

Project Overview and Natural Resource Benefits

Instructions: Save this document on your computer and complete the narrative by entering text into the fillable form boxes provided, in the format provided. The final narrative should not exceed forty (40) pages; do not delete or otherwise manipulate the instructional text below. Once complete, upload this document into the on-line application as instructed. Note: Text in each text box can be formatted as needed and jpegs (maps, photos, etc.) and can be copied into the text box; however, the maximum file size allowed per upload is 15MB. When possible, larger graphics, including but not limited to, photos, organizational charts, work plan diagrams, and Gantt charts, can each be uploaded and appropriately labeled in the “Uploads” section as an appendix to the Proposal Narrative.

Project Background:

1. Description of the project area, including natural resource types and acreage, and watershed or ecoregion that is the focus of the project within which the project area is found, as appropriate.

The project encompasses 94 acres along the western side of the Bon Secour River headwaters at the southern terminus of Barner Road in Foley, AL. The 94 acres includes +/- 34 acres of freshwater forested/shrub wetland as well as the western bank and channel of the Bon Secour River headwaters. The remaining +/- 60 acres is comprised of acres of good to average agricultural lands. Approximately 3.3 square miles of 46% urbanized area drains to the project area. The water quality of the headwaters of the Bon Secour River impacts Bon Secour Bay. Water quality of Bon Secour River watershed impacts marshes, bays and estuaries and coastal and marine living resources.

2. Discussion of the natural resource trends (change in extent and/or quality) and direct causes of loss or decline in the project area. What ecological problems have been identified in the vicinity of the project area that the project seeks to address?

The Bon Secour River Watershed Management Plan was completed in January 2017. The management plan identified five critical issues within the Bon Secour River watershed, which included, stormwater management, litter control, water quality, erosion and sedimentation and invasive species. The plan included data from “Analysis of Sediment Loading Rates and Water Quality for the Bon Secour River Watershed, Baldwin County, Alabama” (2014) by Marlon Cook. The analysis showed discharges from this portion of the watershed had suspended sediment loads three times higher than other areas of the watershed, primarily due to urbanization. Suspended sediment from the 3.3 square miles draining to this project site will be treated for sediment removal. The sediment removal will be quantified through turbidity monitoring and forebay maintenance activities. Due to the urbanized and agricultural land uses in the upper portions of the watershed, there are issues with nutrient loading in the headwaters of the Bon Secour River watershed. This project seeks to reduce the nutrient loading by using natural plant communities to uptake the nutrients. This will be monitored through nitrate and phosphate water quality monitoring. Also, this area of the watershed showed high concentrations of zinc with no active sources. Again planting certain plants in the treatment areas will naturally remove concentrations of zinc from the stormwater. Heavy concentrations of invasive plant species were documented along the project area in the wetlands significantly reducing the native plant communities. Part of the project will be to remove invasive plant species from the wetlands and plant native wetland species as a restoration effort. Litter was also identified as a major issue in the watershed due to urbanized runoff. Litter traps have been installed

upstream of the project area, but there are still issues with litter. This project will retain litter for removal from the watershed.

3. Is the project identified within a natural resource management or restoration plan(s) or does it otherwise advance specific objectives of such plan(s)? If so, how was this project prioritized for funding consideration?

This project is identified in the Bon Secour River, Oyster Bay, Skunk Bayou Watershed Management Plan (January 2017). It is listed as a long term management measure as installing regional stormwater management facilities specifically Bon Secour River Headwater Restoration/Stormwater Detention Project. The project includes three main components: 1) streamside flow diverters, physical treatment devices, and forebays for the removal of floatables, sediment, and other coarse debris; 2) a large multi-bay constructed stormwater wetland for the biological treatment of urban runoff prior to discharge into the Bon Secour River; 3) removal of invasive plant species within the wetlands and stream channel and restoration of native plant communities. Furthermore, the project addresses other management measures identified within the plan. Litter reduction was a prioritized short term management measure, and this project will serve as a secondary litter trap capturing floatables in storm events. Another measure identified is to implement invasive species treatment and monitoring. This project will remove invasive species within the stream and wetland areas and restore native plant communities.

