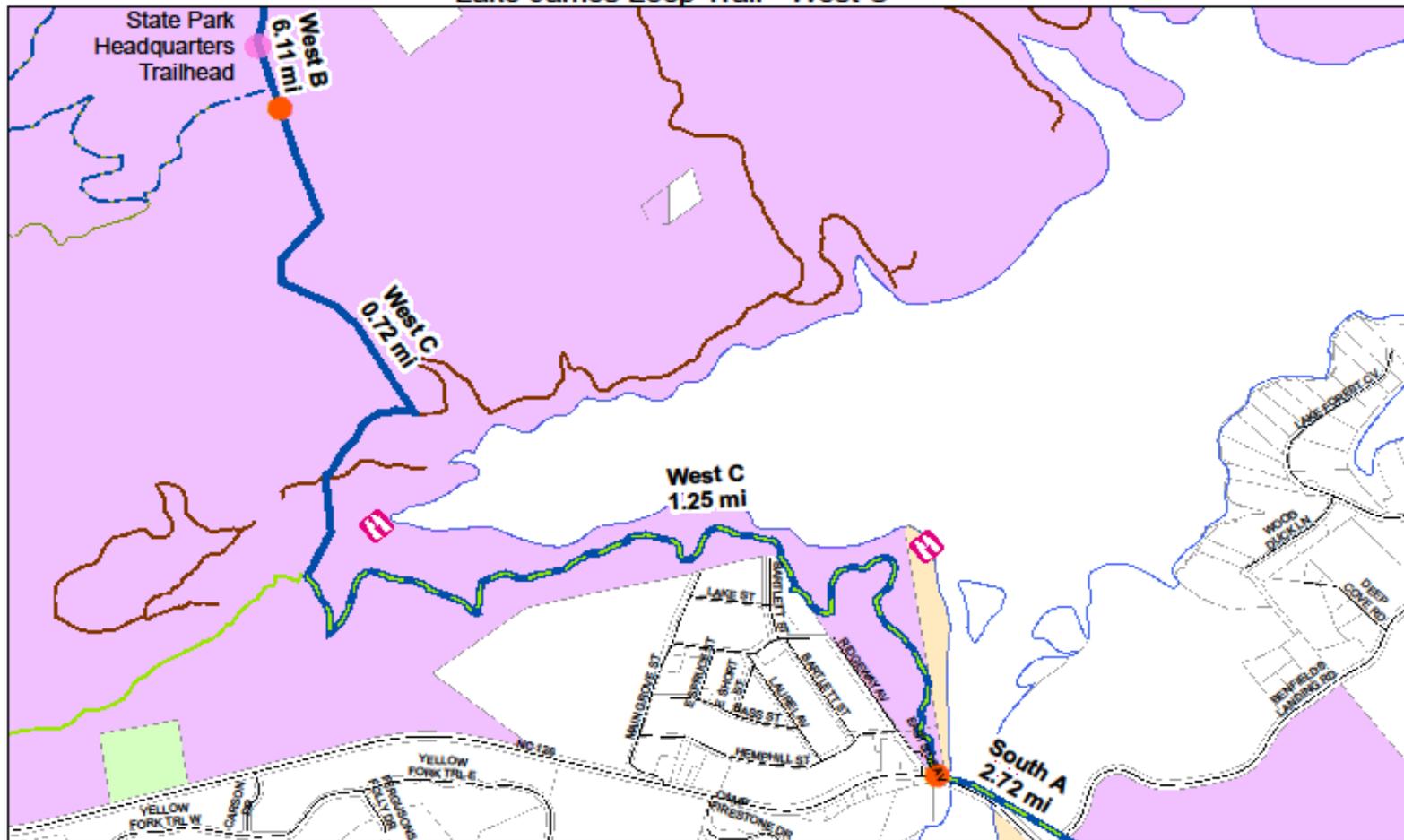


NOTE: The location of these trails are conceptual. Final trail alignments will be evaluated in the field.

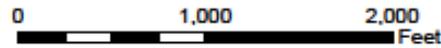


● Trail Section Breaks	🏠 Overlook	🚶 L.L.T	🌄 Mountains to Sea Trail Connector	🏡 Crescent Property
★ Points Of Interest	P parking	🚶 L.L.T and O.V.N.H.T	🌳 O.V.N.H.T Existing	🏡 Duke Property
● Trailheads		🚶 O.V.N.H.T and L.L.T Alternate	🏞 Lake James State Park Existing Trails	🏡 State Property
		🚶 L.L.T Alternate	🏞 Lake James State Park Planned Trails	🏡 SouthPoint Trail Easement
		🚶 Spur Trails	🏞 Lake James State Park Mountain Bike Trails	
		🚶 L.L.T Temporary Route	🛣 Access Road	

Lake James Loop Trail - West C



NOTE: The location of these trails are conceptual. Final trail alignments will be evaluated in the field.



Trail Section Breaks	Overlook	L.L.T.	Mountains to Sea Trail Connector	Crescent Property
Points Of Interest	parking	L.L.T and O.V.N.H.T.	O.V.N.H.T. Existing	Duke Property
Trailheads		O.V.N.H.T. and L.L.T. Alternate	Lake James State Park Existing Trails	State Property
		L.L.T. Alternate	Lake James State Park Planned Trails	SouthPoint Trail Easement
		Spur Trails	Lake James State Park Mountain Side Trails	
		L.L.T. Temporary Route	Access Road	

Burke County GIS  
 Document Path: Y:\gis\database\planning\LakeJamesTrail\_2015\L.L.T. WestC.mxd  
 Date Saved: 8/5/2014 1:55:04 PM

**NORTH: Harris Whisnant Road to Mountains to Sea Trail Connector Trailhead**

**General Description:**

This section of the Lake James Loop Trail traverses property owned primarily by Crescent Resources and the NC Wildlife Resources Commission (NCWRC). Crescent Resources has formally agreed to provide public use/conservation easements for the trail alignment. A MOU exists between the NCWRC and Burke County for access, construction, management, and maintenance of the trail on their property. This section of the Loop Trail will provide important pedestrian and mountain biking access to the proposed Fonta Flora Burke County Park and associated recreational opportunities.

While a significant portion of this section of trail crosses topography and scenery reminiscent of previously logged lands over a wide period of time, the trail will allow users to witness the resiliency of nature and the process of forest succession. This section of the Loop Trail will also provide access to additional trails in the Linville Gorge, Wilson Creek, Pisgah National Forest, and over 300 miles of the Mountain to Sea Trail from Clingmans Dome in the Great Smoky Mountains National Park to Stone Mountain State Park in Wilkes County. This section of trail is approximately 6.7 miles (35,429 ft.) in length. Historical data also suggests that parts of this segment of trail follow the historic Yellow Mountain Road, which once ran from the City of Morganton to Yellow Mountain.



Harris Whisnant Road – 15ft Easement Needed

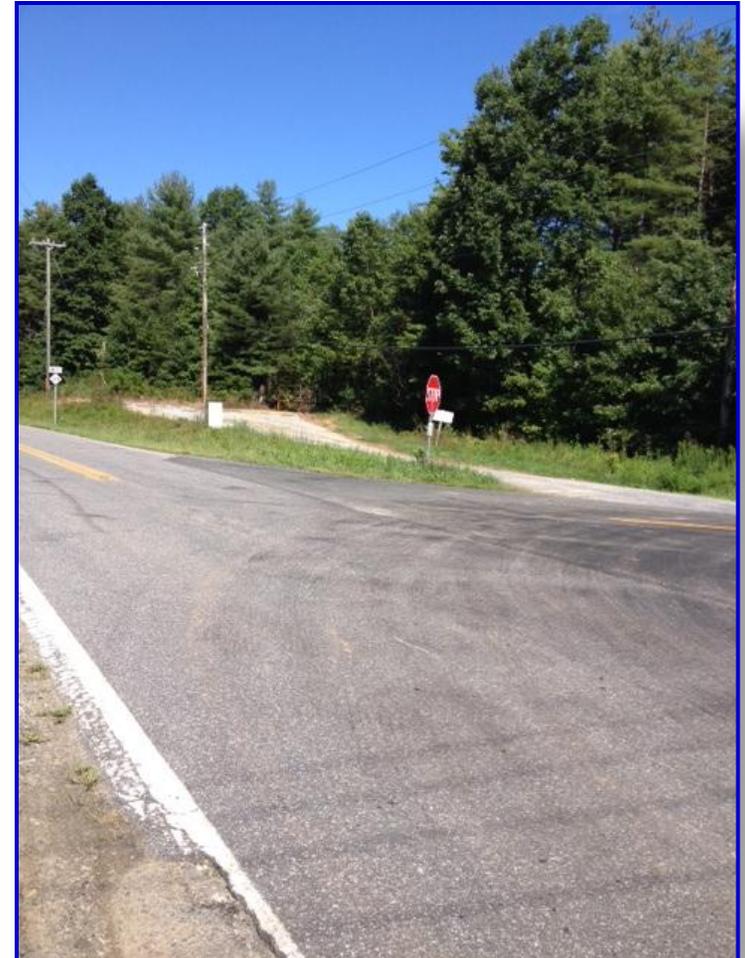
**North A:** This segment of trail will begin at Harris Whisnant Road and follow a proposed easement connecting to the Eastlake #6 Trailhead located on Crescent Resources’ property. This trailhead will provide public parking for the Loop Trail. The trail will continue west to an existing public trail easement paralleling and up to Southpointe Drive that was secured during the preliminary platting of the Southpointe Community. This segment of trail is approximately 1.5 miles (7,920 ft.) in length.

**North B:** The trail will cross and potentially follow Southpointe Drive north for approximately 250 feet before leaving to the west on an existing public trail easement. The trail continues west following the contours of the land as it generally parallels NC Hwy 126 until reaching the proposed Fonta Flora Burke County Park near the intersection of NC Hwy 126 and Fish Hatchery Road.

*LAKE JAMES LOOP TRAIL MASTER PLAN*

A proposed trailhead and gravel parking area may be constructed at this location after Duke Energy uses the site as a staging area for development of the new Linville Access Area (CRA 10.27.2.1). The trail will cross NC Hwy 126 at the intersection of Fish Hatchery Road and onto NCWRC Gamelands – Linville Tract. This intersection will be improved for trail users and vehicles in conjunction with the development of an entrance road into Fonta Flora Park by NCDOT. This segment of the proposed Lake James Loop Trail has already been flagged and GPSed. This segment of trail is approximately 2.5 miles (13,464 ft.) in length.

**North C:** From the crossing of NC Hwy 126, the Loop Trail continues northwest on the Gamelands. An MOU between the NCWRC and Burke County has been executed to allow for access, construction, management, and maintenance of the Loop Trail. A significant portion of this segment may take advantage of old logging roads approximately 10-15 feet wide that are well constructed and in fair condition. Portions of this segment of trail may utilize these roadbeds by meandering within the footprint of the roadbed, with only six to eight feet of disturbance occurring. In most cases, the trail will follow the outside edge of the old logging roads to allow for water control off the trail. After approximately one mile, the trail will connect with a proposed spur trail leading to the new Linville Canoe/Kayak Access Area (CRA 10.27.2.2) on NC Hwy 126. This access area provides important access to the Upper Catawba River Paddle Trail. The Loop Trail continues west and will require two bridges to cross small tributaries before ending at the MST Connector Trailhead. This segment of the proposed Lake James Loop Trail has already been flagged and GPSed. In addition, the NC Forest Service BRIDGE Program has cleared a 10 foot wide corridor along this flagged trail segment in order to help preserve the corridor until funding is available. This segment of trail is approximately 2.7 miles (14,045 ft.) in length.



Trail Crossing NC 126 at Fish Hatchery Road

**Overall Land Ownership:**

Crescent Resources 61%  
 NC Wildlife Resources Commission 36%  
 Burke County 3%

Segment	Land Ownership	Trailheads	Maintenance	Length (ft.)	Cost	Bridges (ft.)	Cost
North A	Private Crescent Resources	-Proposed Eastlake #6	Burke County Volunteers	7,920	\$39,600	n/a	n/a
North B	Crescent Resources Burke County	-Proposed Fonta Flora Burke County Park	Burke County Volunteers	13,464	\$67,320	n/a	n/a
North C	NCWRC	-Existing MST Connector	NCWRC Volunteers	14,045	\$70,225	50	\$50,000
<b>Totals</b>				<b>35,429</b>	<b>\$177,145</b>	<b>50</b>	<b>\$50,000</b>

Grand Total – Section 2: \$227,145

Note #1: As of 2013, the typical cost of natural surface trail constructed five feet wide in mountainous terrain by a PTBA contractor is approximately \$5/linear foot. This figure was used for the entire length of the trail alignment. Bridges are budgeted at \$1,000/linear foot.

Note #2: Planning level estimates do not include ROW acquisition costs; possible additional structure costs (retaining walls); or costs for amenities including lighting, benches, bicycle parking, signage, interpretive kiosks, etc.

**Connecting Trails**

**Approximate Additional Trail Mileage**

Proposed Canoe/Kayak Launch connector trail 0.40 miles  
 Proposed Fonta Flora Park access trail 0.75 miles  
 Mountains to Sea connector trail 3.0 miles  
 Upper Catawba River Paddle Trail 80+ miles

### **Additional Points of Interest**

- Proposed Canoe/Kayak Launch Area (CRA 10.27.2.2)
- Proposed Deep Water Boat Access Area (CRA 10.27.2.1)

### **Lake Views**

- Inlet at Eastlake #6 Trailhead
- Eastlake #3 Tract near Southpointe Drive
- Proposed spur trail at Eastlake #2 to be determined
- Proposed spur trail at Fonta Flora Burke County Park to overlook
- Proposed spur trail from overlook to deep water access area in Fonta Flora Burke County Park
- Lake James Loop Trail above the Linville Canoe/Kayak Access Area
- Proposed spur trail to Linville Canoe/Kayak Access Area

### **Facilities/Services**

- Fonta Flora Burke County Park and associated facilities and opportunities
- Trail access to proposed Lake James Deep Water Access Area (CRA 10.27.2.1) – restrooms, water
- Trail access to Linville Canoe/Kayak Access Area (CRA 10.27.2.2) - restrooms, water, picnic area, fishing
- Proposed rental cabins at Fonta Flora Burke County Park

### **Opportunities**

- The majority of this section of the Lake James Loop Trail is located on public use/conservation easements across lands owned by Crescent Resources.
- All easements have been secured with the exception of one short 30 foot easement at Harris Whisnant Road.



