

1. PROJECT INFORMATION:

Project Title: Gills Creek Stream and Riparian Buffer Restoration
Length (months): 36

Watershed Name(s): Lower Gills Creek Watershed
12 Digit HUC(s): 030501100203
County(ies): Richland
Water Quality Parameter(s): E.coli, Dissolved Oxygen, sediment
SCDHEC Monitoring Site(s): C-001, C-017

Place an X next to the applicable answers below relating to the project watershed.

TMDL: Has an approved TMDL Is impaired (no TMDL)
Watershed-Based Plan (WBP): Has a completed WBP Does not have a completed WBP

2. FUNDING REQUEST:

Federal Request: \$386,491.17
Non-Federal Match: \$260,330.85
Total Amount: \$646,822.02

Additional Federal Funding, if applicable: \$ n/a
Source: _____

3. LEAD ORGANIZATION INFORMATION:

Lead Organization: Gills Creek Watershed Association
Federal ID Number: 58-2426772

Project Manager: Erich Miarka
Mailing address: 712 Main Street, EWS 603 Columbia, SC 29208
Telephone: 803-727-8326
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Email: Erich.miarka@gillscreekwatershed.org

Alternate Contact: Valerie Marcil
Telephone: 803-331-1138
Email: vallg29205@gmail.com

Financial Officer: Mary McIntosh
Telephone: 803-361-0290
Email: mgmcintosh11@gmail.com

Official project paperwork (e.g. contract) should be sent to the attention of: Erich Miarka

4. COOPERATING ORGANIZATIONS:

City of Columbia: The City of Columbia is providing the majority of the non-federal cash match (\$240,000). The City Stormwater Department will also help with oversight and construction management of the project. A City representative will serve on the project's steering committee which is tasked with selecting engineering and construction firms, as well as other project related decisions.

Meyers Brothers Properties, LLC: Meyers Brothers Properties is the property owner for the section of Gills Creek from Fort Jackson Blvd. to Devine Street. Meyers Brothers Properties owns the property on both sides of the creek, with a parking lot on one side and a grassed strip on the other side up to Crowson Road. Meyers Brothers Properties will allow these restoration activities to take place on their property. A Meyers Brothers employee will also serve on the steering committee to help guide the design and construction process.

Delta Interests, LLC: Delta Interests is the main property owner for the section of Gills Creek from Devine Street to Rosewood Drive. Delta Interests will allow creek restoration activities on their property, likely through a construction easement. A Delta Interests representative will sit on the project steering committee.

5. GENERAL PROJECT OVERVIEW (ABSTRACT):

The section of Gills Creek between Ft. Jackson Blvd. and Rosewood Drive is the most impaired and heavily trafficked reach of Gills Creek. After decades of development in the area, Gills Creek has little adjacent, natural floodplain. The Creek has been straightened and dredged to accommodate development of the surrounding areas. Most of this development took place before modern stormwater ordinances so stormwater runoff enters directly into Gills Creek with little to no detention or treatment. The steep, unstable stream banks do not support healthy riparian vegetation, resulting in significant bank failure and sediment load to the creek. This area includes an approved TMDL for fecal coliform (DHEC monitoring site C-001). Site C-017, about 3.3 miles downstream, also includes TMDLs for both fecal coliform and dissolved oxygen (in full support).

This proposed project will help address nonpoint source pollution and improve water quality conditions in Gills Creek through an 1800 foot stream restoration project that incorporates a riparian buffer enhancement and stormwater green infrastructure retrofits and BMPs. This area is listed as a "priority location" for BMP retrofits in the Gills Creek Watershed Management Plan for both Scenario 1 and Scenario 2 (pg. 65). High levels of dense development and concentrated impervious surface here establish its status as a critical area and priority for BMP retrofits. The 840 feet between Ft. Jackson Blvd. and Devine St. will be the primary focus of this grant project for stream restoration and BMP implementation. However, depending on conditions and constraints discovered once work is underway, funding may allow the project to be extended all the way down to Rosewood Drive (an additional 1000 linear feet). The stream banks will be recontoured to reduce the slope so they can better support trees and other vegetation. In-channel structures will be added to promote stream sinuosity and diverse aquatic habitat. Toe boulders and root wads will be used to help stabilize the recontoured banks, and provide a solid foundation for new riparian plants. If space allows, a floodplain bench will be installed to help alleviate downstream flooding and provide more flat surface areas for plants to become established.

