

REQUEST FOR BOARD ACTION

HENDERSON COUNTY BOARD OF COMMISSIONERS

MEETING DATE: September 15, 2021

SUBJECT: Oklawaha Greenway Flooding Remediation

PRESENTER: Marcus Jones, PE, County Engineer

ATTACHMENTS: Yes
1. WGLA Presentation

SUMMARY OF REQUEST:

During the Board's February 17, 2021 meeting, staff was directed to perform a preliminary design for a boardwalk to replace the flood prone section of the Oklawaha greenway. In addition to the preliminary design, staff was directed to apply for the Land and Water Conservation Fund (LWCF) grant to fund the project. The grant requires a 50% match and would use the \$173,000 committed by the City for a portion of the local match. The grant application is due October 1, 2021 and more information can be found at this link: <https://rrs.cnr.ncsu.edu/lwcf/>. From the link, "A local government can request up to \$500,000 with each application. The matching grants can be used to acquire new park properties or renovate/replace amenities at an existing park."

Will Buie of WGLA Engineer will present the attached presentation of their preliminary design which concluded that raising the trail on the existing alignment was the best option. Based on this design and cost estimate of \$645,750, the LWCF grant would be allocated as follows:

Land and Water Conservation Fund grant:	\$322,875
City of Hendersonville	\$173,000
County of Henderson	<u>\$149,875</u>
	\$645,750

BOARD ACTION REQUESTED:

The Board is requested to authorize staff to apply for the Land and Water Conservation Fund grant. Should the grant be awarded, the Board would be requested to allocate \$149,875, with the additional required \$173,000 committed by the City of Hendersonville.

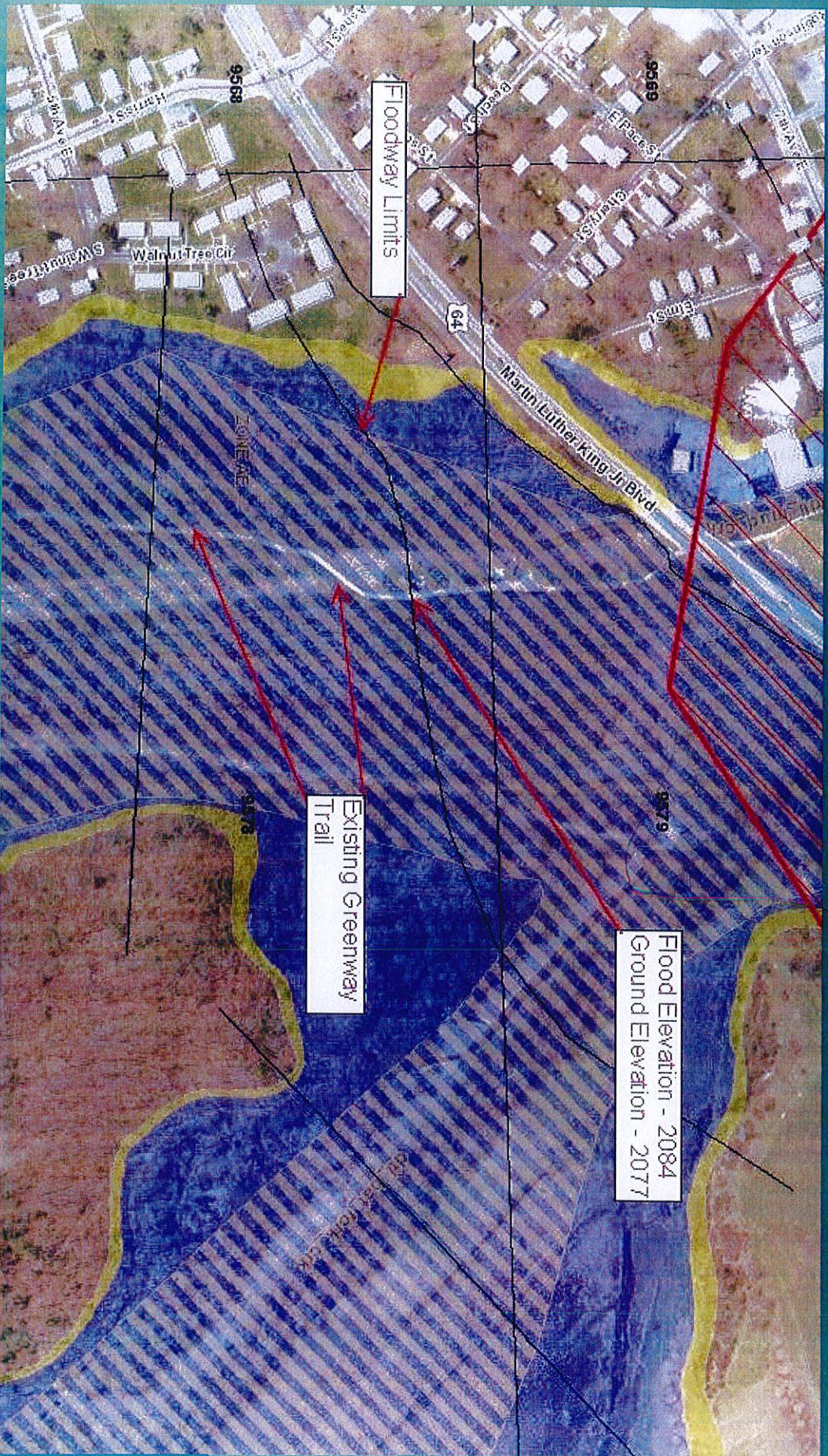
Suggested Motion:

I move the Board authorize staff to apply for the Land and Water Conservation Fund grant, allocating \$149,875 to add to the City's \$173,000 for the local match.

Oklawaha Greenway Trail Jackson Park



Oklawaha Greenway Trail Jackson Park



Oklawaha Greenway Trail Areas of Constant Flooding



Oklawaha Greenway Trail Photo of Areas Typically Flooded



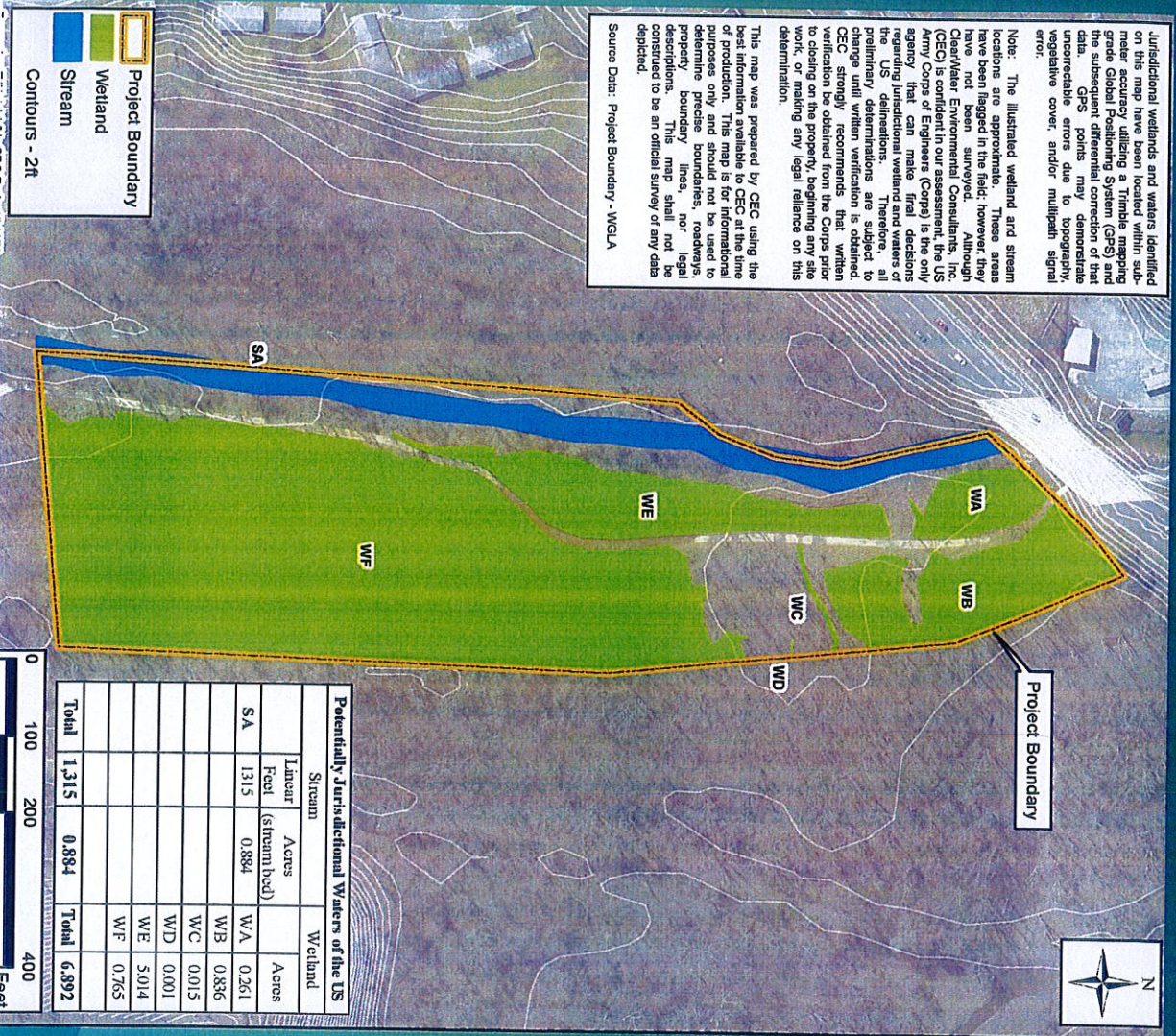
Stream & Wetland Delineation

Jurisdictional wetlands and waters identified on this map have been located within sub-meter accuracy utilizing a Trimble mapping grade Global Positioning System (GPS) and the subsequent differential correction of that data. Irregular points may demonstrate irregularities in the terrain, vegetation, or other factors that may cause a multipoint signal error.

Note: The illustrated wetland and stream locations are approximate. These areas have been flagged in the field; however, they have not been surveyed. Although CleanWater Environmental Consultants, Inc. (CEC) is confident in our assessment, the US Army Corps of Engineers (Corps) is the only agency that can make final decisions regarding jurisdictional wetlands and waters of the US. Delineation of wetlands and waters of the US preliminary determinations are subject to change until written verification is obtained. CEC strongly recommends that written verification be obtained from the Corps prior to closing on the property, beginning any site work, or making any legal reliance on this determination.

This map was prepared by CEC using the best information available to CEC at the time of production. This map is for informational purposes only and should not be used to determine boundary lines, easements, or other property rights. This map shall not be construed to be an official survey of any other type.

Source Data: Project Boundary - WGLA



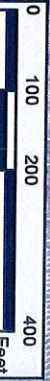
Potentially Jurisdictional Waters of the US			
Stream		Wetland	
Linear Feet	Acres (stream bed)	Acres	Acres
SA	1,315	0.884	W/A 0.261
			W/B 0.836
			W/C 0.015
			W/D 0.001
			W/E 5.014
			W/F 0.765
Total	1,315	0.884	Total 6.892