Trail Will Enter Near Southpointe Drive

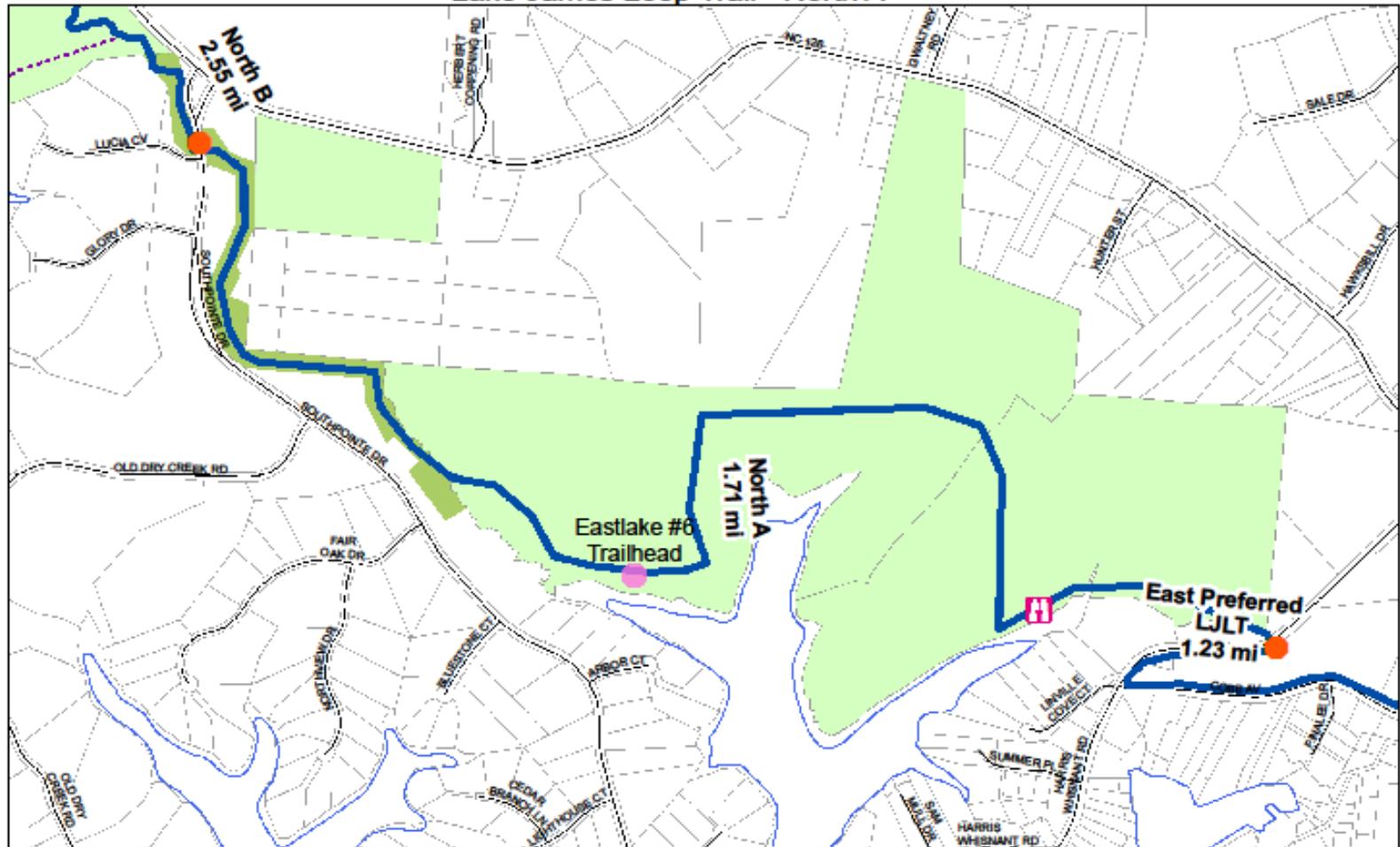
## *LAKE JAMES LOOP TRAIL MASTER PLAN*

- The remaining segments of this section of the trail are owned by the State of North Carolina and Burke County and preserved in perpetuity.
- The Loop Trail provides access to additional trails in the area and region allowing those hikers access to alternative overnight accommodations.
- The trail provides an off-road alternative for bicyclists desiring to parallel NC Hwy 126.
- Numerous views of Lake James have been planned and included along this section of the Lake James Loop Trail.
- The proposed Fonta Flora Burke County Park cabins can be used as a “basecamp” for visitors to explore the Loop Trail and other attractions in the region.

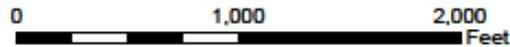
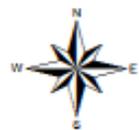
### **Concerns**

- Existing NCDOT challenges – pedestrian and vehicular improvements at the intersection and crossing of NC Hwy 126 and Fish Hatchery Road for the Loop Trail and Fonta Flora Burke County Park; road crossings on NC Hwy 126 for trail access at Linville Canoe/Kayak Access Area (CRA 10.27.2.2)
- A 20 foot trail easement at Harris Whisnant Road needs to be secured to connect with the Eastlake #6 Trailhead.
- Crescent Resources will need to provide additional overlooks/views when Crescent Communities develops Eastlake #2 and Eastlake #3.

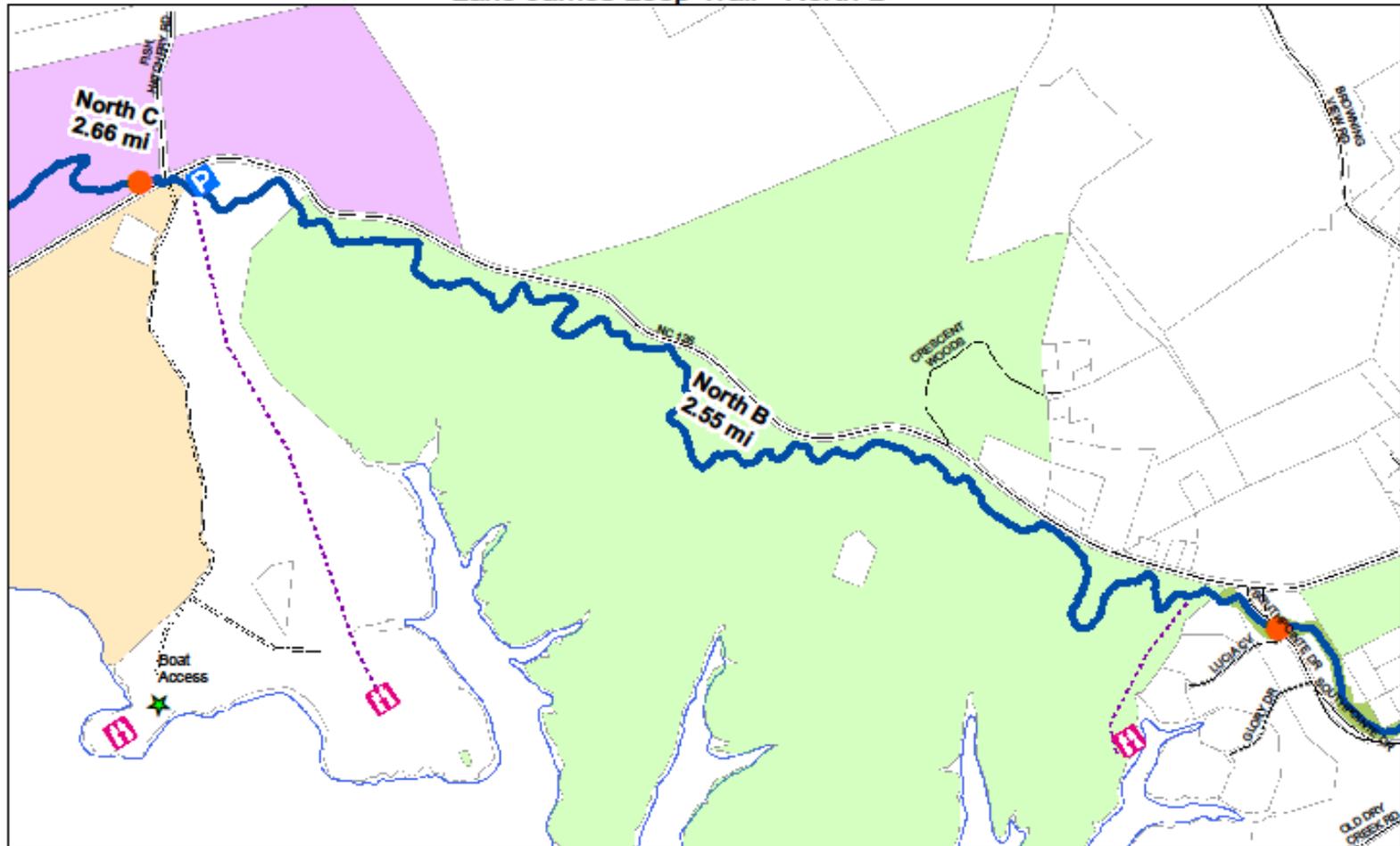
Lake James Loop Trail - North A



NOTE: The location of these trails are conceptual. Final trail alignments will be evaluated in the field.



Lake James Loop Trail - North B



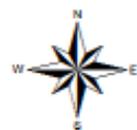
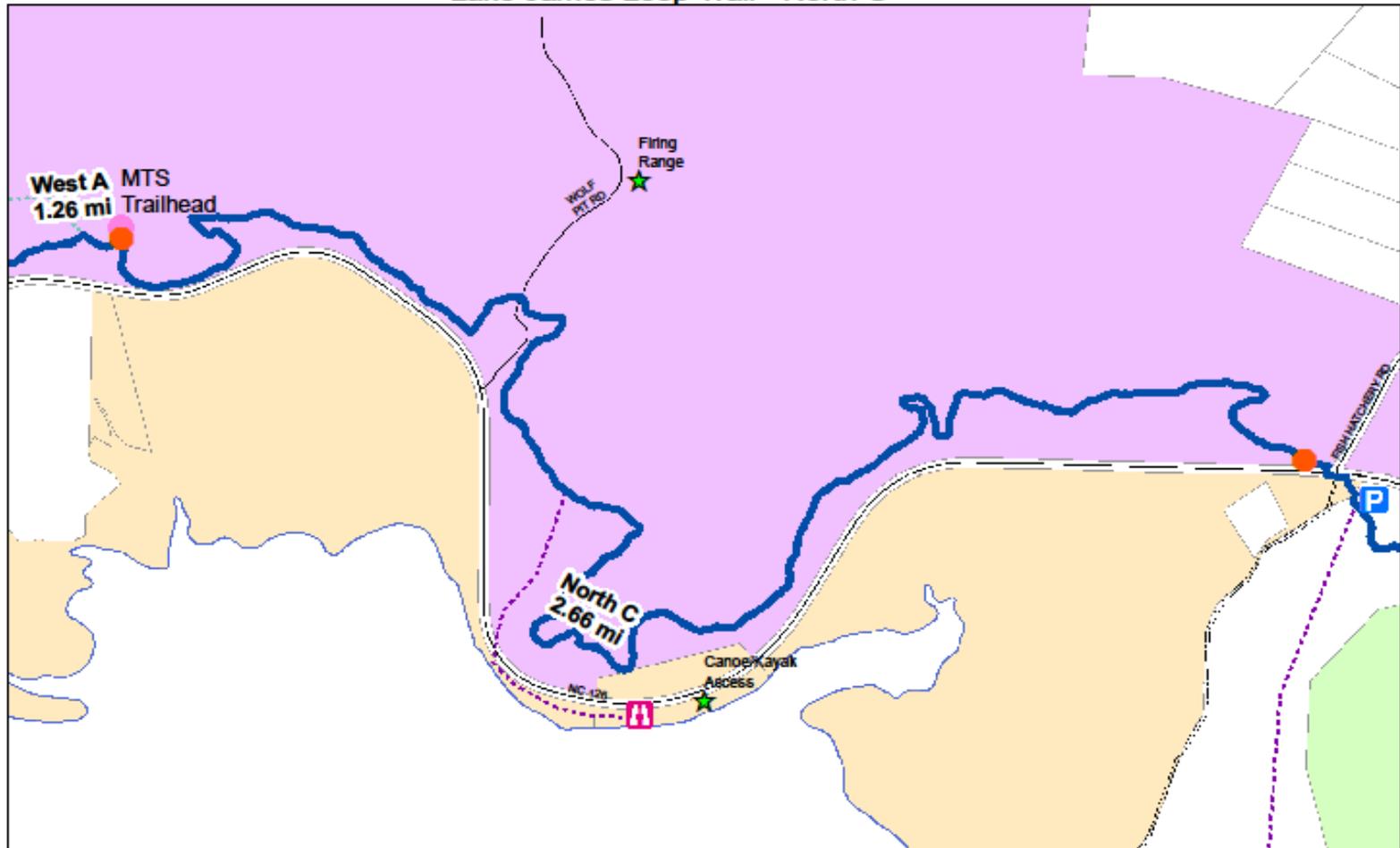
NOTE: The location of these trails are conceptual. Final trail alignments will be evaluated in the field.



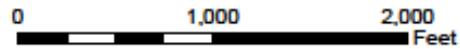
Trail Section Breaks	Overlook	L.L.T	Mountains to Sea Trail Connector	Crescent Property
Points Of Interest	parking	L.L.T and O.V.N.H.T	O.V.N.H.T Existing	Duke Property
Trailheads		O.V.N.H.T and L.L.T Alternate	Lake James State Park Existing Trails	State Property
		L.L.T Alternate	Lake James State Park Planned Trails	SouthPoint Trail Easement
		Spur Trails	Lake James State Park Mountain Side Trails	
		L.L.T Temporary Route	Access Road	

Burke County GIS  
 Document Path: Y:\gis\data\planning\LakeJamesTrail\_2015\L.L.T\_NorthB.mxd  
 Date Saved: 8/5/2014 1:49:49 PM

Lake James Loop Trail - North C



NOTE: The location of these trails are conceptual. Final trail alignments will be evaluated in the field.