This project area is immediately flanked by a paved parking lot on one side (east side) and a paved road and other small parking lots on the other side (west side). This project will help reduce nonpoint source pollution entering Gills Creek by intercepting stormwater runoff coming from these impervious surfaces. Linear bioswales and rain gardens will be used in this project to help infiltrate stormwater and remove pollutants including *E. coli* and oxygen-demanding materials. In areas where runoff cannot be addressed with bioretention, we propose to replace pavement with pervious materials such as pavers or pervious concrete. Where stormwater is not captured by these stormwater BMP retrofits, the newly established riparian buffer will help filter the remaining sheet flow.

This project will be complemented by several other large ongoing projects in the area. The City of Columbia and Richland County have applied to include three adjacent structures to this property (Subway, TitleLoan, and TitleMax on Crowson Road and Devine Street) in the FEMA floodplain buyout program. If these buyouts are successful (estimated response July, 2017), the buildings will be demolished and the lots converted back to natural greenspace. As a component of this grant, the GCWA will work with the City of Columbia and Richland County to leverage the conversion of these lots to greenspace consistent with our NPS reduction efforts. Also, Richland County is in the design phase of a Gills Creek Greenway for this

area. In 2018, Richland County will begin construction on the multi-use trail located alongside this newly restored section of Gills Creek. The Greenway will provide unique opportunities for nonpoint source pollution education to be included in this restoration project.

6. PROJECT DESCRIPTION:

A. General Background

Gills Creek is considered one of the most impaired urban creeks in South Carolina. It suffers from high levels of *E. coli* bacteria, low dissolved oxygen, in-stream erosion, sedimentation, and high levels of mercury in fish tissue, as well as other water quality problems. In addition to the water quality issues, in 2015 Gills Creek experienced a catastrophic flood which destroyed hundreds of homes and businesses and tragically claimed several lives. The scars and debris from this flood are still visible today along Gills Creek. Gills Creek is a heavily developed and populated watershed, with over 140,000 residents. Thirty-three percent of the 75 square mile watershed is developed¹ with the portion of the watershed upstream and adjacent to Fort Jackson even more densely developed.

Lower Gills Creek Watershed, where this project would be located, is split by two ecoregions: the Southern Piedmont Ecoregion and the Coastal Plain. Soils in this area range from Pelion-Johnston-Vaucluse soils to nearly level soils found within the floodplains in the Coastal Plain Ecoregion. Most of these soils are moderately to well-draining soils. These soils lend themselves to bioretention type BMPs which will be implemented in this project.

The Gills Creek Watershed Management Plan (WMP) divides Gills Creek Watershed into 17 sub-watersheds. These subwatersheds are analyzed, compared, and ranked according to a number of criteria. Based on these sub-watershed divisions, this proposed project is located in Gills Creek-06 (GC-06) which is within the Lower Gills Creek 12-digit Hydrologic Unit Code. GC-06 includes a significant portion of Fort Jackson as well as the Cross Hill commercial area, and residential areas in the City of Columbia. The portion of the watershed where this project is proposed is heavily developed and has a high percentage of impervious surface. GC-06 rates as "High" for flooding concerns and "High Risk" for flooding in the FEMA floodplain². Twenty-two percent of GC-06 land cover is impervious surface with more of this impervious area concentrated in the portion of the sub-watershed off of Fort Jackson. Ten percent of this impervious cover exists in the riparian zone.