Project Description: Information in this section should be presented consistently with the GEBF Funding Priorities on the [NFWF Website](#).

1. What are the goal(s) and quantifiable natural resource objectives of the proposed project?

The major goal is to measurably improve water quality by reducing significant nonpoint sources of degradation by stormwater and agricultural runoff thereby improving the water quality of Bon Secour River and Bon Secour Bay. This goal can be measured through monitoring of suspended sediments, dissolved oxygen, nitrogen and phosphorus. With increased conversion of land use to urbanization, the acquisition of this critical headwater property and development of the water quality treatment project will ensure mitigation of stormwater impacts from nonpoint source pollutants. Another goal is to control and eradicate the invasive species within the wetlands and stream channel of the project area in order to enhance native wildlife and fish habitat. This can be quantified through amount of invasive plants removed and number of acres restored to native plant communities.

2. Describe the strategy that will be used to address identified problems and meet the goals and objectives of the project.

The strategy is to purchase land that has development potential in order to conserve headwater wetlands of the Bon Secour River. Concurrently we will develop engineered designs and specifications for a water quality treatment project that intercepts storm flows from the river through a diversion structure into a multi-bay constructed wetland treatment system. Flowing through the treatment

system, the litter, sediment, nutrients and heavy metals will be reduced prior to the water returning to the system downstream. Also the project will plan to restore 34 acres of riparian wetlands through the removal of invasive species and replanting of native communities.

3. Describe how the project will directly remedy harm to, or reduce risk of future harm to, natural resources of a type and in the vicinity of those impacted by the Deepwater Horizon disaster.

The water quality improvement project and wetland restoration will significantly reduce pollutant impacts to the Bon Secour River and Bon Secour Bay where commercial and recreational fisherman harvest fish, shrimp and oysters. The river delivers a much higher sediment load due to increased urban development which is causing stream degradation. Furthermore, the nutrient concentrations in the headwaters were high enough to contribute to excessive algal growth. This project would reduce these pollutant loads to the river ultimately protecting the nursery habitat for fish and shellfish that were directly impacted by the Deepwater Horizon disaster. Also the project would restore riparian wetlands, currently dominated by invasive, exotic species, which would enhance the native fish and wildlife habitat. With increased development pressures, these large properties with the headwaters of the Bon Secour River are in jeopardy. This project will ensure protection of the headwaters as well as mitigate the impacts of upstream urban impacts.

4. What are the project's expected short-term net benefits to Gulf Coast natural resources and long-term measurable outcomes? This should be expressed in the narrative consistently with the project metrics identified in the Metrics section of the Full Proposal and the monitoring plan descriptions in the Scope of Work, Management Plan, and Schedule upload of the Full Proposal.

The project's expected short-term net benefits are the in fee acquisition and protection of important wetland and headwater habitats of the Bon Secour River. Long-term measurable outcomes include the removal of invasive species, wetland restoration through marsh plantings, water quality improvement through the construction of wetlands for stormwater treatment and long-term monitoring of habitats.

5. If this project is a continuation or expansion of an existing project, describe the status and results/outcomes achieved to date.

This would be the first phase of the project.

6. If the proposal does not include all work required to fully implement the project (e.g. the proposed project is an early phase of a project such as engineering and design), please indicate how the remaining components of the projects will be implemented.

The project will be broken into two phases. Phase I will include the acquisition of the property, engineering and design specifications, and permitting through the U.S. Army Corps of Engineers and the Alabama Department of Environmental Management. Phase II will include the three main construction

components: 1) streamside flow diverters, physical treatment devices and forebays for the removal of floatables, sediment and other coarse debris; 2) constructed multi-bay stormwater wetlands for biological treatment of urban runoff prior to discharge into the river; 3) removal of invasive plant species in the wetlands and stream channel within the project site and restoration of native plant communities. Following completion of Phase II long term adaptive management and a monitoring plan will be implemented.

Scope of Work, Management Plan, and Schedule

Scope of Work:

The Scope of Work must be structured and substantiated through the framework of distinct project tasks (each, a “Task”). Each Task in the Scope of Work should be comprised of no more than a few activities or work packages that are meaningfully related or that, as a whole, will result in one or more common output(s) and/or deliverable(s).