Project Boundary

Wetland

Stream

Contours - 2ft



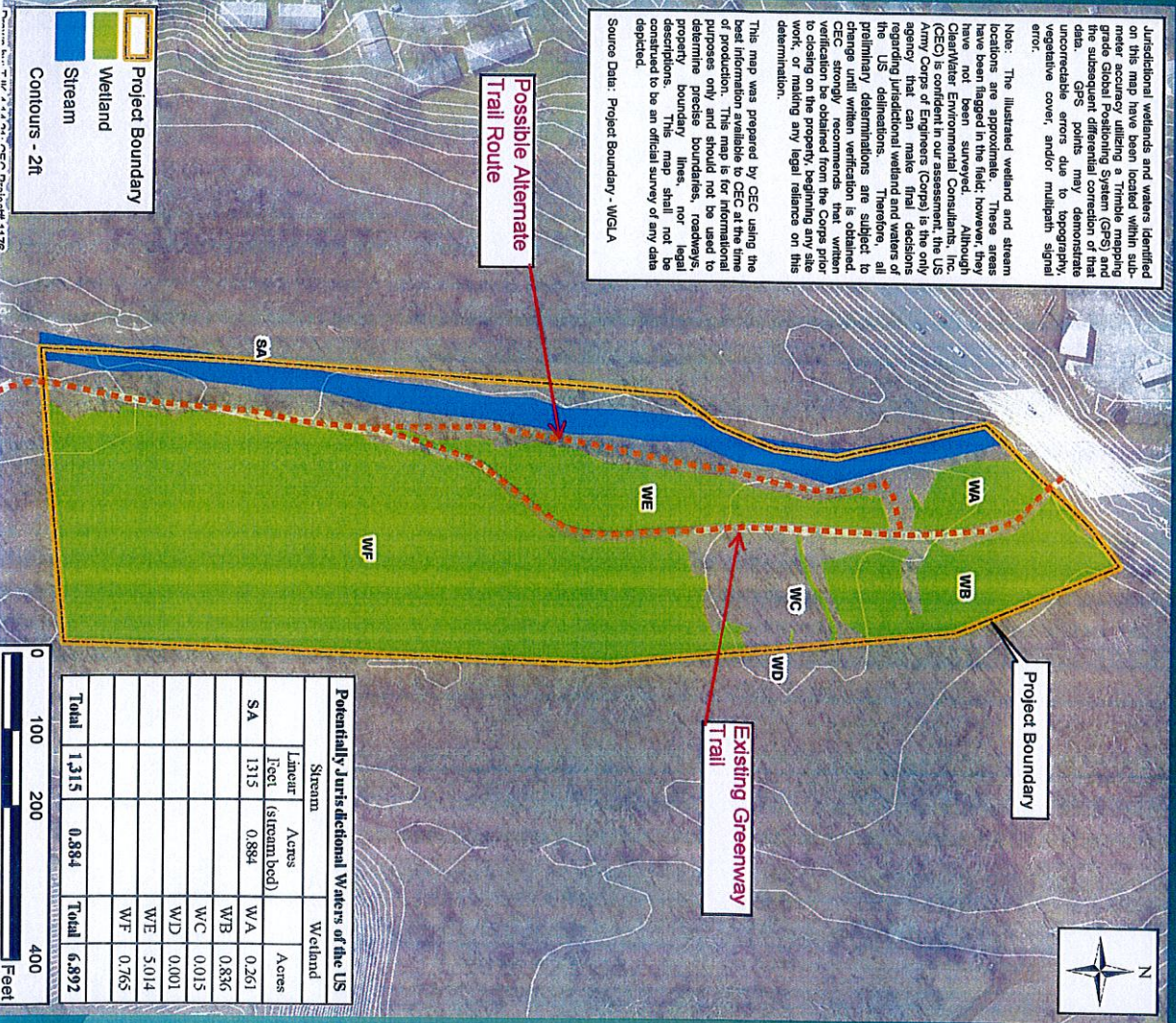
Stream & Wetland Delineation

Jurisdictional wetlands and waters identified on this map were delineated using a sub-meter accuracy uniting a Trimble sub-grade Global Positioning System (GPS) and the subsequent differential correction of that data. GPS points may demonstrate uncorrectable errors due to topography, vegetative cover, and/or multipath signal error.

Note: The illustrated wetland and stream boundaries are based on the field notes that have been filed in the field. These notes have not been surveyed. Although CleanWater Environmental Consultants, Inc. (CEC) is confident in our assessment, the US Army Corps of Engineers (Corps) is the only agency that can make final decisions regarding jurisdictional wetland and waters of the US delineations. Therefore, all preliminary determinations are subject to change until written verification is obtained. CEC strongly recommends that written verification be obtained from the Corps prior to closing on the project. CEC does not work, or making any legal reliance on the determination.

This map was prepared by CEC using the best information available to CEC at the time of production. This map is for informational purposes only and should not be used to determine precise boundaries, roadways, property boundary lines, nor legal descriptions. This map shall not be construed to be an official survey of any data.

Source Data: Project Boundary - WGLA



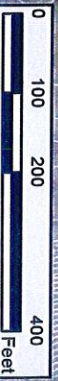
Possible Alternate Trail Route

Existing Greenway Trail

Project Boundary



Potentially Jurisdictional Waters of the US			
Stream		Wetland	
Linear Feet	Acres (stream bed)		Acres
SA	1315	0.884	0.261
		WB	0.836
		WC	0.015
		WD	0.001
		WE	3.014
		WF	0.765
Total	1,315	0.884	Total 6.892