DHEC maintains a monitoring site, C-001, on Gills Creek adjacent to this project area at the Devine Street bridge. Station C-001 was previously 303d listed for fecal coliform³ and is currently in a TMDL⁴. Approximately three miles downstream DHEC monitoring station C-017 is also impaired for fecal coliform and dissolved oxygen and has an active TMDL for both parameters but is in full support of its dissolved oxygen TMDL. In addition to DHEC's monitoring efforts, the City of Columbia conducts continuous water quality monitoring at both the Devine Street bridge and at Bluff Road at the same sites as C-001 and C-017. The Congaree Riverkeeper organization also collects *E. coli* samples quarterly from Gills Creek at Devine Street. The Congaree Riverkeeper does have a DHEC approved Quality Assurance Project Plan (QAPP) and their results routinely exceed state standards for *E. coli*. For the past several months GCWA has been monitoring Pen Branch, a tributary of Gills Creek located approximately 1.3 miles upstream of this proposed project area. This monitoring site (done through SC Adopt-a-Stream) does not have a long data history but does already show poor macroinvertebrate results. The proposed project area downstream likely also does not support a diverse macroinvertebrate population. GCWA will begin Adopt-a-Stream monitoring for dissolved oxygen, *E. coli*, and macroinvertebrates at the project site in June 2017 and will continue monitoring it during and after project completion.

B. Specific Objectives and Goals of the Project:

The overall goal of the project is to reduce nonpoint source pollution within this reach of Gills Creek, as well as to improve the water quality in Gills Creek through the implementation of stream restoration and green infrastructure practices. This will be done by restoring up to 1,800 linear feet of Gills Creek through bank stabilization and riparian

¹ Gills Creek Watershed Management Plan. Page 12.

² Gills Creek Watershed Management Plan. Table C-2.

³ 2016 DRAFT DHEC 303d list.

⁴ SCDHEC Technical Document 011N-17

buffer enhancement. Where feasible, stormwater BMPs, such as biofiltration, will be used to handle stormwater outfalls entering Gills Creek in this area.

This project will attempt to further improve water resources and water quality through environmental education. Environmental education kiosks/signage will be installed in the project area providing environmental information for the general public. We will also host two community workshops on the project site, one during construction and one after construction. These workshops/site visits will be targeted towards engineers, landscape architects, and other professionals to promote green infrastructure implementation within Gills Creek and other impaired watersheds in the Midlands.

C. Detailed Project Description:

The Gills Creek WMP identifies this project area for BMP Retrofits for both Scenario 1 and Scenario 2⁵. Scenario 1 recommends an intensive suite of strategies while Scenario 2 recommends less costly alternatives. GC-06 was selected as the critical area for flooding. GC-06 was also identified as having a high rank as a water quality critical area but a watershed immediately downstream, GC-07, was ranked as the most critical area in the watershed for water quality and aquatic ecosystems. Any improvements to GC-06 will improve the next sub-watershed downstream, GC-07. Additional priority locations were selected to address concerns in the two overall Tier I Critical Areas JC-04 and GC-07. Management in GC-06 (below Lake Katharine) would most directly address concerns in GC-07 and therefore the highly impervious areas of GC-06 were identified for management⁶. This proposed project location was identified in the Gills Creek WMP as an area for BMP retrofit implementation⁷. Although the WMP identifies this project area as a priority for BMP implementation, it does not identify stream restoration as critical management strategy for this area. However, after further review of conditions in the area, the Gills Creek Middle Watershed Plan (conceptual plan) does identify stream restoration in this area. GCWA believes this site is a priority for stream restoration activities because of the high percentage of impervious surface in the floodplain, channelization and stream bank erosion, and lack of riparian buffer.

If this project is awarded funding, the first task will be to create a project steering committee including representatives from Gills Creek Watershed Association, City of Columbia, DHEC Bureau of Water, and the major adjacent property owners. This steering committee will draft requests for proposals and select a design/engineering firm. The project will likely be bid out as design-build to minimize costs and ensure a successful construction process. The engineering/design firm will be tasked with obtaining any necessary permits and will be responsible for construction management. GCWA commissioned the Middle Watershed Plan in 2012 (this plan includes the 12 digit HUC, Lower Gills Creek Watershed), as a conceptual plan for stream restoration in 2012 that includes this creek section. This plan will be used as a starting point for the restoration design to include re-profiled stream banks, toe boulders and other structures stabilizing the banks and adding sinuosity to the channel, and bioretention for stormwater outfalls and surface runoff entering Gills Creek. There are several stormwater outfalls in this 1,800 foot reach, most of which are perched above the Creek. As a part of this project, those outfalls will be stabilized and protected so as not to disturb or erode any restored adjacent stream bank. Where possible, bioretention will be used to treat stormwater entering this project area. Although this project is located in the City of Columbia MS4 service area, these outfalls are not a part of the City's stormwater network.