Burke County GIS  
 Document Path: \\gisdb\data\planning\LakeJamesTrail\_2013\L.L.T\_NorthC.mxd  
 Date Saved: 8/5/2014 1:50:46 PM

**SOUTH: General Description**

The Lake James Loop Trail and Overmountain Victory National Historic Trail (OVNHT) will share the planned alignment for a portion and possibly all of this section. A unique aspect of this section of the trail is that it leaves Lake James to meander along the old Catawba River before returning to spectacular views north across the Lake. A preferred and alternate route for the Loop Trail is offered below with both alignments being identical from the Canal Bridge Trailhead to North Powerhouse Road. Past N. Powerhouse Road the preferred route for the LJT heads north along N. Powerhouse Road to the Catawba Dam Trailhead. The alternate route will begin after crossing N. Powerhouse Road will stay on Duke Energy property to the existing Bridgewater Trailhead. This alternate section will be constructed and designated in its entirety as OVNHT.

**South - Canal Bridge Trailhead to Catawba River Dam Trailhead or Bridgewater Trailhead**

**South A - Canal Bridge to N. Powerhouse Road:** This segment of the trail begins at the Canal Bridge Trailhead and travels south across Lake James State Park lands towards the old Catawba River. It continues along the River following a proposed public trail easement. There are two proposed options for the easement across private property, before it turns north onto Crescent Resources property. The Loop Trail crosses Benfield's Landing Road and continues to traverse Crescent Community property northeast to N. Powerhouse Road. An improved road crossing with appropriate signage and markings will be coordinated with NCDOT to ensure trail users can cross the road safely. This segment of trail is approximately 2.7 miles (14,362 ft.) in length, depending on what easement can be secured.

**South B - Preferred LJT Route; N. Powerhouse Road to Catawba River Dam Trailhead:** After reaching N. Powerhouse Road the preferred trail alignment turns north and follows the Lake James shoreline along a proposed easement from Crescent Communities. This segment of trail will be one of the more difficult to build due to running along the dams. This segment of trail is 1.2 miles in length and terminates at the Catawba River Dam Trailhead



View from Canal Bridge Looking West

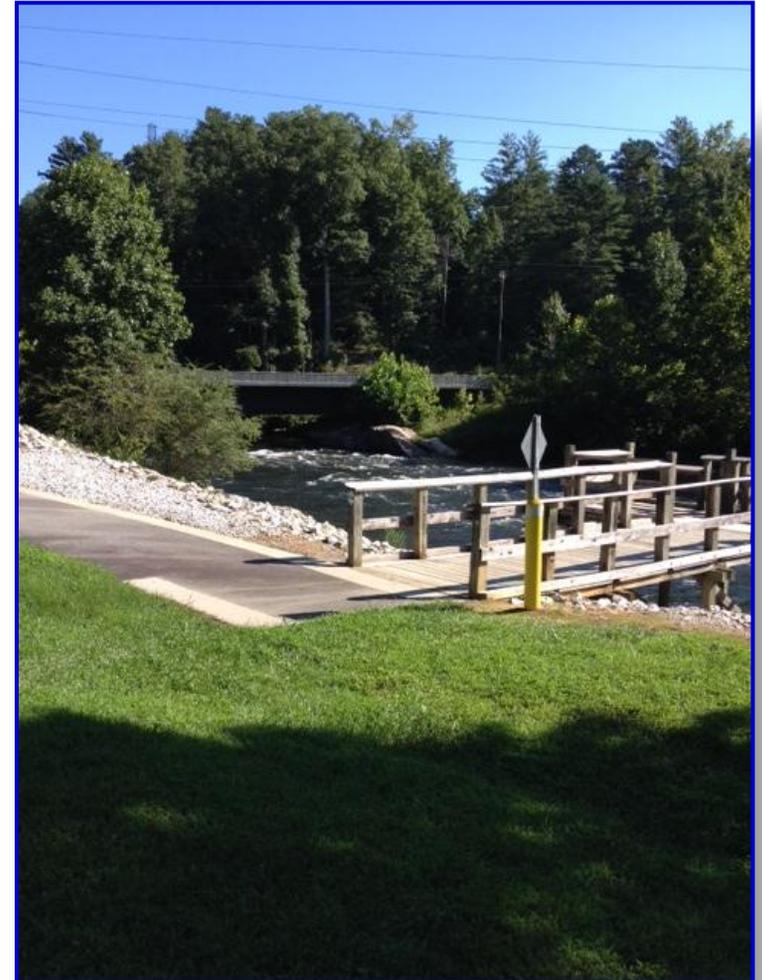
(CRA 10.27.2.1). This segment will require a major permitting effort via FERC and Duke Energy. Costs may prohibit this section from being built until such time as N. Powerhouse Road is upgraded via a NC-DOT transportation improvement project. At this time, there are no plans to upgrade N. Powerhouse Road.

**South C - Alternate LJT Route/OVNHT; N. Powerhouse Road to Bridgewater Trailhead:** The Lake James Loop Trail and Overmountain Victory National Historic Trail will share the planned alignment for a portion and maybe all of this section of the trail temporarily. It is important to note that this section of trail will be designated as the OVNHT once constructed. The OVNHT will connect to the Catawba River Greenway in Morganton in the future, but it has not been determined what route the trail will take to complete this connection. A majority of this section of the Loop Trail/OVNHT traverses Duke Energy lands. The Duke Energy lands will be transferred to the NC Department of Environment and Natural Resources (NCDENR) (CRAs 10.27.3.4, 10.27.3.1) and funding for construction of this section of the trail is secured as part of the FERC relicensing process (CRA 10.27.4.2). The trail continues across North Powerhouse Road and onto Duke Energy lands and traverses northeast to the Bridgewater Trailhead. The existing portage trail for the Upper Catawba River Paddle Trail also enters the Bridgewater Trailhead. This portage trail ascends to Lake James and the location of a proposed pocket park (CRA 10.27.2.4). Since the segment traverses lands of one owner and is funded, it can be planned and constructed quickly and easily. This segment of trail is approximately 1.7 miles (9,029 ft.) in length.

**Overall Land Ownership:**

**South - Preferred**

Duke Energy	40%
Private Property	25%
NC Division of Parks and Recreation	20%
Crescent Resources	14.5%
NCDOT	0.5%



Bridgewater Trailhead

**South - Alternate**

Duke Energy	40%
Private Property	25%
NC Division of Parks and Recreation	20%
Crescent Resources	14.5%
NCDOT	0.5%

Segment	Land Ownership	Trailheads	Maintenance	Length (ft.)	Cost	Bridges (ft.)	Cost
South A	NCDPR Private Crescent Resources Duke Energy	-Canal Bridge -Proposed Catawba River Dam Overlook	NCDPR Burke County Volunteers	14,362	\$71,810	n/a	n/a
South B Preferred	NCDPR Private Crescent Resources	-Canal Bridge	NCDPR Burke County Volunteers	6,336	TBD	n/a	n/a
South C Alternate	Current Duke Energy Future NCDENR	-Bridgewater	NCDENR Burke County Volunteers	9,029	\$45,145	n/a	n/a

Grand Total – South Preferred: TBD

Grand Total – South Alternate: \$116,995

Note #1: As of 2013, the typical cost of natural surface trail constructed five feet wide in mountainous terrain by a PTBA contractor is approximately \$5/linear foot. This figure was used for the entire length of the trail alignment.

Note #2: Planning level estimates do not include ROW acquisition costs; possible additional structure costs (retaining walls); or costs for amenities including lighting, benches, bicycle parking, signage, interpretive kiosks, etc.

Note #3: South B will be considerably more expensive and extensive for permitting purposes than South C

**Connecting Trails**

**Approximate Additional Trail Mileage**

Proposed spur trail to Catawba River Dam Overlook/Trailhead	.45 miles
Proposed Overmountain Victory National Historic Trail	13 miles
Upper Catawba River Paddle Trail	80+ miles
Muddy Creek Blueway Trail	5 miles
Proposed connector trail to Lake James State Park – Catawba River Section	TBD

**Additional Points of Interest**

- Old Catawba River
- Proposed Catawba River Dam Overlook/Trailhead
- Proposed pocket park west of Bridgewater Trailhead on portage trail

**Lake Views**

- North across Lake James between Benfield’s Landing and North Powerhouse Roads

**Facilities/Services**

- Bridgewater Trailhead – recreational opportunities – fishing, paddle trail access
- Pocket Park and associated facilities
- Lake James Campground (private)

**Opportunities**

- A commercial campground is located nearby on this section of the Loop Trail.
- For segment 3B, public use easements and funding for this segment of



the OVNHT will be secured after the FERC relicensing process is completed. Duke Energy lands will be transferred to NCDENR.

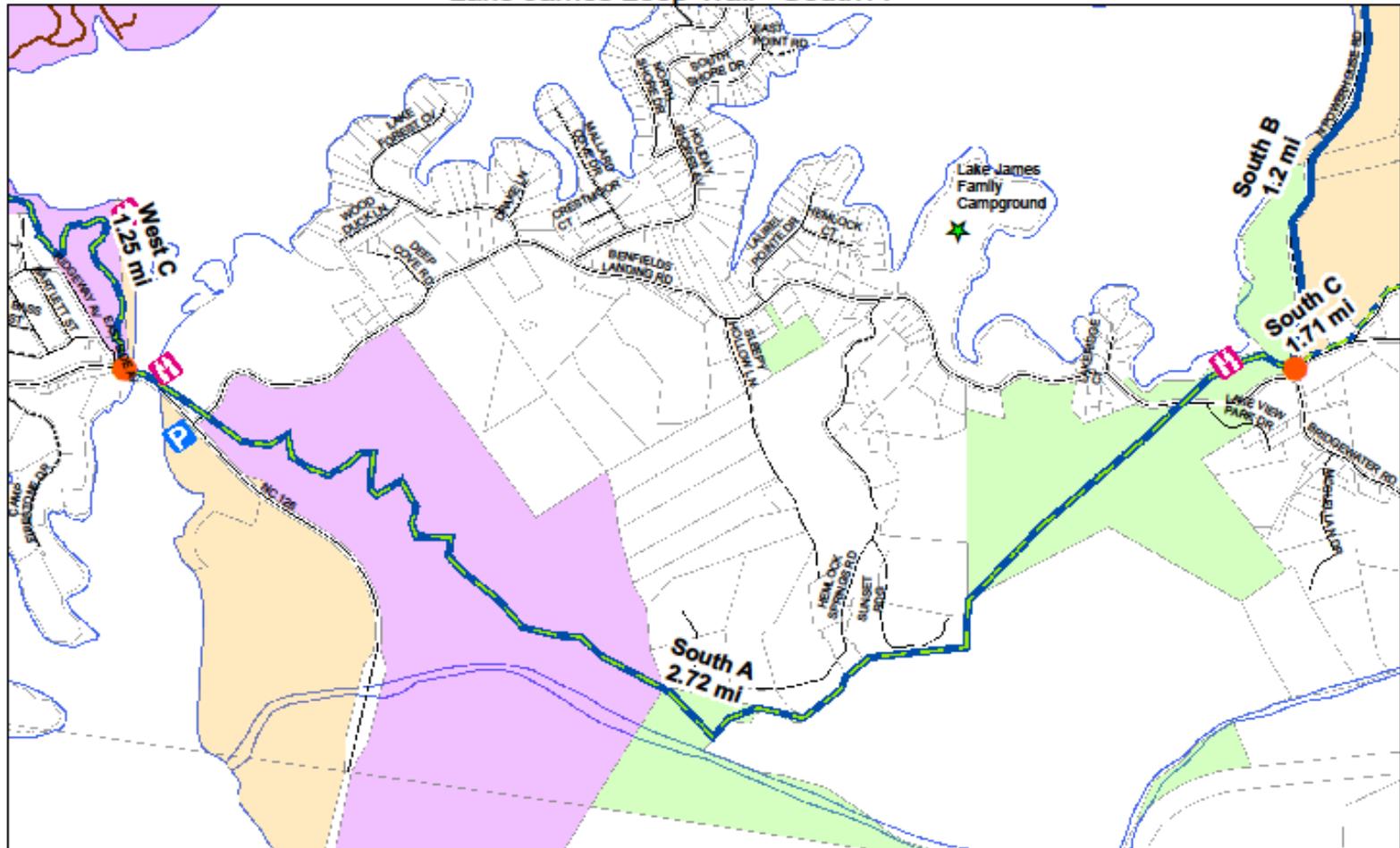
**Concerns**

- Existing NCDOT challenges – road crossings at Benfield’s Landing and North Powerhouse Road
- A trail easement across private land is needed.
- Approval from Duke Energy and FERC will be required to construct trail to the Catawba River Dam Overlook/Trailhead.