Project Boundary

Wetland

Stream

Contours - 2ft

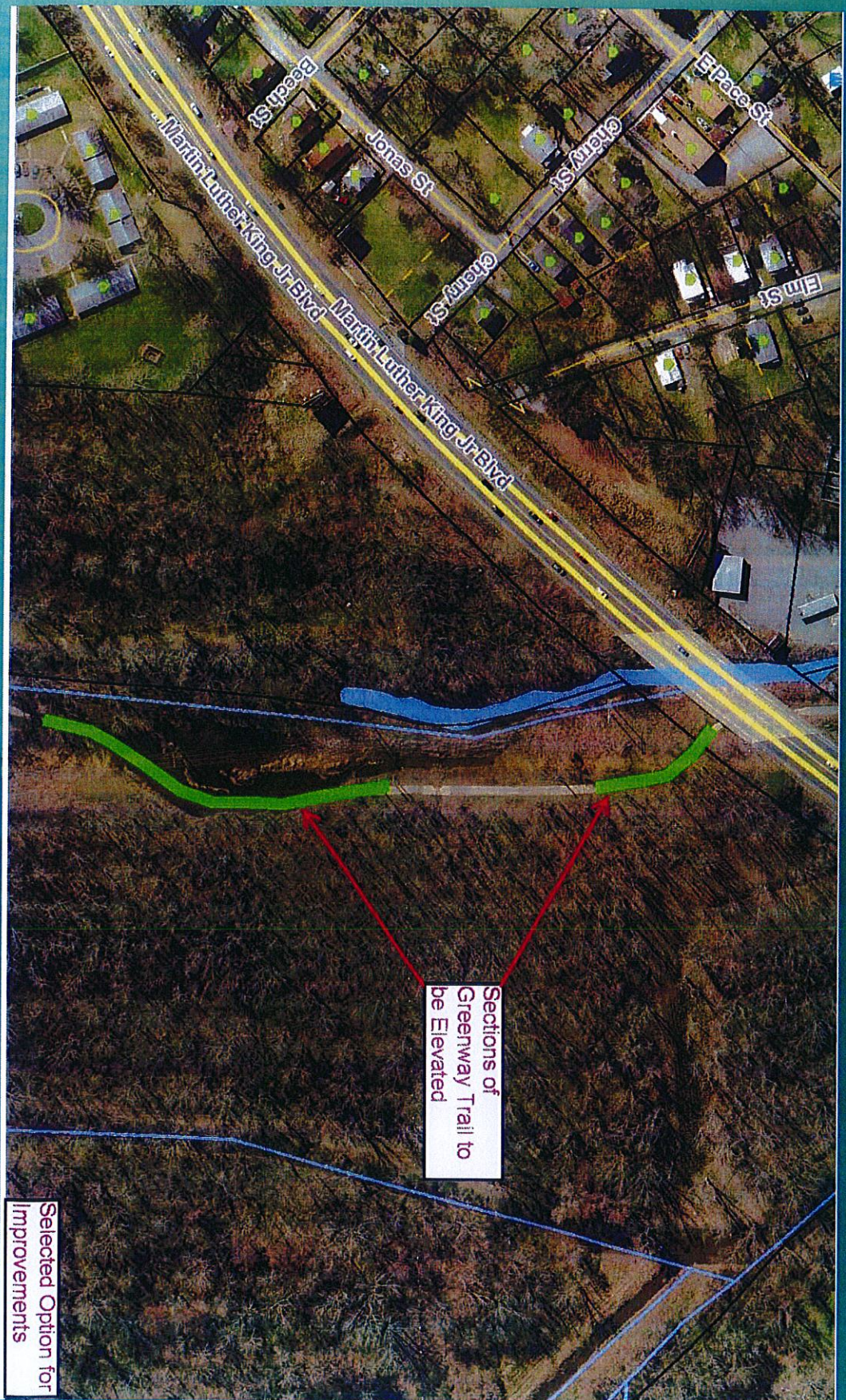
Map Date: 11/17/2011 CEN Project: 1476

Oklawaha Greenway Trail Existing Trail Section

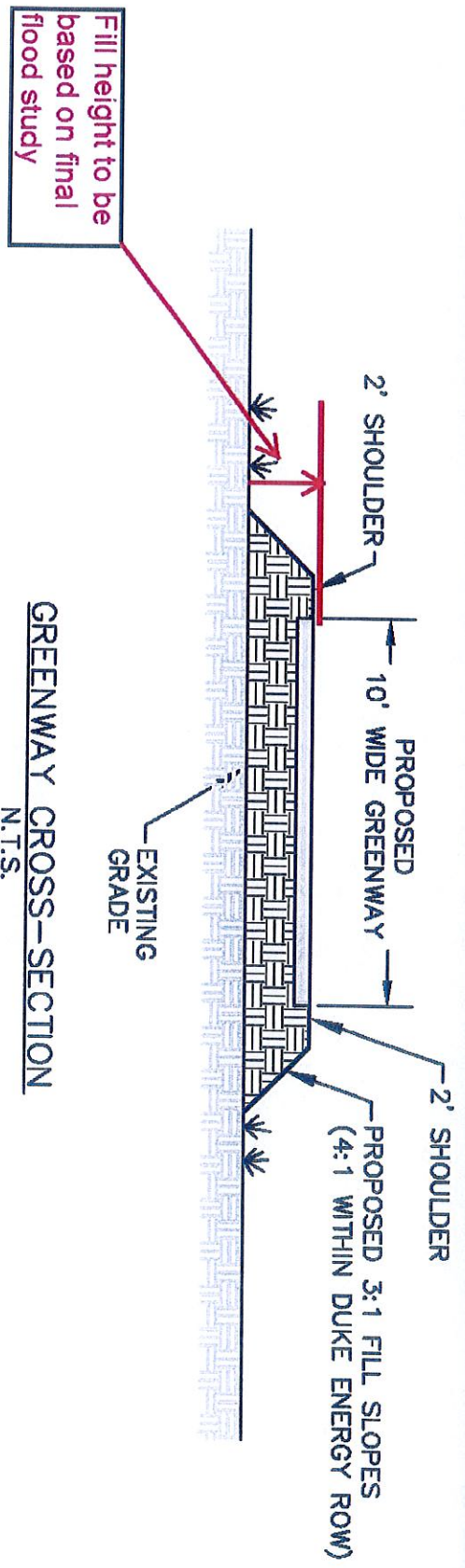


Oklawaha Greenway Trail

Sections of Trail to be Raised



Oklawaha Greenway Trail Proposed Trail Section in Area to be Raised



Oklawaha Greenway Trail

Estimated Cost for Improvements



WGCLA Engineering, PLLC
 Consulting Engineers and Land Planners

Preliminary Cost Estimate
 Oklawaha Greenway Improvements

Date: 04/26/21 Project #: 21119

Item	Quan.	Unit	Unit Price	Total Price
Clearing and Grubbing	1	LS	\$40,000.00	\$40,000.00
Import Fill Material	3,500	CY	\$35.00	\$122,500.00
Stone Base	600	TN	\$35.00	\$21,000.00
Asphalt Pavement (2" S9.5B)	1,350	SY	\$25.00	\$33,750.00
Repair and Overlay Existing Greenway	850	SY	\$25.00	\$21,250.00
Storm Drainage Piping (elliptical Cross Pipes)	400	LF	\$110.00	\$44,000.00
Geogrid for Stabilization	1,000	SY	\$15.00	\$15,000.00
Stone for Stabilization	1,500	TN	\$35.00	\$52,500.00