There are currently very few trees along Gills Creek in this area and of those few, many have fallen into the creek because of eroding stream banks. A riparian vegetated buffer will be reestablished along the Creek, mostly on the west side of the creek where there is enough space. The section between Ft. Jackson Blvd. and Devine Street (~830 linear feet) is constrained by a parking lot on the right side of the creek (looking upstream), and a state road on the left side (looking upstream). Riparian buffer improvements will be limited to the left side of the creek in this stretch. Downstream of Devine Street the floodplain is wider, with up to 180 feet on the left side of the creek potentially available for riparian buffer enhancement. The right side of the creek in this area already features a wooded floodplain

⁵ Gills Creek Watershed Management Plan. Figure 7-1. Page 67.

⁶ Gills Creek Watershed Management Plan. Page 65.

⁷ Gills Creek Watershed Management Plan. Page 67.

bench that will remain undisturbed throughout this project. Only the left side (adjacent to the Delta Devine shopping center) of the creek needs any riparian buffer enhancements.

The primary focus area for restoration and buffer enhancement activities will be the 830 linear feet of Gills Creek between Fort Jackson Boulevard and Devine Street. Precise project costs will not be known until proposals are received. However, if financially and technically feasible, restoration and buffer enhancement work will continue downstream an additional 1000 linear feet to Rosewood Drive. The section from Devine Street to Rosewood is much less impaired than the upstream section and will likely only require buffer improvements. The bulk of construction costs will likely be required for the Ft. Jackson Blvd to Devine Street section.

The stream and riparian buffer restoration project, including any stormwater BMPs, will be designed to keep maintenance to a minimum. Ideally the end result will mimic a natural stream corridor, requiring little ongoing maintenance. However, some maintenance and oversight will be required to ensure the project is functioning as intended. The property owner, Meyers Brothers Properties, will maintain any landscaping and plants that are established in the Crowson corridor, on both sides of the creek. This includes watering the plants until they are well established. Gills Creek Watershed Association, City of Columbia, and Meyers Brothers Properties will work cooperatively to develop a long-term inspection and maintenance plan. The long-term inspection/maintenance responsibilities of each entity will depend upon the nature, location and access related to each BMP. Details will be finalized as a part of the design process.

This project will be complemented by other large projects taking place in this area along Gills Creek, and plays an important role in the overall enhancement of an important urban area. The City of Columbia and Richland County are pursuing FEMA floodplain buyout grants following the October 2015 flood for three adjacent properties. These three properties abut the left side of Gills Creek at Devine Street. If these grants are awarded and accepted by the property owners (expected notification in July 2017), the buildings will be demolished and the lots restored to green space. These buyouts have the potential to further enhance this project and provide more lateral space along Gills Creek for stream restoration and buffer enhancements. In 2018 Richland County will begin construction on a walking and biking trail along Gills Creek from Fort Jackson Blvd to Bluff Road. This four mile long greenway will parallel the Creek and connect residential communities to commercial nodes. This greenway will increase the visibility of Gills Creek and provide excellent educational opportunities for the general public and water quality professionals.

The property owner where this project will take place, Meyers Brothers Properties, LLC, has already committed to allowing these restoration activities (see attached letter of support). GCWA does not currently hold an easement on this property but if the 319 grant is awarded GCWA will obtain necessary construction and/or access easements from Meyers Brothers. Meyers Brothers Properties LLC has already committed to this project and pledged easements when the full scope of work is known. Additionally, Richland County will be working to secure access easements on this property, and surrounding properties, as it completes the Gills Creek Greenway Section A. Right of Way acquisition for the greenway project will take place in 2018 and will include this project area. GCWA, Richland County, and the Richland County Penny Project Development Team are already working together to coordinate easement and construction activities in the project area. Acquiring the necessary easements will not delay any project activities. The design and permit phase of this project is estimated to take seventeen months. Easements will be secured during this phase of the project so that construction can begin promptly after design and permitting is complete.