Duke’s Dam Access Road Ray’s Dairy Road

Lake James Loop Trail - South A

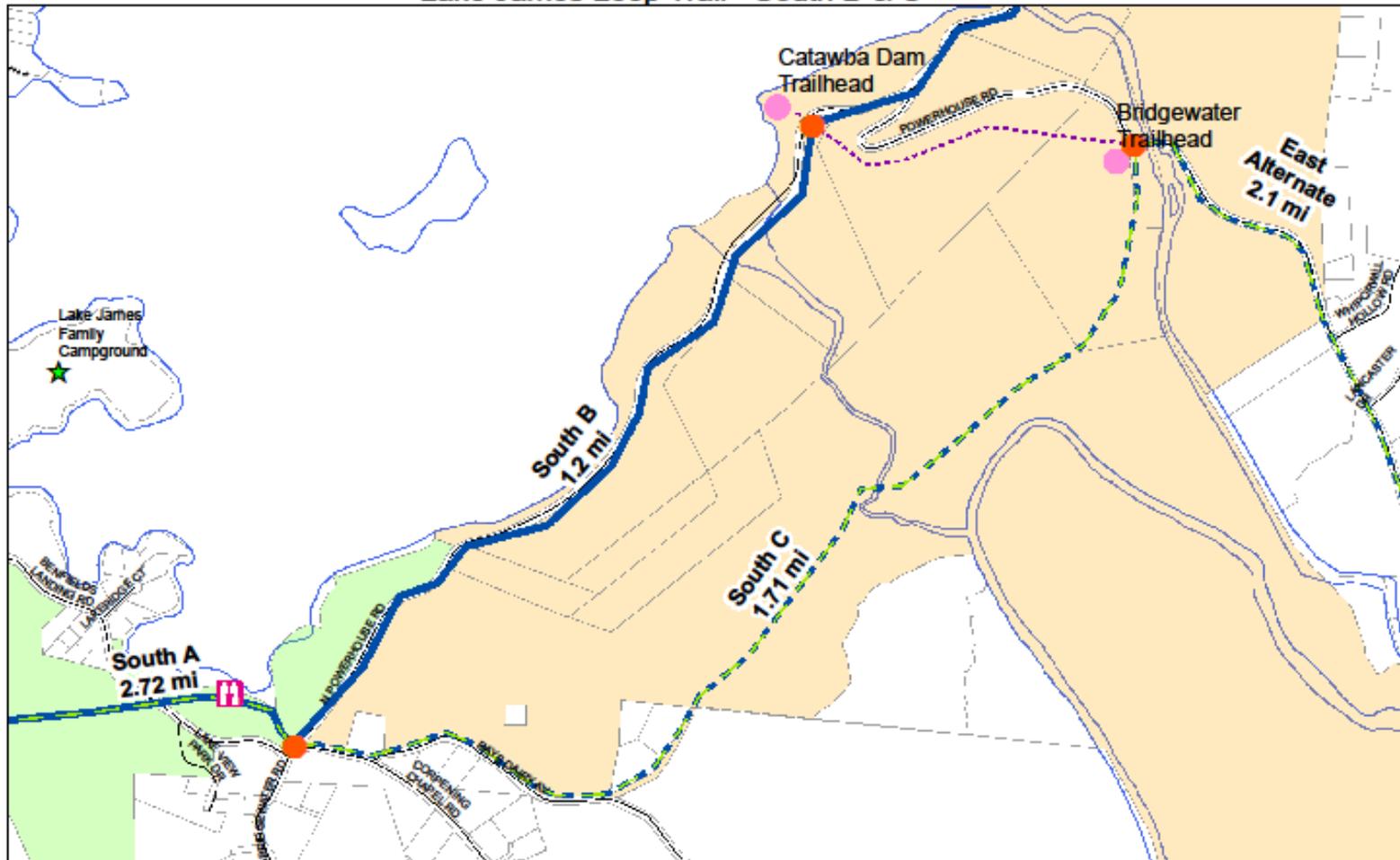


NOTE: The location of these trails are conceptual. Final trail alignments will be evaluated in the field.

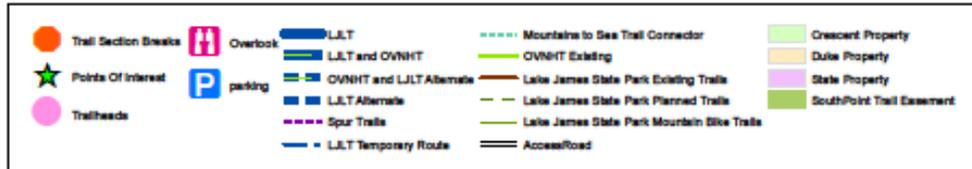
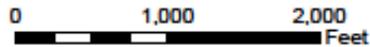
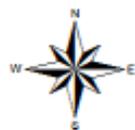


Trail Section Breaks	Overlook	L.L.T.	Mountains to Sea Trail Connector	Crescent Property
Points Of Interest	parking	L.L.T and OVNHT	OVNHT Existing	Duke Property
Trailheads		OVNHT and L.L.T Alternate	Lake James State Park Existing Trails	State Property
		L.L.T Alternate	Lake James State Park Planned Trails	SouthPoint Trail Easement
		Spur Trails	Lake James State Park Mountain Bike Trails	
		L.L.T Temporary Route	Access Road	

Lake James Loop Trail - South B & C



NOTE: The location of these trails are conceptual. Final trail alignments will be evaluated in the field.



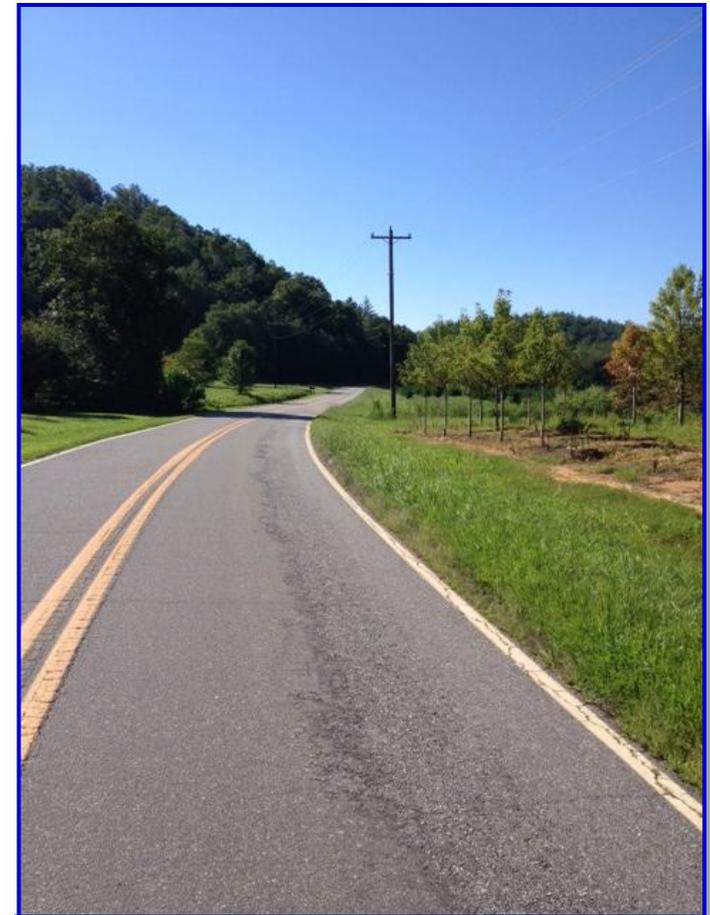
**East: General Description**

This section of the Lake James Loop Trail will be the most difficult section to plan and construct. It involves “closing” the Loop Trail alignment and constructing a section of the OVNHT to assist with the continuation of the trail to the Catawba River Greenway in Morganton. A couple of alternatives exist for both trail alignments, but further study and evaluation are necessary, and fall outside of what can be accomplished as part of the Lake James Loop Trail Master Plan. The long-range vision is for the Lake James Loop Trail to parallel North Powerhouse Road across the three dams and the OVNHT to parallel the Catawba River to Morganton. There currently is not a detailed plan for the OVNHT past the Powerhouse Road /Catawba River Bridge to Morganton.

Both alignments will offer trail users very different experiences. The preferred route will offer expansive lake views. The alternate route will offer views and access to the Catawba River well away from the lake. If both routes are constructed, this will offer an additional loop option as part of the Lake James Loop Trail. The trail alternatives presented below include alignment of some segments of both trails along existing roadways. The existence of recorded right of way will determine the feasibility and cost of these segments. The ends of the preferred and alternative alignments are identical from the intersection of North Powerhouse and St. Paul Church Roads to the termination of section #4 on Harris Whisnant Road.

**East - Preferred: Catawba River Dam Trailhead to Harris Whisnant Road**

**East - Preferred:** This segment of the trail will travel from the Catawba River Dam Overlook/Trailhead northeast alongside or in close proximity to North Powerhouse Road. The trail will follow North Powerhouse Road to Cobb Avenue. It will travel west on Cobb Avenue to Harris Whisnant Road. Once the trail meets Harris Whisnant Road, it will follow the road north to the alignment of section #2 – north that leads to the Eastlake #6 Trailhead. Both Cobb Avenue and Harris Whisnant Road have a confirmed 60 foot right of way along them. This segment of trail is approximately 3.5 miles (18,480 ft.) in length.



Powerhouse Road Trail Within 60 ft. R/W

North Powerhouse Road has multiple challenges for locating a five foot wide paved multi-purpose path along the proposed 4 mile route. NCDOT estimates that constructing a five to six foot wide path separated by curb and gutters will cost approximately \$4 million dollars. Duke Energy estimates the project will cost closer to \$5-6 million. Initial analysis reveals that many sections of North Powerhouse Road are not suitable for curb and gutter and would require a substantial amount of grading and fill. There is also no recorded right of way along some segments of the road. Another challenge is the necessity of FERC and Duke Energy approval for any potential project that could impact the integrity of the dams. In areas where Duke Energy land exists between the road and the Lake, the trail may utilize this land to continue a natural surface trail when possible.

The preferred alignment of the Lake James Loop Trail will likely have to wait until a major upgrade can be completed on North Powerhouse Road through a NCDOT transportation improvement project. As of this writing, NCDOT has indicated that widening and improving North Powerhouse Road is not on the ten year transportation improvement plan project list.

**East - Alternate: Bridgewater Trailhead to Intersection of N. Powerhouse Road and St. Paul's Church Road**

**East Alternate:** This segment of the trail will travel from the Bridgewater Trailhead south along Powerhouse Road and then leave the road to parallel the Catawba River to the Powerhouse Road/Catawba River bridge crossing. An encroachment agreement will need to be made between Burke County and NCDOT for a portion of this segment of trail. The trail will continue along the Catawba River before leaving and turning north towards Conley Bumgarner Road. It will utilize public use easements across Duke Energy property that will be transferred to NCDENR as part of the FERC relicensing process. The OVNHT and Lake James Loop Trail will split here as the OVNHT continues to parallel the River. Currently, the exact route that the OVNHT will take in order to connect Lake James to the City of Morganton has not been determined.



St. Paul's Church Road (60 ft. R/W)

*LAKE JAMES LOOP TRAIL MASTER PLAN*

Once at Conley Bumgarner Road, the Loop Trail will follow the roadside east to St.

Paul Church Road. The trail then continues northwest along St. Paul Church Road to its intersection once again with North Powerhouse Road. At this point, the alignment rejoins the segment 4 preferred route. This segment of trail is approximately 5.7 miles (29,885 ft.) in length.

**Overall Land Ownership:**

**East - Preferred**

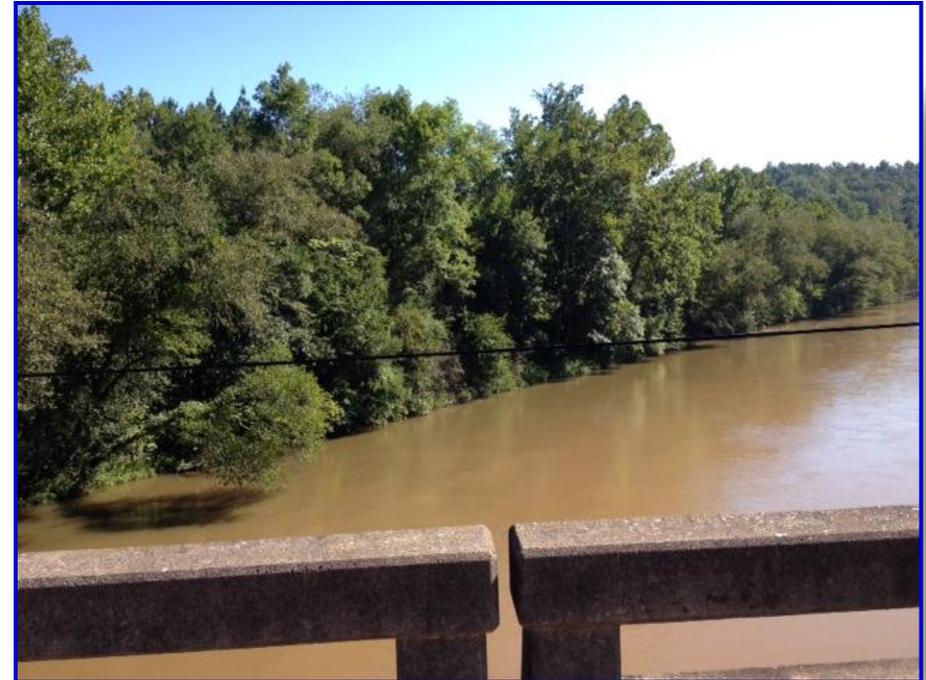
Duke Energy	60%
NCDOT	39.5%

**East - Alternate**

Duke Energy	40%
NCDOT	0.5%

**Connecting Trails**

Proposed connector to commercial businesses at the intersection of NC Hwy 126 and North Powerhouse Road	.2 miles
Proposed Overmountain Victory National Historic Trail	12 miles
Upper Catawba River Blueway Trail	80+ miles



Catawba River Bridge

**Approximate Additional Trail Mileage**

*LAKE JAMES LOOP TRAIL MASTER PLAN*

<b>Segment</b>	<b>Land Ownership</b>	<b>Trailheads</b>	<b>Maintenance</b>	<b>Length (ft.)</b>	<b>Cost</b>	<b>Bridges (ft.)</b>	<b>Cost</b>
East Preferred	Duke Energy NCDOT	-Catawba Dam Overlook -Eastlake #6	Burke County Volunteers	18,480	TBD	n/a	n/a
East Alternate	Duke Energy Future NCDENR NCDOT	-Bridgewater	Burke County Volunteers NCDENR	29,885	TBD	n/a	n/a

Grand Total – Section 4 Preferred: TBD  
 Grand Total – Section 4 Alternate: TBD

Note #1: As of 2013, the typical cost of natural surface trail constructed six feet wide in mountainous terrain by a PTBA contractor is approximately \$5/linear foot. Bridges are typically budgeted at \$1,000/linear foot.