All Tasks should correspond and be named and numbered consistently and identically throughout the scope of work, budget, schedule, and uploads within the Full Proposal. An Applicant should only propose a Task if it intends to seek GEBF funding for that Task.

The Scope of Work must be organized and described to a level of detail such that the Applicant will be able to directly connect work descriptions in its reimbursement requests to its Scope of Work. Task descriptions should include quantifications as much as possible and avoid open-ended characterizations such as “Perform Analysis” or “Do Research,” focusing instead on describing specific work in relation to desired output(s) and/or deliverables(s).

For each Task, please address the following:

1. Detail and thoroughly describe the work comprising the Task (organized by Sub-task when possible).
2. To the extent that formal planning or budgeting documents for the Task have been prepared, please briefly describe and upload such documents. If further planning and development work is required to finalize the work plan for the Task, please describe the planning and development work that needs to be performed and when that work is expected to be complete. Highlight Sub-recipient work packages that won’t be fully defined until the project is underway. (Note, during the life of a project, NFWF must approve work packages before Sub-recipient services are solicited.)
3. Identify the project team members (Applicant, Sub-recipient, and partnering/ cooperating entity personnel) responsible for the performance of the work comprising the Task. Specifically identify the team member who will be responsible for controlling the Task’s scope and budget and initiating the process of notifying NFWF about anticipated changes to the Task’s scope, budget or schedule.
4. Briefly describe the expected output(s) and deliverable(s) of the Task and how each one supports the goal(s) of the overall project. NOTE: Copies of all deliverables associated with a certain Task must be submitted to NFWF when available or no later than the first quarterly report after completion of the deliverable. NFWF may also reach out to request specific information at any time.
5. Please describe in detail how NFWF will be included in appropriate review and decision milestones associated with the Task.

Task 1. Full Proposal Development – The City of Foley will continue to develop the proposal prior to execution of the project funding agreement, including coordination with NFWF, project sub-recipients, and the landowner. The City will also procure a standard appraisal of the project property as part of the proposal development process.

1.1 Proposal Development - Further development of the proposal narrative and project scope will continue through the pre-award period in support of the acquisition of the target parcel including revisions, landowner coordination, and project mapping. Project Team: City – Gahagan, Christian. Outputs/Deliverables: Project scope, narrative, maps, landowner meeting

Task 2. Pre-Acquisition Site Assessment – The site assessment will include standard due diligence activities associated with land acquisition, including a boundary survey, legal property description, a Phase I Environmental Site Assessment (ESA), and title and legal reviews.

The City conducted an appraisal on the property in March 2016 and will initiate an updated appraisal, boundary survey, Phase I ESA, and preliminary title report prior to the execution of the NFWF agreement. The transaction will be as follows:

Transaction 1 – Bill Bengston, Jr. Property PPIN 010342; Acres 94; Appraised, agreed in principle with owner Appraised Value: \$940,000

2.1 Property Appraisal – A standard USPAP property appraisal will be conducted for the target parcel prior to execution of the project funding agreement. Project Team: City – Gahagan, Christian. Sub-Recipient – Advanced Appraisals; Outputs/Deliverables: Standard USPAP appraisal for target parcel.

2.2 Boundary Survey - Boundary survey and legal property description will be completed for the parcel. The City will coordinate with the landowner and sub-recipient throughout the process. Project Team: City – Gahagan, Christian. Sub-Recipient – Volkert, Inc.; Outputs/Deliverables: Boundary Survey and legal property description.

2.3 Phase I ESA – Phase I ESA will be conducted on the property. Project Team: City – Gahagan. Sub-Recipient – Volkert, Inc. Outputs/Deliverables: Phase I ESA report.

2.4 Title and Legal Reviews – Standard title and legal reviews will be conducted for the parcel as part of the acquisition process. Project Team: City – Gahagan, Christian. Sub-Recipient – Professional Land Title, Inc. Outputs/Deliverables: Property Title and Legal Reviews

Task 3. Property Acquisition – Acquisition of the parcel through fee simple purchase. Deed restrictions will be placed on property to protect conservation interests in perpetuity. The City will coordinate with NFWF to ensure deed restrictions accomplish the goals and priorities of GEBF's conservation and restoration strategies. The City will time the transaction for Winter 2018.