D. Information/Education Component:

This project provides a significant opportunity for education of both the general public and nearby commercial property owners. This section of Gills Creek is located adjacent to three major roads in Columbia, SC: Rosewood Drive, Devine Street, and Fort Jackson Blvd. This gives the project high visibility for people driving, walking, and biking over Gills Creek. Improvements to the creek and buffer here will be noticeable to the high volume of those who shop and dine in, or pass by, this commercial node. Project "under construction" signs will be placed around the project area and will direct people to the GCWA website. The website will contain information on the project itself, and other more general information on the watershed and the water quality issues being addressed. The project lies in a commercial area, surrounded by several neighborhoods of varying demographics.

In 2018, Richland County will begin construction on the Gills Creek Greenway. This multi-use trail starts at Ft. Jackson Blvd. and continues south directly through this project area. This greenway provides an excellent education opportunity. Several small permanent signs will be installed in this project area, in the newly enhanced buffer area adjacent to the creek and future greenway trail. The signs will detail the restoration project, nonpoint source pollution, and general watershed information along the newly restored creek. The signs will be located next to unique features and visible stormwater BMPs.

In an effort to educate water quality and engineering professionals, GCWA will host two field trips to this project area. These field trips/site visits will be targeted to engineers, landscape architects, and other professionals who may be able to implement green infrastructure and stormwater BMPs throughout the course of their work in the future. We will provide continuing education credits to promote attendance at the field trips. A field trip will be held once during construction, and once after construction is complete. Both trips will be led by GCWA staff and the lead designer of the restoration project. Further, these improvements can be used in ongoing and future educational efforts by the GCWA and participating public and private sector entities providing long run benefits beyond the grant period.

E. Anticipated Environmental Results:

The *E. coli* load reduction estimate is based on bioretention and buffer enhancement BMPs with a 60% removal efficiency for *E. coli*⁸. The approximate area draining to this project is 14.29 acres, with 100% of the runoff being treated by these BMPs. The primary land use type in this drainage area is urban/commercial which produces 2.26E9 colony forming units per acre per year⁹.

E. coli total annual load reduction = 1.665E10 cfus/year

Using EPA's Spreadsheet Tool for Estimation of Pollutant Load (STEPL) the following load reductions can be expected based on the BMPs identified in the Gills Creek Middle Watershed Plan.

Nitrogen = 74.21 lbs/year
Phosphorous = 10.5 lbs/year
Sediment = 4.8 tons/year

Dissolved oxygen is a parameter of concern that will be addressed by this project by reducing oxygen demanding pollutants such as nitrogen, phosphorous, and sediment. SC DHEC monitoring site C-001 was previously 303d listed for dissolved oxygen. Monitoring site C-017, approximately three miles downstream of the project site, likewise, was 303d listed for dissolved oxygen but is currently in full support of its DO TMDL.

This project will require detailed engineering and construction designs. The final layout, number, and exact locations of BMPs, riparian buffer, and stream restoration will be determined during the engineering and design process. Factors such as underground utilities, permitting, and landowner uses may dictate the final design of the project. Because of these variables, it is difficult to accurately estimate load reductions at this time. Once the final design is complete another load reduction analysis will be completed for a more accurate estimate.

F. Technical And Financial Assistance Needed:

GCWA will contract with an engineering and design firm to complete the necessary construction documents and permits for the stream restoration work. This firm will also likely be used to manage the construction phase of the project. Design and permitting for a project of this scale will be a major undertaking and is likely to be a significant portion of the overall budget. This project will likely be bid out as a "design-build" project in an effort to save costs and time. This avoids having to rebid the construction phase of the project once the design is completed. Design-build also

⁸ Hathaway, J.M. et al 2008 An Evaluation of Pathogen Removal in Stormwater Best Management Practices in Charlotte and Wilmington, North Carolina. ASABE Meeting Presentation Paper No: 084330

⁹ Shaver E, et al 2007 Fundamentals of Urban Runoff: Technical and Institutional Issues.

https://www.ilma-lakes.org/PDF/Fundamentals_full_manual_lowres.pdf

ensures that the final product is exactly what was designed and will be consistent with the grant proposal and the steering committee's vision.