Note #2: Sections along existing roads are expected to cost significantly more than section in natural areas.

Note #3: Planning level estimates do not include ROW acquisition costs; costs for potentially required retaining walls; or costs for amenities including lighting, benches, bicycle parking, signage, interpretive kiosks, etc.

**Points of Interest**

- Lake views along North Powerhouse Road and Duke Energy dams – preferred route
- Catawba River – alternate route

**Facilities/Service**

- Commercial business area at the intersection of NC Hwy 126 and North Powerhouse Road for supplies, food, and drink.

## **Opportunities**

- Many residential neighborhoods are located on the northeast shore of Lake James. It is likely that this section of the Lake James Loop Trail will be the most heavily used section by local residents.
- The close proximity of the Loop Trail to the commercial business area at NC Hwy 126 and North Powerhouse Road may encourage the development of additional businesses that will support the trail (shuttles, bike rentals, etc.)
- If the preferred route is successful, it will represent a good example of a cooperative effort between Duke Energy, Burke County, NCDOT, and FERC to establish a trail/greenway within a FERC project area and under challenging circumstances to overcome a number of concerns.
- If both the preferred and alternate routes are constructed, this will offer trail users an additional loop option on the Lake James Loop Trail.
- For a segment of alternate route, public use easements and funding for the OVNHT will be secured after the FERC relicensing process is completed. Duke Energy lands will be transferred to NCDENR.
- An agreement with the Catawba-Wateree Final Agreement Committee (FAC) as well as Duke Energy allows for multiple miles of trail to be built and the release of funding in the amount of \$600,000 to be provided within 18 months, following issuance of the new license and close of recreation related challenges for the OVNHT segment. Any monies not used for the OVNHT may be redirected for use on the Lake James Loop Trail.
- Extending the OVNHT by approximately 8.5 miles will be a significant accomplishment in building of a National Park Service linear trail. It may also provide important impetus to continue planning and implementation efforts to extend the Trail to the Catawba River Greenway in Morganton.

## **Concerns**

- Existing NCDOT challenges – adequate right of way may not exist along North Powerhouse, Powerhouse, and Conley Bumgarner Roads
- Both routes will require a cooperative effort between Duke Energy, Burke County, NCDOT, and FERC.
- Constructing a trail in an already built environment along North Powerhouse Road will add to trail development and easement and/or right-of-way acquisition costs.

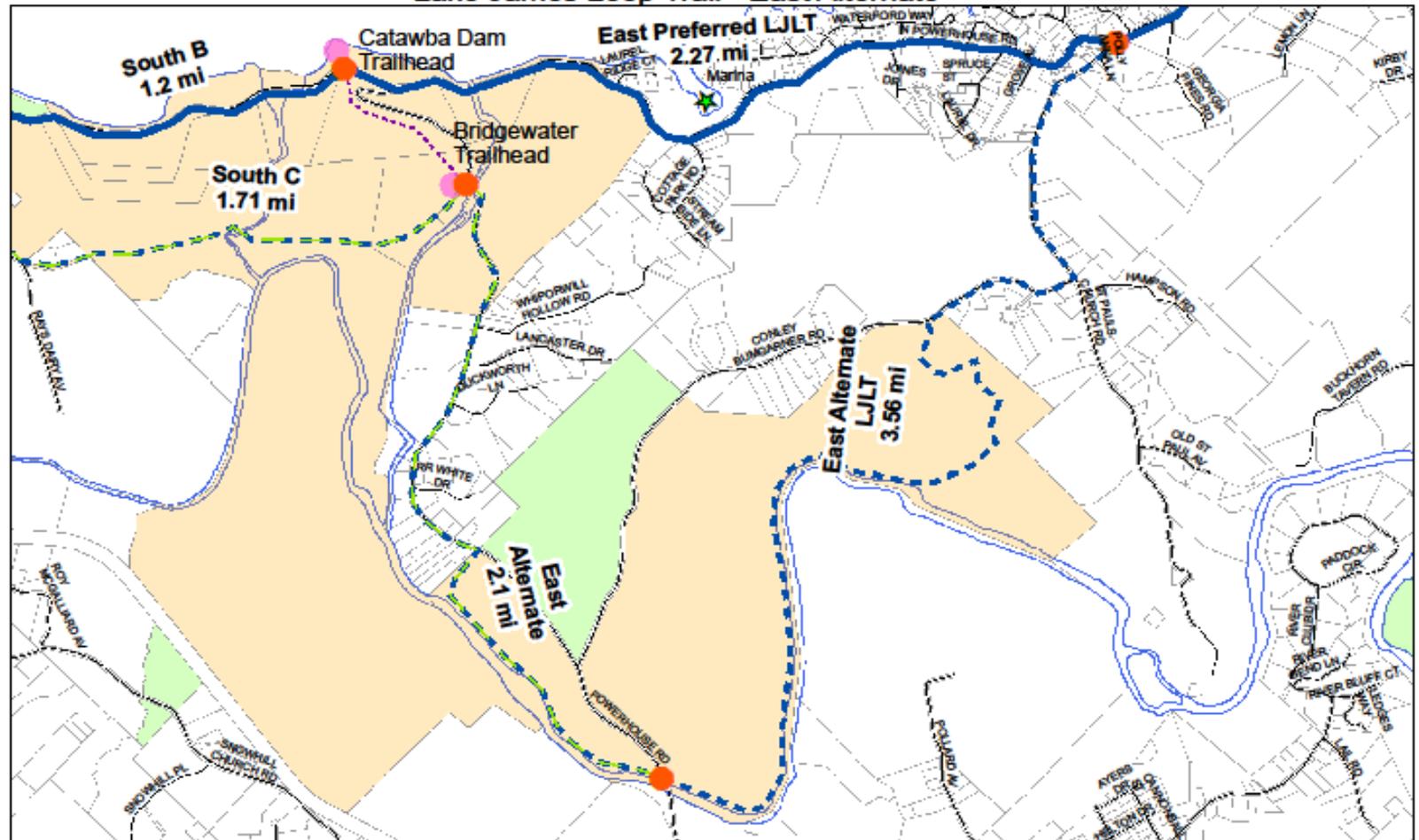
*LAKE JAMES LOOP TRAIL MASTER PLAN*

- The alternate Lake James Loop Trail alignment follows the Catawba River limiting long-range views of the lake and surrounding terrain.
- An additional trailhead would be beneficial along this section of the Loop Trail.
- Possible flooding issues along the Catawba River will need to be considered when the alternate route is designed and constructed.

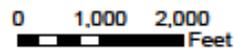


**Notice Challenges for Trail Placement Across Dam**

### Lake James Loop Trail - East Alternate

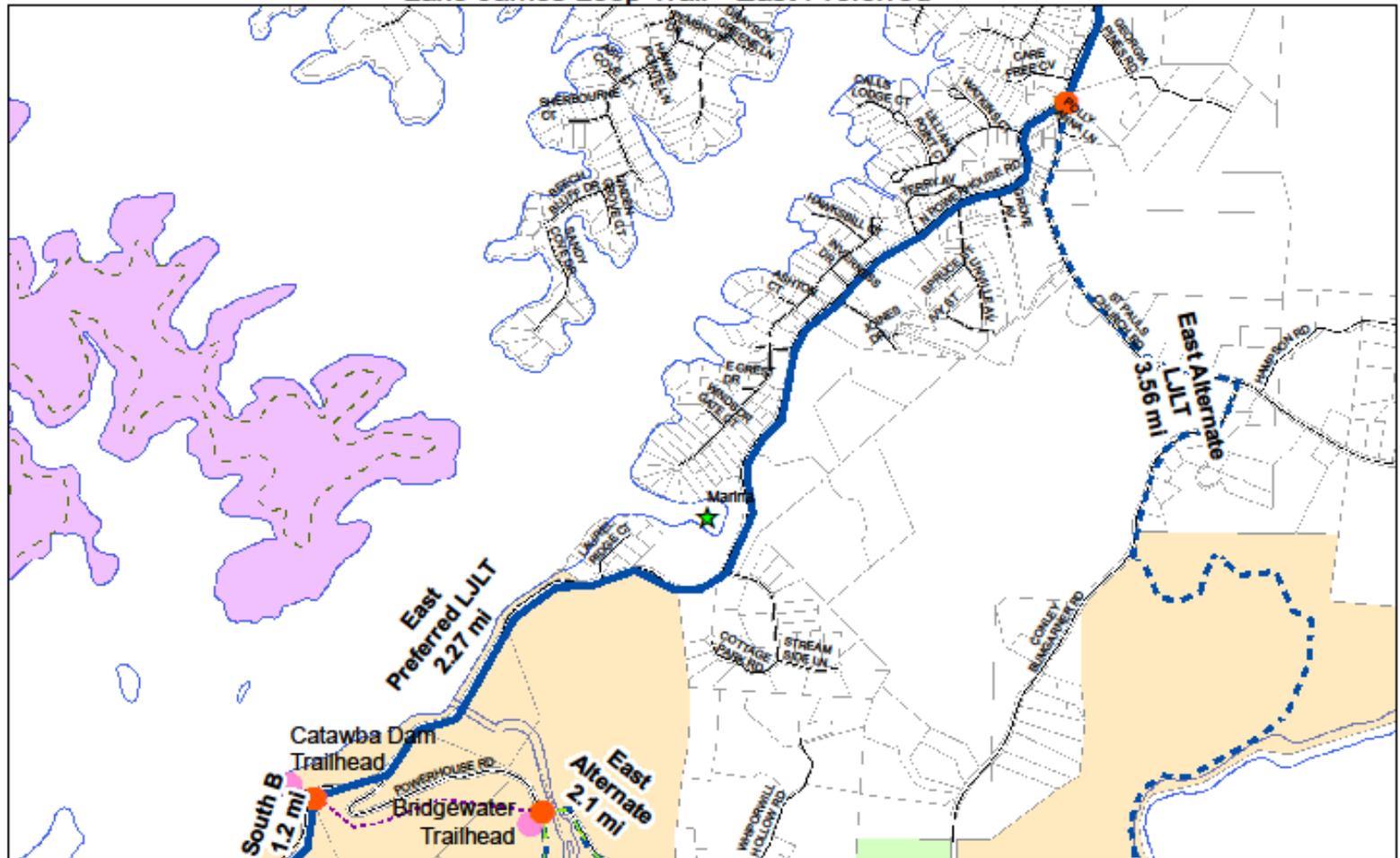


NOTE: The location of these trails are conceptual. Final trail alignments will be evaluated in the field.

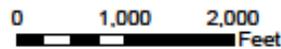
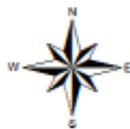


Trail Section Breaks	Overlook	LJT	Mountains to Sea Trail Connector	Crescent Property
Points Of Interest	parking	LJT and OVNHT	OVNHT Existing	Duke Property
Trailheads		OVNHT and LJT Alternate	Lake James State Park Existing Trails	State Property
		LJT Alternate	Lake James State Park Planned Trails	SouthPoint Trail Basement
		Spur Trails	Lake James State Park Mountain Site Trails	
		LJT Temporary Route	Access Road	

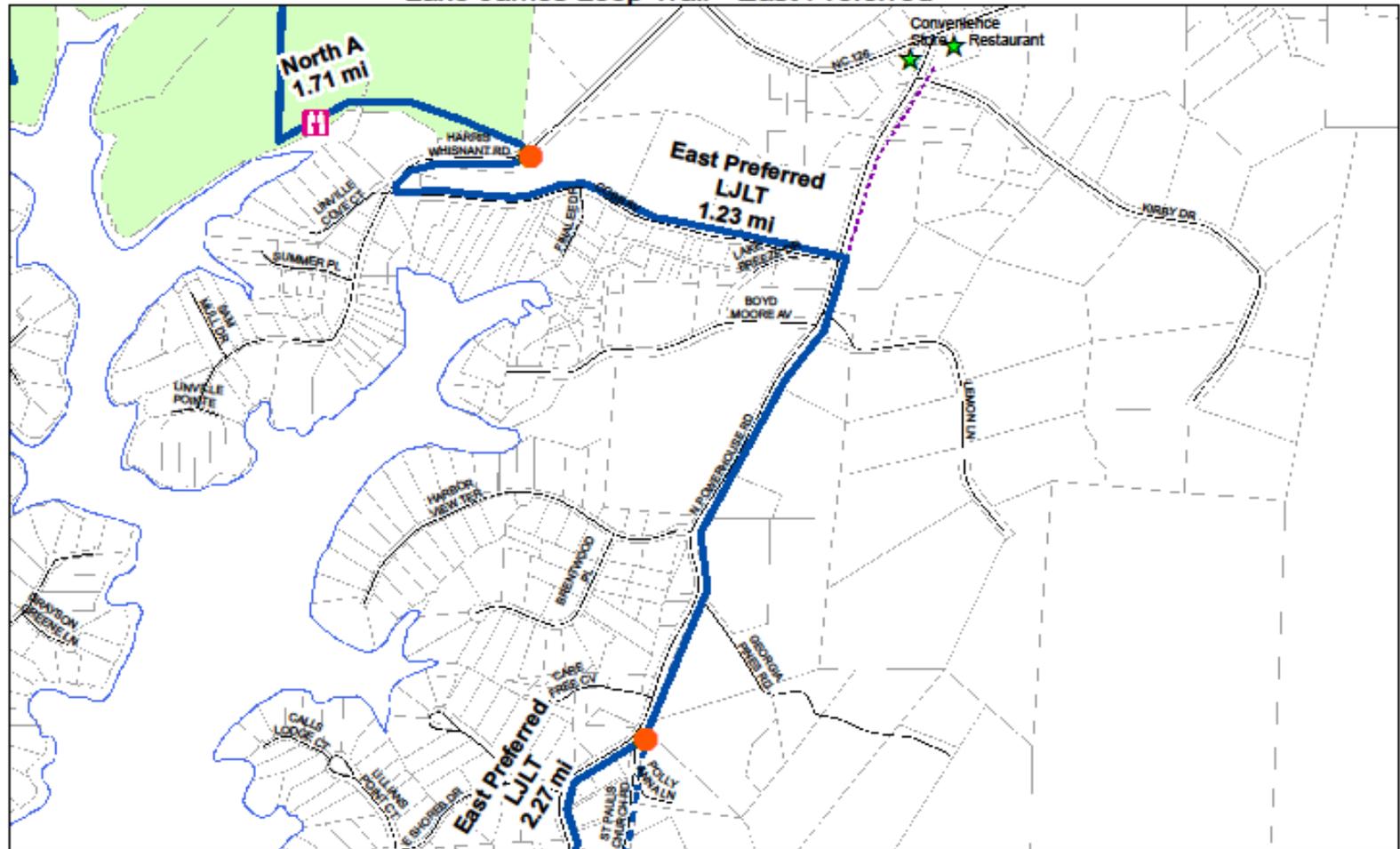
Lake James Loop Trail - East Preferred



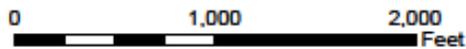
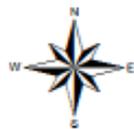
NOTE: The location of these trails are conceptual. Final trail alignments will be evaluated in the field.