3.1 Acquisition of Target Parcel – Acquisition of target parcel through fee simple purchase. Project Team: City – Gahagan, Christian. Sub-Recipient – Gulf Shores Title, Inc. Outputs/Deliverables: 94 acres of property purchased by the City for the purposes of conservation and water quality improvement.

Task 4. Engineering and Design Specifications for the Water Quality Improvement Project – Engineering and environmental design for the construction of streamside flow diverter, physical treatment system and forebay, and the construction of a multi-bay stormwater wetland system.

4.1 Wetland Delineation – Standard delineation will be conducted to identify existing wetlands for the purpose of establishing restoration efforts and permitting. Project Team: City – Gahagan. Sub-Recipient – Volkert, Inc.. Outputs/Deliverables: Delineation, mapping.

4.2 Engineering and Environmental Design Specifications –Development of engineering and environmental design specifications for the construction of the water quality improvement project. Project Team: City – Christian, Gahagan. Sub-Recipient – Volkert, Inc.. Outputs/Deliverables: Engineered design plans and specifications for the water quality improvement project.

Task 5. Permitting – The City of Foley will apply for environmental permits to construct the water quality improvement project.

5.1 US Army Corps of Engineers – Apply and obtain permit for wetland and stream impacts during construction of water quality improvement project. Project Team: City – Gahagan. Sub-Recipient – Volkert, Inc.. Outputs/Deliverables: Permit for activities impacting wetlands.

5.2 AL Dept. Environmental Management – Apply and obtain 401 water quality certification for wetland and stream impacts during construction of water quality improvement project. Project Team: City – Gahagan. Sub-Recipient – Volkert Inc.. Outputs/Deliverables: Permit for 401 water quality certification for activities impacting wetlands and stream.

5.3 AL Dept. Environmental Management – Apply and obtain NPDES construction general permit for land disturbing activities. Project Team: City – Gahagan. Sub-Recipient – Volkert, Inc. Outputs/Deliverables: Permit for NPDES construction general permit.

Schedule:

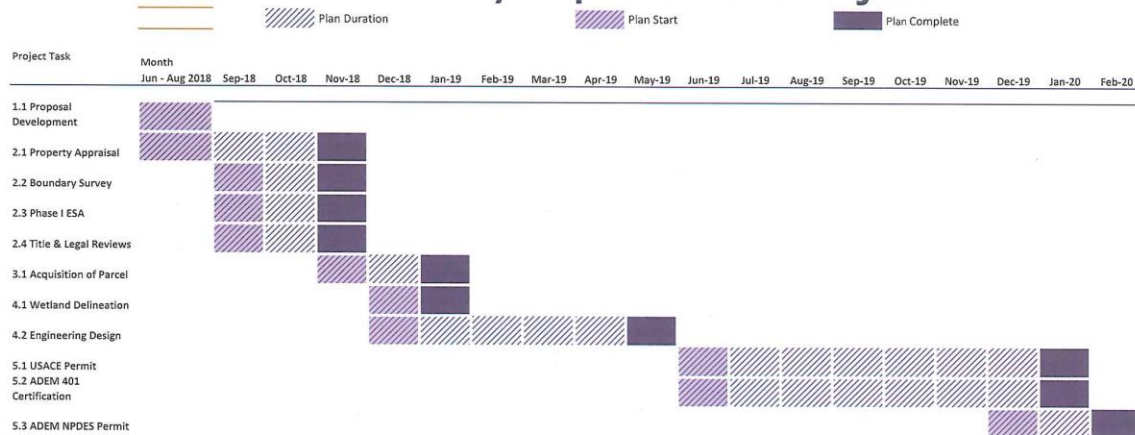
Please provide a project schedule that details the timeline and planned completion date for each Task in the Scope of Work. Task time periods must be presented on at least a month and year basis. i.e. each Task should include a start and end month. Please ensure that all task names and numbers are presented consistently and identically to the Scope of Work. The completion date for the overall project (exclusive of monitoring and operations and maintenance requirements) must occur within two to three (2-3) years from the beginning of

the project period unless otherwise approved by NFWF. If the Schedule is uploaded as a separate document please indicate in the space below.