The total cost of the project is projected to be within the 319 grant request and the City of Columbia match (\$250,000). However, GCWA will seek additional funds in the event of cost overruns and to further enhance the project. Other grants will be applied for including Richland County Conservation Commission Grant, Dominion Foundation Environmental Stewardship Grant, Connected Communities Grant, and the Urban Waters/Five Star Grant program.

G. Completion of Watershed-Based Plan Implementation:

The Gills Creek Watershed Association in partnership with the City of Columbia, Richland County, and Richland School District 1 recently completed a stormwater bioretention project at Owens Field Park in Lower Gills Creek Watershed. The bioretention project is a DHEC 319 project.

Richland County recently completed a major stream restoration project on Little Jackson Creek in the upper portions of Gills Creek Watershed. This project restored several hundred feet of Little Jackson Creek by installing a "regenerative stormwater conveyance" in the stream channel. The project also restored several acres of wetlands, and reconnected Little Jackson Creek to its floodplain. In 2018 Richland County plans to continue the restoration work on Little Jackson Creek further upstream.

The City of Columbia, as part of an EPA Consent Decree, is constructing six "supplemental environmental projects" (SEPs) in Gills Creek Watershed. This includes a constructed wetland, bioretention, and level spreaders which are all suggested BMPs from the Gills Creek WMP. These six projects are all located in the Lower Gills Creek Watershed, less than one mile downstream of this proposed project site.

Richland County recently completed construction on a new magistrate's court on Decker Blvd. in the Jackson Creek Watershed, a tributary to Gills Creek. This site features two stormwater BMPs identified in the Gills Creek WMP. Cisterns capture rainwater harvested from the roof of the building, which is then used to irrigate the landscaping at the facility. Additionally, pervious concrete was used in certain parking bays in the parking lot. Water is directed to these pervious bays, which is then collected through underdrains and directed to stormwater cisterns and filters, before entering Jackson Creek.

The City of Columbia and Richland County are developing plans for a stabilization and partial restoration of Devils Ditch, a tributary of Gills Creek in the Lower Gills Creek Watershed. The design is currently underway, with maintenance and restoration activities likely to begin in 2018.

The Gills Creek WMP recommends other policies and outreach as a management strategy to achieve watershed goals (pg. 88). These strategies include littering outreach, educational displays, public education, and training on LID and innovative stormwater BMPs. In 2015 GCWA installed two environmental education kiosks in the watershed, one of which is located near this project area. GCWA is currently managing a litter reduction grant from Palmetto Pride. Six trash cans and no-littering signs have already been installed at litter "hot spots" near a tributary to Gills Creek, upstream of this project area. GCWA will continue to work with the business community and neighborhoods in that area to help reduce the litter problem. One of GCWA's major programs is environmental education and outreach. GCWA attends community festivals and events and speaks to a variety of community organizations ranging from elementary schools to Rotary Clubs. These education and outreach efforts are ongoing and future outreach efforts will detail this restoration project.

H. Measurable Milestones:

#	Month	Milestone
1	Quarterly	Submit progress reports, invoices, MBE/WBE forms and BMP information per schedule outlined in grant agreement.
2	30 days after project	Submit final invoice and final technical closeout report to DHEC. Submit Final Budget Report within 45 days of project close.

	completion	
3	Month 2	Request for Proposals final draft complete and released to public
4	Month 4	Open bids from design/construction teams
5	Month 5	Select design/construction team for restoration work and signed contract
6	Months 6-12	Engineering, design, and permitting underway.
7	Month 13	Review and approve design with the project steering committee
8	Month 14-16	Finalize design and construction documents
9	Months 17-30	Construction of stream restoration and buffer
10	Month 21	First education field day
11	Month 30	Construction completed, second educational field day
12	Month 31	Educational kiosk designed and installed
13	Month 33	Ribbon cutting ceremony/grand opening
14	Month 33-36	review of project area, corrections and repairs
15	Month 36	Submit final report to DHEC, 319 closeout