Lake James Loop Trail - East Preferred



NOTE: The location of these trails are conceptual. Final trail alignments will be evaluated in the field.



Trail Section Breaks	Overlook	LJT	Mountains to Sea Trail Connector	Crescent Property
Points Of Interest	parking	LJT and OVNHT	OVNHT Existing	Duke Property
Trailheads		OVNHT and LJT Alternate	Lake James State Park Existing Trails	State Property
		LJT Alternate	Lake James State Park Planned Trails	SouthPoint Trail Easement
		Spur Trails	Lake James State Park Mountain Bike Trails	
		LJT Temporary Route	Access/Road	

## **Implementation Timeline**

This master plan provides a blueprint, in the form of achievable trail sections and segments, to move forward towards implementation. While the chart below provides seasons and years, it must be recognized that it primarily provides a sequencing of the tasks that must occur in each trail section and segment. It also must be noted that this document is fluid and subject to change as conditions warrant. Unforeseen circumstances can change some aspects of the development of the Loop Trail. Planning will be ongoing throughout the process, and some steps may occur simultaneously.

A conscious effort has been made to create an implementation plan that will show consistent regular progress for the development of the Lake James Loop Trail. This will help build public support and ongoing momentum for the project. Construction and official dedication or opening of new trail segments should be planned and timed to show steady progress over the life of the project.

Duke Energy's receipt of a new license from the Federal Energy Regulatory Commission (FERC) for the Catawba-Wateree Project is expected in the near future. Once the license is issued, approximately \$1.1 million will be available for development of the Lake James Loop Trail and the Overmountain Victory National Historic Trail. This will be funding that could potentially be leveraged with additional grant funds from various sources. Also, the value of public use easements (purchased or donated) from Crescent and private property owners can be leveraged as matches for potential grants and other funding sources. For this reason, the timing of legal record for these easements may need to be planned in a way to be able to take advantage of their value.

One of the most important implementation steps will be the continued involvement of residents in the future trail development. It is recommended that the County constitute a Trails Advisory Committee, either as a component of the County Parks and Recreation Department or as a stand-alone advisory group to the Board of County Commissioners. This advisory group can provide valuable assistance, feedback, support and coordination on all aspects of implementation.

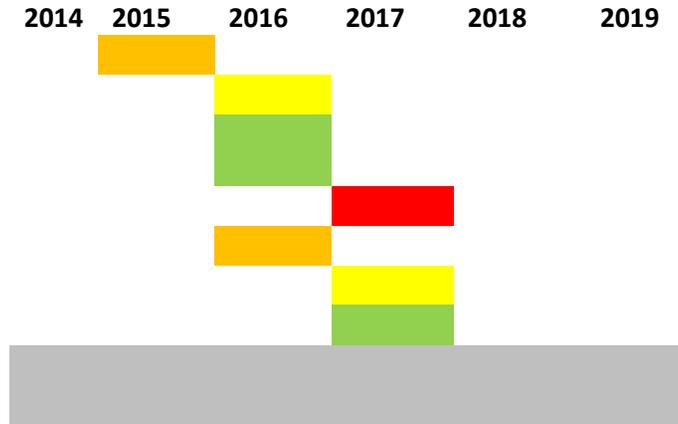
*LAKE JAMES LOOP TRAIL MASTER PLAN*

West A, B, C	Item	2014	2015	2016	2017	2018	2019
	Identify/flag alignment on NCWRC Gamelands	COMPLETE					
	Prepare paperwork (permitting, contract documents, etc.)	■					
	Construct alignment		■				
	Acquire public trail easement across private property	■					
	Identify/flag alignment on private property	COMPLETE					
	Prepare paperwork (permitting, contract documents, etc.)		■				
	Construct alignment			■			
	Identify/flag alignment on Lake James State Park		■				
	Prepare paperwork (permitting, contract documents, etc.)			■			
	Construct alignment			■			
<b>North A, B</b>		<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
	Acquire public trail easement across private property and Crescent Resources property	■					
	Identify/flag alignment	COMPLETE					
	Prepare paperwork (permitting, contract documents, etc.)		■				
	Construct alignment		■				
<b>North C</b>	Identify/flag alignment on NCWRC Gamelands	COMPLETE					
	Prepare paperwork (permitting, contract documents, etc.)	■					
	Construct alignment		■				
	Determine solutions to NCDOT challenges	■					
	Implement solutions to NCDOT challenges	■					

*LAKE JAMES LOOP TRAIL MASTER PLAN*

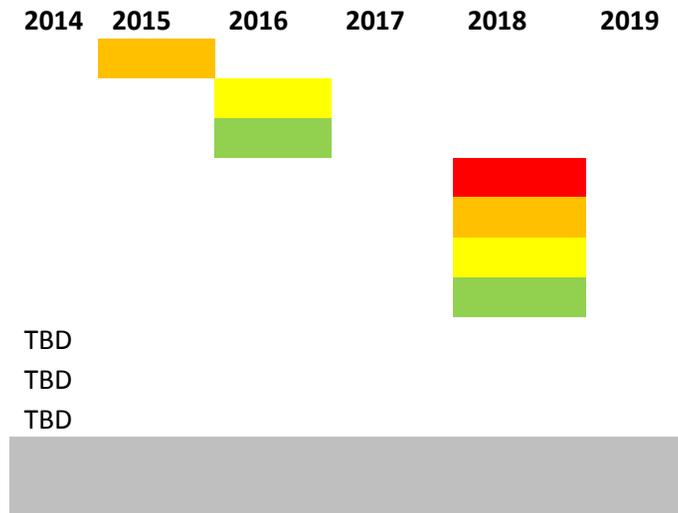
**South A**

- Identify/flag alignment on Lake James State Park
- Prepare paperwork (permitting, contract documents, etc.)
- Construct alignment & Acquire public trail easement across private property
- Acquire public trail easment across Duke Energy/Crescent property
- Identify/flag alignment
- Prepare paperwork (permitting, contract documents, etc.)
- Construct alignment
- Determine solutions to NCDOT challenges
- Implement solutions to NCDOT challenges



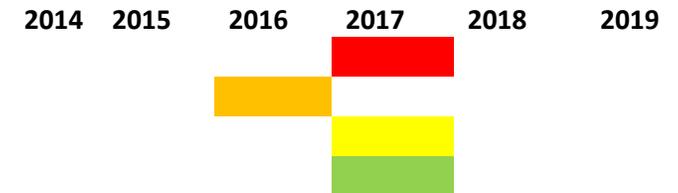
**South B Preferred**

- Identify/flag alignment on Lake James State Park
- Prepare paperwork (permitting, contract documents, etc.)
- Construct alignment
- Acquire public trail easement across private property
- Identify/flag alignment on private property
- Prepare paperwork (permitting, contract documents, etc.)
- Construct alignment
- Acquire public trail easement across Crescent Resources property
- Identify/flag alignment
- Construct alignment
- Determine solutions to NCDOT challenges
- Implement solutions to NCDOT challenges



**South C Alternate**

- Acquire public trail easement across Duke Energy property
- Identify/flag alignment
- Prepare paperwork (permitting, contract documents, etc.)
- Construct alignment



*LAKE JAMES LOOP TRAIL MASTER PLAN*

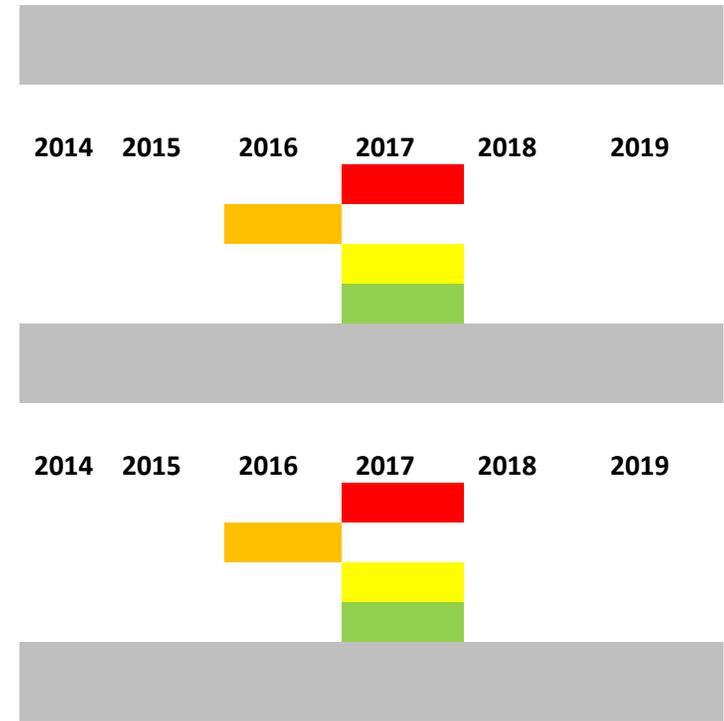
Determine solutions to NCDOT challenges  
 Implement solutions to NCDOT challenges

**East Preferred**

Acquire public trail easement across Duke Energy property  
 Identify/flag alignment  
 Prepare paperwork (permitting, contract documents, etc.)  
 Construct alignment  
 Determine solutions to NCDOT challenges  
 Implement solutions to NCDOT challenges

**East Alternate**

Acquire public trail easement across Duke Energy property  
 Identify/flag alignment  
 Prepare paperwork (permitting, contract documents, etc.)  
 Construct alignment  
 Determine solutions to NCDOT challenges  
 Implement solutions to NCDOT challenges



## Trail Highlights

**Lake James:** Lake James is a large reservoir located in the foothills of Western North Carolina which straddles the border between Burke and McDowell Counties. This 6,812 acre impoundment with over 150 miles of shoreline was created between 1916 and 1923 to produce hydroelectric power for the small towns of Marion and Morganton with the construction of dams across the Catawba and Linville Rivers and Paddy Creek. The lake was named for tobacco tycoon and benefactor of Duke University, James Buchanan Duke, also the founder of Duke Power Company. Much of the lakeshore is permanently protected. Low density zoning requirements also help to ensure the remaining areas around the lake will be carefully managed and developed. Lake James offers residents and visitors boating, fishing, and swimming as well as other water-based recreational opportunities.



**Lake James State Park:** Lake James State Park is one of the most recent additions to the North Carolina State Parks system. It was established in 1987 by the North Carolina General Assembly when funds were appropriated for the purchase of 565 acres of land and the initial phase of facility development in McDowell County. In 2004, Lake James State Park acquired an additional 2,915 acre tract from Crescent Resources Inc. in Burke County. This purchase expanded the state park to six times its former size and protected more than 30 miles of shoreline. The state park offers hiking and mountain biking trails, picnicking, nature observation, swimming, and canoeing. The Lake James Loop Trail will meander through the park giving trail users the opportunity to take advantage of the traditional state park facilities and services located in this important asset.

**Mountains to the Sea Trail Connector:** The Mountains to Sea Trail (MST) is an approximately 1,000 mile long planned trail that connects Clingmans Dome in the Great Smoky Mountains National Park to Jockey's Ridge State Park on the coast. The trail is envisioned as the scenic backbone of an interconnected trail system spanning the state of North Carolina. The MST's route attempts to connect as many trail systems and natural scenic areas as possible providing residents and visitors a diverse range of opportunities. Approximately half of the Trail is complete in multiple disconnected segments across the state.

The Lake James Loop Trail will connect with the MST via an existing three-mile spur trail, located across NCWRC Gamelands, just east of the Linville River bridge on NC Hwy 126. This spur will also provide access to additional trails in the Linville Gorge, Wilson Creek, Pisgah National Forest, and over 300 miles of the MST from Clingmans Dome in the Great Smoky Mountains National Park to Stone Mountain State Park in Wilkes County.

**Overmountain Victory National Historic Trail:** The Overmountain Victory National Historic Trail (OVNHT) is part of the National Park Service - National Trails System. It recognizes the Revolutionary War Overmountain Men, patriots from what is now East Tennessee, who crossed the Great Smoky Mountains and fought in the Battle of Kings Mountain in South Carolina. The trail network consists of a 330-mile corridor, including a 70-mile branch from Elkin, North Carolina, that joins the main route at Morganton, North Carolina. Fifty-seven miles of OVNHT are officially developed for public use, and development continues on the remaining sections. The official sections of the trail were established through agreements with landowners and land managers and often have overlapping designations. All officially certified segments are identified by signs displaying the trail logo (an Overmountain man in profile on a brown and white triangle) or a white triangular blaze.



Currently, 5.5 miles are certified in Burke County with an additional seventeen miles in the planning stages. Up to 8.5 miles of new OVNHT will be constructed based on this master plan, with the possibility of additional trail being added following a more in-depth study to determine the best route to extend the trail into Morganton. The additional mileage to Morganton will be approximately 12 miles along the Catawba River to the existing Catawba River Greenway in the City of Morganton. A parallel Commemorative Motor Route travels along state highways and in some stretches actually travels over the old historic roadway.