NFWF prefers that a Gantt chart be uploaded to serve as the Schedule. If a Gantt chart is uploaded, please ensure that all task names and numbers are consistent with the Scope of Work.

Provide a project schedule detailing the timeline and planned completion date for each Task, here. A Gantt chart can be added as an image (jpeg).

Bon Secour Water Quality Improvement Project



Management Plan

Applicant Team:

1. Provide a summary of your organization's experience with completing similar projects. If available, please include a brief fact sheet or final product from a similar project completed by your organization.

The City of Foley incorporated in 1915. The City has completed a multitude of projects including property acquisitions, public improvements, Comprehensive Plans, stream restoration and stormwater

improvement projects. Over the years the City has partnered with various state and federal entities to complete planning and public improvement projects to include ALDOT, ADCNR, ADEM, FEMA, EPA, NRCS, ADECA and many others.

The City partnered with the Mobile Bay National Estuary Program in 2013 to design and implement a natural stream restoration of the headwater of Wolf Creek, where dissolved oxygen was too low to support fish and wildlife. The goals of the project were to reduce the impacts of urbanization on the stream and watershed by naturally restoring 1300 feet of the headwaters of Wolf Creek, develop a floodplain to control large storm water flows, and re-establish native plant communities in the restored natural stream and floodplain. Following the project water quality monitoring was implemented to determine the success of the project. Dissolved oxygen was significantly increased within one year of the project completion and fish and aquatic life returned to this stream. This project totaled \$350,000 of which \$80,000 was a grant through the Mobile Bay National Estuary Program and the remainder was funded through the City's capital project budget.

Another example of a major project the City of Foley manages is the Graham Creek Nature Preserve, 484 wetland preserve and nature park. The park was opened in 2008 and has grown tremendously as an attraction for the community and tourists. The Environmental Department manages the land through regular habitat management operations. This includes control of invasive species through removal, chemical treatment and prevention. Also the City partners with the Alabama Forestry Commission to conduct annual prescribed burns on approximately 300 acres of pine forests and pine savanna wetlands. These management measures increase the rare and endangered plant and animal populations. This project is funded through the City's operating budget with periodic small grants for new amenities promoting coastal public access. Within the Preserve the City manages an interpretive center which includes a small laboratory. The Environmental Department conducts water quality monitoring on a monthly basis for dissolved oxygen, pH, temperature, alkalinity, hardness, turbidity, nitrates and phosphates. Currently there are 5 sites monitored by staff.

2. Provide a list of key project staff at your organization that will be performing project work and include a description of the following for each member:
 - a. Role(s) and responsibilities for this project
 - b. Expertise
 - c. Prior experience in completing similar work

Leslie Gahagan, Environmental Manager – Ms. Gahagan has 18 years of experience working in the environmental field. She holds a Bachelor of Science Degree majoring in Marine Biology from the University of South Alabama. She began her career with the Alabama Department of Environmental Management (ADEM) in 2000 as an environmental scientist. She specialized in construction stormwater management where she permitted, inspected and enforced the construction general permit for the Mobile Field District of ADEM. She also worked with the Coastal Nonpoint Source Program. In 2006, she gained employment with the City of Foley. Her duties included creating environmental regulations and inspection and enforcement of those regulations. She created the Graham Creek Nature Preserve which included comprehensive planning, a habitat management plan, creation of educational programs and

creation of recreational opportunities. She has managed multiple large projects including the Wolf Creek Stream Restoration, two US Fish and Wildlife Invasive Control Grants, EPA Stormwater Assessment Grant, Bon Secour River, Oyster Bay, and Skunk Bayou Watershed Management Plan, and multiple ADCNR Coastal Access Improvement and Planning Grants for the Graham Creek Nature Preserve. She serves as the president of the Wolf Bay Watershed Watch and past president of the Alabama Soil and Water Conservation Society. Ms. Gahagan is heavily involved with the Mobile Bay National Estuary Programs including serving as Co-Chair of the Community Action Committee and participating in the Project Implementation Committee and Executive Committee. She is a certified Professional in Erosion and Sediment Control and is certified with Alabama Water Watch. Ms. Gahagan will manage all aspects of this project for the City.