Erosion Control Measures	1	LS	\$25,000.00	\$25,000.00
Matting and Final Stabilization	1	LS	\$30,000.00	\$30,000.00
Interpretive Signage	1	LS	\$30,000.00	\$30,000.00
Haul Off of Unsuitable Materials	1,000	CY	\$20.00	\$20,000.00

TOTAL ESTIMATED CONSTRUCTION COST

Contingency (5%) **\$455,000.00**

Surveying \$22,750.00

Engineering, Design & Permitting \$5,000.00

Bidding Assistance & Construction Observation \$25,500.00

401/404 Permitting \$12,500.00

Mitigation for Wetland Impacts \$40,000.00

Hydraulic & Flood Studies \$65,000.00

\$20,000.00

TOTAL ESTIMATED PROJECT COST \$645,750.00

Summary/Wrap Up

- ◆ Greenway will always flood based on location in flood way.
- ◆ Goal should be to improve Greenway so that it is not the lowest point.
- ◆ Flood hazard areas and wetlands limit ability to relocate trail.
- ◆ Raising trail along existing alignment appears to be most reasonable option.
- ◆ Project will require through NC Floodplain Mapping/FEMA.
- ◆ Project will likely require Corps/NCDEQ permitting.
- ◆ Improvements will allow for use of Greenway more often following heavy rain events.