I. Measures Of Project Success:

1. Linear feet and total area of Gills Creek restored
2. Number of trees and shrubs planted in riparian buffer zone
3. Number of attendees at the two field visits
4. Number of visits to the project-specific web site
5. Number and type of BMPs installed
6. Drainage area (acres) now draining to a new stormwater BMP
7. Pollutant load reductions based on water quality monitoring results

7. PROPOSED BUDGET

A. Overall Project Budget

	Federal	Non-Federal	Total
Personnel - Salary	\$3,327	\$6,673	\$10,000
Personnel - Fringe	\$1,164	\$2,335	\$3,499
Travel		\$223	\$223
Equipment	\$4,000		\$4,000
Supplies		\$1,100	\$1,100
Contractual			\$0.00
Construction	\$378,000	\$250,000	\$628,000
Other			\$0.00
Indirect <i>(Requires additional documentation)</i>			\$0.00
TOTAL	\$386,491	\$260,331	\$646,822

B. Budget Narrative:

Personnel - Salary: Salary represents three months of salary for GCWA executive director. This person will serve as the coordinator on the project and will lead the project steering committee. One month salary will be paid through the 319 grant, the remaining two months will be provided as match by GCWA.

Personnel ☐ Fringe: Fringe is calculated at 35% of the salary amount. Non-federal fringe will be provided by GCWA.

Travel: Some travel will be required by project manager to the project site on a regular basis. This cost is based on an eight mile round trip to the project site, once per week during the construction phase of the project. This cost will be provided by GCWA.

Equipment: The kiosk/signage which will feature environmental education will be covered by this grant.

Supplies: Supplies will be provided by GCWA and include printing for project related materials, steering committee meetings, and public meetings. Also, project signs will be provided by GCWA and located around the project site.

Contractual:

Construction: Construction will be split between federal funds and non-federal match. This project will likely be bid out as design-build so both contractual and construction expenses will be bundled into one price. However, in these situations, the construction costs of the project greatly outweigh the design/contractual portion of the project so the line item has been located under Construction. The non-federal match is being provided by the City of Columbia. Construction costs were estimated by landscape architects and water resource engineers (Wood and Partners, Inc. and McCormick Taylor) in the Gills Creek Middle Watershed Master Plan (see attachment, pg. 25). This Plan includes costs for walking and biking trails, as well as other amenities that are not included in this 319 project. Those costs were removed from the estimate and the remainder was adjusted to account for time passed since the Plan was completed (2013). GCWA staff has also discussed this proposed project with stream restoration engineers who have provided rough cost estimates based on similar projects in the Carolinas. Their estimates were consistent with the Middle Watershed Master Plan probable costs.

Other:

Indirect :

Required Attachments:

1. Completed watershed-based plan
2. Commitment letters from all cooperating organizations (not support letters)
3. Attachment 1 - Budget Chart (Excel document)
4. Required map
5. Additional Information for Indirect Billing

References

See footnotes.