The Overmountain Victory National Historic Trail is a cooperative effort of the National Park Service, U.S. Forest Service, U.S. Army Corps of Engineers, Overmountain Victory Trail Association, local governments, local citizens' associations, local historical societies and the states of Virginia, Tennessee, North Carolina, and South Carolina.

**North Carolina Wildlife Resources Commission Gamelands:** The Pisgah Gameland – Linville River Tract is owned and managed by the North Carolina Wildlife Resources Commission (NCWRC) for public hunting and trapping. It encompasses approximately 1,432 acres and is adjacent to US Forest Service (USFS) lands to the west. The Gamelands protects a portion of White Creek which feeds into Lake James. Residents and visitors may enjoy hunting, birdwatching, and nature observation opportunities, as well as hiking along the MST connector located within the Gamelands.

**Linville Gorge Wilderness & Linville State Natural River:** The Linville Gorge Wilderness ("The Grand Canyon of North Carolina") is the third largest wilderness area in North Carolina and one of only two wilderness gorges in the Southern United States. The Wilderness area contains approximately 11,786 acres within the Pisgah National Forest and is managed by the US Forest Service. The Linville River is approximately 1,400 feet below the surrounding ridges providing a challenging and enjoyable hike for serious recreationists. The thirteen miles of the River that divides the Gorge is one of four rivers in North Carolina's Natural and Scenic Rivers System. Early white settlers named the river Linville in honor of area explorers John and William Linville. In the Cherokee language, the Linville River is called Ee-see-oh, which means "river of many cliffs". The Gorge is a favorite destination for those seeking eco-tourism related activities in remote areas.

The flora and fauna in the Gorge is extremely diverse, with a dense hardwood/pine forest and a wide variety of smaller trees and other plants as well as bear, fox, raccoon, trout, grouse, turkey, vultures, owls, hawks, copperheads, and timber rattlesnakes. The Linville Gorge contains some rare plant and animal species, as well as, interesting geologic formations. At the northern end of the gorge lies Linville Falls which is considered one of the most photographed waterfalls along the Blue Ridge Parkway. Wiseman's View, a rock outcrop near the center of the gorge, provides excellent views of Table Rock and Hawksbill Mountains and the interior of the Gorge.

**Catawba River:** The Catawba River (named after the Native American tribe that first settled on its banks) is a tributary of the Wateree River in the states of North and South Carolina. The River is approximately 220 miles long and is considered one of



Linville Gorge Draining to Lake James

“America’s Most Endangered Rivers” by the American Rivers organization. It is impounded through a series of reservoirs for flood control and hydroelectricity. The Catawba also provides drinking water to millions of residents.

The headwaters of the Catawba River begins in the Blue Ridge Mountains in western McDowell County approximately 20 miles east of Asheville. The Catawba joins the Linville River and forms Lake James. It then journeys east and south flowing through other impoundments on its way to Lake Norman passing near Morganton, Hickory, and Mooresville. From Lake Norman it flows south, passing west of Charlotte, before entering Lake Wylie, where it forms approximately ten miles of the border between North and South Carolina. The Catawba River continues its journey through South Carolina before it joins the Wateree River on its way to the Atlantic Ocean.

## Area Information

### Cultural History

The Catawba River has served as a historic transportation route, cultural connector, and wildlife corridor throughout the area’s history. Early Native Americans in the area identified themselves as the *Kawahcatawbas*, "the people of the river". The Catawba and Wateree Tribes used the River for transportation and traded with Spanish explorers at outposts located near the River. The ruins of one of these outposts, Fort San Juan, have been located and excavated in close proximity to the Catawba River in Morganton. Based on Spanish records and archaeological findings, it appears that Fort San Juan was occupied in 1567 and 1568.

The Catawba River and its tributaries were also followed by Revolutionary War soldiers on their way to the campaign leading up to the Battle of Kings Mountain in 1780. The Overmountain Victory National Historic Trail preserves and commemorates the route. The Trail crosses private and public lands in some areas, and also follows a road route through other areas.

The impoundment of the Catawba River to form Lake James also marks another important moment in history. The local settlement of Fonta Flora, an African American sharecropping village, was flooded in 1916 by Southern Power Company to bring electricity to the Catawba



**Henry Coy McGimpsey**  
(May 8, 1898 - December 28, 1978) The youngest child of Riley Rufus McGimpsey and Christian V. Moore McGimpsey. Born at Pleasant Hill, on the Linville River, Fonta Flora. Married Jettie Crisp on November 5, 1918. They were the parents of six children. Photograph taken on his wedding day.

Valley. A community of approximately 100 full time residents, there are no known photographs or painted pictures of Fonta Flora before it was slowly covered by the rising waters of the Lake.

**Climate**

At an elevation of approximately 1,200 feet, the Lake James area’s climate is fairly warm during summer, with temperatures in the 80s and 90s, and moderately cold during the winter, with temperatures typically in the 30s and 40s. Rainfall is fairly evenly distributed throughout the year with the wettest month of the year being March. Snowfall averages seven inches in the winter. The annual average precipitation in the area is 54 inches.

**Geography/Topography/Physiography**

Lake James is located at the base of the Blue Ridge Mountains, approximately 1,200 feet above sea level, between the small towns of Marion and Morganton. It is the uppermost lake in the Catawba River system and lies behind a series of four earthen dams. Lake James contains 10.2 square miles of surface area and more than 150 miles of shoreline. The average depth of the Lake is 65 feet with a maximum recorded depth of 120 feet. The Lake James area is located within the Catawba River drainage.

Lake James is influenced by two distinct geomorphic regions classified by similarity of landform and geology, the Blue Ridge and Piedmont Physiographic Provinces. Elevations in Blue Ridge Province range from about 1,200 to 4,000 feet. This montane section of Burke County consists of steep slopes and ridges with deep valleys on the eastern escarpment of the Blue Ridge. Elevations in the Piedmont Province typically range from 1,200 to 1,400 feet. This area is characterized by the rolling to moderately steep topography of the western Piedmont. Although only a couple of hundred feet in elevation difference, the area surrounding Lake James is quite rugged and characterized by steep slopes. Development is difficult and typically limited to areas adjacent to narrow ridges where roads can be placed.

**Tree & Wildlife Species**

Native plants and animals of the Lake James region are characteristic of the two



Peregrine Falcon

physiographic regions. The substantial differences in elevation, topography, and geology between the two regions produce high natural community diversity and high species diversity. The transition zone between these two distinct regions also creates an ecologically diverse area.

Especially noteworthy are one rare plant species and two animal species found near the Lake James area. Mountain golden-heather is listed as State Endangered and Federally Threatened. The Linville Gorge contains almost all of the world's known population of this unique plant, and it is only known to exist at one other location. The Peregrine Falcon and Bald Eagle are both listed as State Endangered and can often be seen flying over the Lake.

### **Benefits of the Loop Trail**

Trails and greenways are often viewed narrowly for their benefits. People often recognize and tend to focus on the recreational and environmental benefits of these important assets. The total package of benefits that can be tied to trails and greenways for local communities includes economic, health, community and transportation advantages. When these additional benefits are considered, the evidence about the advantages of trail and greenway development is compelling, especially given the minimal public investment involved compared to other undertakings with similar community goals.

As an example, while researching the costs of adding bike lanes to NC Highway 126 around Lake James, NCDOT estimated a cost of approximately 14 million dollars. The cost of the Lake James Loop Trail is estimated to be approximately 5 million dollars. This equates to substantial savings while offering many more benefits to the community.

### **Economic**

In an age when economic development is increasingly based on small business growth, many cities, counties, and states are using natural assets and outdoor recreation pursuits as a means to develop additional economic impact. From the national trends in "rails to trails" to regional and statewide trail and greenway systems (e.g., Mountains to Sea Trail, Great Allegheny Passage, and Pacific Crest Trail), communities are seeing trails and greenways as an opportunity to increase outdoor recreation activities and recognizing this as a viable option for economic development. This development can be seen through direct impact, sales and lodging taxes, increased property value and tax revenue, and total economic impact. The economic benefits of trails and greenways may be readily apparent as in the case of trailside businesses or more subtle as in business development

and relocation for “quality of life” amenities. There is no question, however, that countless communities across America have experienced an economic revitalization due in whole or in part to trails and greenways.

Direct economic impact is reflected in the actual amount spent by trail users while enjoying the trail. For the Virginia Creeper Trail, a 34 mile rail-trail in southwestern Virginia, the direct economic impact is estimated to be no less than \$3 million a year. This impact can be estimated by multiplying the expected number of trail users by expenditures. If approximately 50,000 people visit the Lake James Loop Trail per year and spend an estimated \$35 per day for local users and \$125 per day for non-local users with a 50% local user and 50% non-local user expectation estimate, nearly \$4 million dollars a year would be generated. Tourism and recreation-related revenues from trails and greenways come in several forms. This includes recreation services (such as guided tours and shuttle buses), rentals (such as bicycles, kayaks, and canoes), restaurants, and lodging.

- The Outer Banks, NC: Bicycling is estimated to have an annual economic impact of \$60 million and 1,407 jobs supported from the 40,800 visitors for whom bicycling was an important reason for choosing to vacation in the area. The annual return on bicycle facility development in the Outer Banks is approximately nine times higher than the initial investment (4).
- Damascus, VA: On the Virginia Creeper Trail, locals and non-locals spend approximately \$2.5 million annually related to their recreation visits. Non-local visitors spend approximately \$1.2 million of this amount directly in the Washington and Grayson County economies.

Eco-tourism, nature-based vacation destinations and activities, is a growing segment of the economy. Greenways and trails are logical destinations for travelers seeking to incorporate a natural experience into their vacations. The Lake James area has numerous sites appropriate for passive and active recreational pursuits. The Lake James Loop Trail will be one of many assets and opportunities for visitors to take advantage of during their vacations. It will connect many of the other natural assets and opportunities in the area that can be utilized for eco-tourism.

The indirect economic impact is reflected in the ripple effect seen through the initial direct economic impact. Research on the Virginia Creeper Trail shows an estimation of 28 new jobs created with a \$610,000 increase in



Example of a Trail Spinoff Business - Bike Shuttle

labor revenue as a result of the trail. Furthermore, the research suggests that \$104,000 in business taxes and \$126,000 in additional property tax income are generated and by the trail. If an additional \$4 million dollars of direct economic impact is realized in the local economy due to the Lake James Loop Trail, the indirect economic impacts will add more revenue for local businesses and government through job creation and additional sales and property tax income.

A great deal of research exists which suggests that property values increase with proximity to outdoor recreation facilities, trails, and greenways. Direct correlations have been established between increases in home prices and proximity to biking facilities. Residential properties will realize a greater gain in value the closer they are located to trails and green space. One study found that 'trail availability' outranked sixteen other options including security, ball fields, golf courses, parks, and access to shopping or business centers. When property values increase, it results in additional property tax revenue for local governments. Findings from the *Trust for Public Land's Economic Benefits of Parks and Open Space* and the *Rails-to-Trails Conservancy's Economic Benefits of Trails and Greenways* (listed below) illustrate how this increase is realized in property value across the country.

- Apex, NC: The Shepard's Vineyard housing development added \$5,000 to the price of 40 homes adjacent to the regional greenway, and those homes were the first to sell.



Potential for Rustic Cabins along Trail

- Front Royal, VA: A developer who donated a 50-foot-wide, seven-mile-long easement along a popular trail sold all 50 parcels bordering the trail in only four months.

### Recreational

The recreational benefits offered by the Lake James Loop Trail will complement existing opportunities found in the area at Lake James State Park, NCWRC Gamelands, Linville Gorge, Catawba River, and adjoining US Forest Service lands. One recreational activity that is currently enjoyed in the area is road biking around the Lake. One factor that local bicycle enthusiasts indicated kept them from riding more often is the fear of traffic and unaware drivers. The Lake James Loop Trail offers a unique opportunity to separate automobiles from cyclists to circumnavigate the Lake. Not only will the Loop Trail provide a linear park

along the shores of Lake James, it is also proposed to create small water craft launch spots, a new boat launch, camping and cabin facilities, fishing access areas, and over 25 miles of trails, boardwalks, and bridges. All of these additional recreational opportunities will be beneficial for personal, community, and business development.

### **Health**

Trails and greenways provide an attractive, safe, and accessible low- or no-cost place to walk, hike, jog, or bicycle. More parks and green spaces lead directly to more physical activity by citizens. This gives people of all ages an opportunity to incorporate exercise into their daily routines. The health benefits of exercise, ranging from controlling obesity and hypertension to preventing heart disease, are numerous. Communities that encourage physical activity can see a significant positive effect on public health and wellness. Studies show that money invested in safe recreational opportunities for local citizens is recouped through reductions in health care costs. Children who live in the vicinity of parks or outdoor recreational facilities are also more likely to be physically active. The Lake James Loop Trail passes in close proximity to existing and future residential developments around the Lake. It will provide many residents from the Lake James area and Burke County a natural alternative to road walking and biking near and around the Lake.

### **Education**

Various educational opportunities can be offered through the Lake James Loop Trail. A significant portion of the Trail will pass through Lake James State Park. One of the primary highlights of this section will be the creation of an educational experience focusing on natural habitats and native flora and fauna of the Lake James region. Portions of the Lake James Loop Trail that overlap with the OVNHT will provide the opportunity to learn about the Overmountain Men and the Revolutionary War. Sites near the hydroelectric dams will offer an opportunity to discuss electricity production and how it feeds homes across the Catawba Valley. Other educational opportunities may include bicycle safety, wilderness medicine, and search and rescue simulations.



### Environmental

Trails and greenways protect important habitat, improve water quality, and provide corridors for wildlife. By protecting land along rivers and streams, greenways help filter pollution caused by agricultural and road runoff. These areas can also often serve as natural floodplains. According to the Federal Emergency Management Agency, flooding causes over \$1 billion in property damage every year. By protecting floodplains from intense development and restoring developed floodplains to their natural state, many riverside communities are preventing potential flood damage. Such conservation efforts make good sense because they save communities money in the long run. Finally, trails and greenways that utilize these corridors can serve as hands-on environmental classrooms.

### Transportation

Trails and greenways can be a crucial element in a seamless regional multi-modal transportation system. Many areas of the country incorporate these facilities into their transit plans as efficient and safe “feeders” into and out of transit stations and hubs. The opportunity to avoid congested streets and highways and travel through natural areas on foot or bike is a large factor in a community's "livability." While the Lake James Loop Trail may not offer a substantial alternative transportation option by itself, the existing and future connections that it will make to the Mountains to Sea Trail, Overmountain Victory National Historic Trail, Upper Catawba River Trail, and other connecting trails will prove to be valuable as they are developed.

## Planning, Construction, Management, and Maintenance of the Lake James Loop Trail

### Trail Users

The Lake James Loop Trail will be designed as a multiple use trail system centered on accommodating walking, hiking, jogging, and mountain biking activities. Work group discussions on trail use focused on safety, and group members decided that equestrian and



Paddy's Creek Bridge

ATV use is not feasible or appropriate at this time. Consideration for equestrian use on specific designated trail sections may be appropriate in the future. Initially, comfort and supply stations will be limited. It will be important that trail users be fairly self-sufficient and pack necessities such as water, food, and layered clothing.

**Trailheads**

An important component of the Lake James Loop Trail will be the establishment of trailheads strategically located around the perimeter of the Lake. Trailheads may provide a variety of amenities, but most importantly, they will provide access to the Trail where parking is available. Additional amenities may include kiosks/signage, litter receptacles, restrooms, and drinking fountains. Trailheads may also be located near other recreational amenities such as camping areas, picnic areas, fishing piers, swimming locations, and commercial businesses. Each trailhead will be developed based on the needs of the area it serves while taking into consideration other factors such as the availability of water and sewer. The following chart outlines an example of the types of amenities that a trail user might expect at each of the currently existing and proposed trailheads. Additional funding may be required for development of each trailhead.

<b>Trailhead</b>	<b>Section</b>	<b>Funding</b>	<b>Maintenance</b>	<b>Parking</b>	<b>Toilet</b>	<b>Picnic Area</b>	<b>Shelter</b>	<b>Signage</b>	<b>Kiosk</b>	<b>Overlooks / Lake Views</b>
<b>Lake James State Park Visitor Center</b>	State Park	State Park	State Park	X	X	X	X	X	X	
<b>Canal Bridge</b>	State Park/OVNHT	Burke County	TBD	X				X	X	X
<b>Catawba River Dam</b>	OVNHT	Duke Energy	Duke Energy Contract	X	X	X		X	X	X
<b>Bridgewater</b>	OVNHT	N/A - Existing	Duke Energy Contract	X				X	X	
<b>Eastlake #6</b>	Crescent	FERC	Burke County	X		X		X	X	X
<b>Fonta Flora Park</b>	Burke County	Burke County	Burke County	X				X	X	
<b>MST</b>	Linville	PARTF	Wildlife	X				X	X	

## Sustainable Trail Design

The Lake James Loop Trail will be sustainable, designed and constructed to minimize erosion, and require minimal maintenance. The trail will be approximately five feet wide, and the overall average trail grade or steepness will be 10% or less. This width will allow multiple uses of the trail and management access by off-highway vehicles. The trail design will incorporate the characteristics of a typical rolling contour trail that has a gentle grade, follows the contours of the terrain, is slightly outsloped, and meanders and undulates frequently to remove water from the trail surface and provide an interesting journey for the trail user. The trail will appear as narrow as possible while still maintaining the required tread width.

The trail design will utilize the five essential elements of sustainable trails as outlined in the International Mountain Bicycling Association’s (IMBA) publication “Trail Solutions”.

1. The Half Rule
2. The Ten Percent Average Guideline
3. Maximum Sustainable Grade
4. Grade Reversals
5. Outslope

Following these essential elements of sustainable trail design will promote sheet flow of water across the trail as opposed to flow of water down the trail and limit the volume and velocity of water on the trail tread. This will also minimize the amount of erosion that occurs on and around the trail which will minimize required maintenance. The trail will approach stream crossings in a manner that minimizes the grade entering and exiting the riparian corridor. Crossings will be as perpendicular to the stream as possible and bridged from high ground to high ground.

## Trail Construction

Members of the Professional Trailbuilders Association (PTBA) should be considered for contracted construction of the Loop Trail with mechanized equipment. These contractors have a thorough understanding of sustainable trail design and construction. Volunteers may also work with PTBA contractors in a “hybrid” manner. When utilizing this method, the contractor is responsible

### A Sustainable Trail . . .

- is gentle not steep.
- follows the contours of the hillsides.
- meanders and undulates frequently to remove water from the trail surface.
- is slightly outsloped.
- requires minimal maintenance.
- should be safe, functional and aesthetically pleasing.

for the rough cut of the trail tread and volunteers complete the finish work. Burke County will be responsible for securing any required local, state, or federal permits for construction.

The trail will be constructed using a “full bench cut” in which the entire trail tread is built on solid ground. A “partial bench cut” which is similar to “cut and fill” will only be utilized if a full bench cut is not feasible due to rock outcrops, slabs, or other natural features. A partial bench cut uses loose fill dirt to construct a portion of the trail tread. The fill dirt has a tendency to loosen over time and can then wash and erode. This issue is minimized when constructing a full bench cut. The trail bed will be shaped to leave an even, compacted, uniform surface free of indentations or protruding roots and stumps. The grading of trail tread, back slope, and drainage features will be finished to a smooth, stable surface. Any excess or disturbed soil outside the trail tread is evenly distributed and covered with leaves, organic debris, and other natural materials to aid in aesthetics and sedimentation and erosion control.

### **Trail Management & Maintenance**

Burke County will work in partnership with stakeholders, volunteers, land managers, and landowners on the management and maintenance of the Lake James Loop Trail. This will hopefully increase support and perceived feelings of ownership for the trail. Involvement and participation of partners in this effort may take a variety of forms. Memorandums of Understanding (MOUs) between Burke County and trail partners can specifically outline tasks, responsibilities, required commitments, deadlines, and general management. The landowner/manager of the lands over which the trail passes will guide the general management of each section of the Loop Trail. Any rules or regulations that may be in effect for their lands will also extend to those sections of the Lake James Loop Trail.

Trail maintenance is critical to provide and sustain the experience trail users expect and appreciate. The primary maintenance of the Loop Trail will require keeping the trail corridor trimmed of brush and vegetation, the trail tread debarred and clear of fallen debris, and water control measures cleared of leaves and organic debris. Volunteer training and participation is an important aspect of user group involvement. One option is to contract training to members of the PTBA. One example is the Trail Master certification course taught by Mike Riter from Trail Design Specialists, LLC. Federal Recreational Trails Program (RTP) funding is often available for educational courses like this and may require matching funds. Burke County or a non-profit “Friends” group could sponsor these courses and provide the matching funds for interested volunteers. An extended time commitment may be required of all course participants. By training volunteers in this manner, it promotes a significant commitment by the trail user/course participant and “Friends” group at great benefit to the landowners/land managers and Burke County at little to no cost. A separate financial account will be established and managed for trail maintenance by Burke

County in the amount of 5% of the total available funds for trail construction. Since there is currently 1.1 million dollars identified for trail construction, the initial trail maintenance account would be \$55,000.

### Trail Rules

- Trail hours are from sunrise to sunset
- Motorized vehicles are prohibited (except motorized wheelchairs)
- Equestrian use is prohibited
- Bicyclists must pass to the left and shout “passing to your left”
- Pets must be under your direct control and their waste picked up
- All refuse carried in must be carried out
- No removal of shrubs, plants, or animals
- Camping is allowed only at designated locations
- Wear good sturdy footwear and appropriate clothing

An adequate level of law enforcement should be provided via a multifaceted approach to help maintain a safe and secure trail environment. Trail users should also be educated and encouraged to understand and obey trail rules, respect other users, and respect adjoining properties.

### Trail Funding

Construction and maintaining the segments and various components of the Lake James Loop Trail will require leveraging funds from both public and private entities. At this time, the largest funding contribution will come directly from Duke Energy, as a result of the Comprehensive Relicensing Agreement (CRA) for the Catawba-Wateree Project.

Trail development funds are included in CRA 10.27.2.3 in the amount of \$500,000 for construction of the Lake James Loop Trail. Another \$600,000 is included in CRA 10.27.4.3 for the OVNHT. Any remaining funds left over from constructing this section of the trail can be used for the Lake James Loop Trail. Other CRA benefits that will enhance the trail users’ experience include: North Bend Recreation Land - 1 (NCDENR); enhancements to Bridgewater Access Area - 2 (CRA 10.27.4.1); North Bend Access Area up to \$225,000 (NCWRC); Catawba – Linville River Confluence Recreation Land – 1 (NCDENR); Paddy’s Creek Recreation Land – 1 (NCDENR); Linville Canoe/Kayak Access Area – 2; New Linville Access Area (Fonta Flora Burke County Park land); and the Pocket Park at the Dam for Lake James Loop Trail.

In addition to the contributions from Duke Energy, it will be necessary for Lake James State Park, NC Wildlife Resources Commission, NCDOT, Burke County, and others to contribute money to this project. A conservative estimate to construct the entire Lake James Loop Trail and its associated trailheads is approximately two million dollars. This does not include any additional costs required to relocate the trail to North Powerhouse Road which is currently estimated at five million dollars.

Implementing the recommendations of this plan will require a strong level of local support and commitment through a variety of local funding mechanisms. Perhaps most important is the addition of bicycle and greenway recommendations from this Plan into the Burke County annual budget. These improvements should become a high priority and be supported through portions of the funding currently used for public safety, streets, parks and recreation, planning, community development, travel and tourism, and local bonds.

Burke County and its municipalities should also seek a combination of funding sources that include local, state, federal, and private money. Fortunately, the benefits of protected greenways are many and varied. This allows programs in Burke County to access money earmarked for a variety of purposes including water quality, hazard mitigation, recreation, alternate transportation, wildlife protection, community health, and economic development. Availability of funds targeted directly for trail use has decreased in recent years, so it is imperative that local governments work together to create multi-jurisdictional partnerships and to develop their own local sources of funding. These sources can then be used to leverage outside assistance.

For the past two decades, a variety of funding has been used throughout North Carolina to support the planning, design and construction of urban and rural bicycle and greenway projects. The largest single source of funding for these projects has come from the Surface Transportation Act; the North Carolina Department of Transportation manages and distributes the majority of federal funds that are derived from the Act to support the development of bicycle/trail development.

There are many things Burke County can do to establish its own funding for greenway initiatives. For the most part, it takes money to get money. For Burke County, it will be necessary to create a local funding program through one of the methods that is defined within this report. Financing will be needed to administer the continued planning and implementation process, acquire parcels or easements, and manage and maintain facilities.

Following are some of the state, federal and local government funding sources. It is by no means a complete list as there are many other funding sources available that should be researched and pursued as well. Creative planning and consistent monitoring of funding options will likely turn up new opportunities not listed here.

- Clean Water Management Trust Fund; visit [www.cwmtf.net/](http://www.cwmtf.net/).
- Land & Water Conservation Fund (LWCF), NCDENR; visit <http://ils.unc.edu/parkproject/lwcf/home1.html>
- Local Capital Improvements Program (CIP)
- Local Bond
- Local Fees

*LAKE JAMES LOOP TRAIL MASTER PLAN*

- Western Piedmont COG - Rural Planning Organization
- NCDOT Division of Bicycle and Pedestrian Transportation; visit [www.ncdot.org/financial/fiscal/Enhancement/](http://www.ncdot.org/financial/fiscal/Enhancement/)
- North Carolina Conservation Tax Credit, NCDENR; visit [www.enr.state.nc.us/conservationtaxcredit/](http://www.enr.state.nc.us/conservationtaxcredit/)
- Recreational Trails Program, NC Div. of Parks & Recreation; <http://ils.unc.edu/parkproject/trails/home.html>
- State Transportation Improvements Program (STIP) (Incidental Projects i.e. wider lanes, bike lanes)
- State Safe Routes to School Program
- State Parks and Recreation Trust Fund (PARTF), Parks & Recreation Authority; visit [www.partf.net/learn.html](http://www.partf.net/learn.html)
- State Health and Wellness Trust Fund (HWTF)
- Water Resources Development Grant; see [www.ncwater.org/Financial\\_Assistance](http://www.ncwater.org/Financial_Assistance)
- Private Foundations, Partnerships & Volunteers
- General Obligation Bonds, Property Taxes, Occupancy Taxes
- Stimulus funding (potential for second round of stimulus funding)

## **SOURCES & REFERENCES**

1. American Planning Association. (2002). How Cities Use Parks for Economic Development.
2. National Association of Realtors and National Association of Home Builders. (2002). Consumer's Survey on Smart Choices for Home Buyers.
3. Rails to Trails Conservancy. (2005). Economic Benefits of Trails and Greenways.
4. NCDOT and ITRE. (2006). Bikeways to Prosperity: Assessing the Economic Impact of Bicycle Facilities.
5. Virginia Department of Conservation. (2004). The Virginia Creeper Trail: An Assessment of User Demographics, Preferences, and Economics.
6. Rails to Trails. (Danzer, 2006). Trails and Tourism.
7. American Planning Association. (2002). How Cities Use Parks for Economic Development.
8. Rails to Trails. (Danzer, 2006). Trails and Tourism.
9. U.S. Department of Transportation (DOT), Bureau of Transportation Statistics (BTS) and the Federal Highway Administration (FHWA). (2002). National Household Travel Survey.
10. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (1996). Physical Activity and Health: A Report of the Surgeon General.
11. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (2002). Guide to Community Preventive Services.
12. Rails-to-Trails Conservancy. (2006) Health and Wellness Benefit
13. Friends of Mountains to Sea Trails. [WWW.NCMST.ORG](http://WWW.NCMST.ORG)
14. NC Division of Parks and Recreation, State Trails Program (2013). Sustainable Trail Design.
15. North Carolina Bicycle Facilities Planning and Design Guidelines (1994) NCDOT Office of Bicycle and Pedestrian Transportation, Raleigh, NC.

**LETTERS OF SUPPORT**