Attachment 1

Gills Creek Stream and Riparian Buffer Restoration

Section	Federal Budget (to be billed to 319 Grant)				Section	Non-Federal Budget (Match to grant)			
1	Federal: Personnel - Salary Costs (Lead Organization Personnel ONLY)				10	Non-Fed: Personnel - Salary, In-Kind Hours (Lead Organization ONLY)			
	Employee	# of Hours or Years	Hourly Rate or Salary	Total Cost		In-Kind Employee	# of Hours	Hourly Rate	Total Cost
	Erich Miarka	\$173.00	\$19.23	\$3,326.79		Erich Miarka	\$347.00	\$19.23	\$6,672.81
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
			Section 1 TOTAL	\$3,326.79				Section 10 TOTAL	\$6,672.81
2	Federal: Personnel - Fringe Benefits Costs (Lead Organization Personnel ONLY)				11	Non-Fed: Personnel - Fringe Benefits Costs (Lead Organization ONLY)			
	Percentage of TOTAL Federal Salary		35.00%			Percentage of TOTAL Non-Federal Salary		35.00%	
			Section 2 TOTAL	\$1,164.38				Section 11 TOTAL	\$2,335.48
3	Federal: Travel (Lead Organization Personnel ONLY)				12	Non-Fed: Travel (Lead Organization ONLY)			
	Employee	# of miles	Per Mile	Total Cost		Employee	# of miles	Per Mile	Total Cost
		0.00	\$0.535	\$0.00		Erich Miarka	416.00	\$0.535	\$222.56
		0.00	\$0.535	\$0.00			0.00	\$0.535	\$0.00
		0.00	\$0.535	\$0.00			0.00	\$0.535	\$0.00
		Mileage	Sub Total	\$0.00			Mileage	Sub Total	\$222.56
**	Overnight Travel Cost		\$0.00	\$0.00	**	Overnight Travel Cost		\$0.00	\$0.00
			Section 3 TOTAL	\$0.00				Section 12 TOTAL	\$222.56
4	Federal: Equipment (If applicable. Equipment is defined as single items with cost over \$2,500)				13	Non-Fed: Equipment (If applicable. Equipment is defined as single items with cost over \$2,500)			
	Description	Single Cost	Number Needed	Total Cost		Description	Single Cost	Number Needed	Total Cost
	Education Kiosk	\$4,000.00	1	\$4,000.00			\$0.00	0	\$0.00
		\$0.00	0	\$0.00			\$0.00	0	\$0.00
		\$0.00	0	\$0.00			\$0.00	0	\$0.00
			Section 4 TOTAL	\$4,000.00				Section 13 TOTAL	\$0.00
5	Federal: Supplies (i.e., office supplies, laptop, printing costs, postage)				14	Non-Fed: Supplies (i.e., office supplies, laptop, printing costs, postage)			
	Description	Cost				Description	Cost		Total Cost
		\$0.00		\$0.00		Printing	\$500.00		\$500.00
		\$0.00		\$0.00		Project Signs	\$600.00		\$600.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
			Section 5 TOTAL	\$0.00				Section 14 TOTAL	\$1,100.00

Attachment 1

Gills Creek Stream and Riparian Buffer Restoration

6 Federal: Contractual / Services - Section A (Sub-Contractor services, not associated with salary)					15 Non-Fed: Contractual / Services - Section A (Not associated with volunteered time)				
A	Description	Cost		Total Cost	A	Description	Cost		Total Cost
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
		\$0.00		\$0.00			\$0.00		\$0.00
			Section A	Sub Total				Section A	Sub Total
				\$0.00					\$0.00
B Federal: Contractual / Services - Section B - Salary Costs (Sub-Contractors)					B Non-Fed: Contractual / Services - Section B - Salary Costs (In-Kind from Volunteers, etc..)				
	Employee	Total # of Hours	Hourly Rate	Total Cost		In-Kind Employee	Total # of Hours	Hourly Rate	Total Cost
		\$0.00	\$0.00	\$0.00			\$0.00	\$12.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00
			Section B	Sub Total				Section B	Sub Total
				\$0.00					\$0.00
C Federal: Contractual / Services - Section C - Travel (Sub-Contractors)					C Non-Fed: Contractual / Services - Section C - Travel (In-Kind from Volunteers, etc..)				
	Employee	Mileage	Per Mile	Total Cost		In-Kind Employee	Mileage	Per Mile	Total Cost
		\$0.00	\$0.535	\$0.00			\$0.00	\$0.535	\$0.00
		\$0.00	\$0.535	\$0.00			\$0.00	\$0.535	\$0.00
		\$0.00	\$0.535	\$0.00			\$0.00	\$0.535	\$0.00
		\$0.00	\$0.535	\$0.00			\$0.00	\$0.535	\$0.00
		\$0.00	\$0.535	\$0.00			\$0.00	\$0.535	\$0.00
			Section C	Sub Total				Section C	Sub Total
				\$0.00					\$0.00
			Section 6 TOTAL	\$0.00				Section 15 TOTAL	\$0.00