Chad Christian, P.E., City Engineer – Mr. Christian is a native of Tuscaloosa and earned his Bachelor of Science Degree in Civil Engineering from the University of Alabama in 1996. From 1996-1999 he worked in the private sector as Staff Engineer for The Cassady Company, with a focus on Water Resources. Mr. Christian served as the Drainage Engineer for the City of Tuscaloosa for 15 years (1999-2014) where he developed all aspects of the Stormwater Phase II program. Mr. Christian received his Alabama Professional Engineering license in 2004 and has served as City Engineer for the City of Foley since July 2014.

Taylor Davis, P.E., Assistant City Engineer – Mr. Davis is a native of Foley. After high school he received his Bachelor of Science Degree in Civil Engineering from the University of South Alabama in 2007. Over the past decade, Mr. Davis has worked in the private engineering sector in Mobile and the public sector for the Kentucky Transportation Cabinet before joining the City of Foley in 2014. Mr. Davis received his Professional Engineering license in Alabama in 2013. Mr. Davis has focused his career on roadway design plus drainage design and improvements and currently serves as the Assistant City Engineer for the City of Foley. He will be reviewing the project design specifications and assisting with inspection of construction of the water quality improvement project. Mr. Davis will also assist in determining maintenance needs for sustainability of the conservation goals.

Darrell Russell, Public Works Director – After beginning his career with the City of Foley in 1990, Darrell Russell completed a degree in Business Management at Auburn University and worked his way up through the ranks of the Street Department. In his current position of Public Works Superintendent, he is deeply invested in providing seamless operations within the city. Working closely with his Street, Sanitation, and Maintenance Supervisors, Darrell oversees multiple services provided to the public (e.g. street repairs, sidewalk and right of way maintenance, trash, recycling, etc.) He also takes great pride and pleasure in facilitating communication and coordinating efforts among the various departments of the City, always working with the best interest of his lifelong hometown at heart. His crews will perform long term maintenance of the project. Mr. Russell will consult with the city engineers to direct maintenance activities and adaptively manage the site overtime to sustainability achieve the pollutant removal goals.

Sub-Recipient Team(s):

1. To the extent that Sub-recipient(s) have been identified for the performance of certain portions of the Scope of Work, provide the following information for each known Sub-recipient:
 - a. The organization's name
 - b. A brief description of the project work it will perform
 - c. Its experience with completing similar work
 - d. A list, if known, of Sub-recipient staff that will be performing the work. The list should include: descriptions of each member, her/his expertise, prior experience in completing similar work, and role(s) and responsibilities for this project.
 - e. A brief description of the status of securing the Sub-recipient, identifying key steps in the procurement process and estimating when the draft work package will be sent to NFWF for review and the time required after NFWF's review to initiate and complete the procurement of the Sub-recipient. **Also note potential risks to the project if delays or breakdowns in the procurement process are encountered.**

The following sub-recipients have been or will be engaged in the project in conjunction with the land acquisition process:

Volkert, Inc. – Will be secured to complete boundary survey, map, legal description of the property, wetland delineation, environmental assessment, engineering and design specifications, and permitting. Completed the Bon Secour River Watershed Management Plan identifying this project as a long term management measure to improve water quality.

Advanced Appraisals – Will be contracted to perform the updated property appraisal. Conducted an appraisal on this property for Foley in 2016.

Gulf Shores Title, Inc. – Will be secured for title and legal reviews and acquisition transaction closing for the parcel.

3. To the extent that Sub-recipient(s) have yet to be identified for the performance of certain portions of the Scope of Work, for each work package briefly describe how a Sub-recipient will be sourced and procured, identifying key steps in the procurement process and estimating when the work package will be sent to NFWF for review and the time required after NFWF's review to initiate and complete the procurement of a Sub-recipient for the work package. Please note any potential risks to the project if delays or breakdowns in the procurement process are encountered.

The City has or will secure contracts with local firms that have been used in past land acquisition transactions and capital projects and that carry the appropriate credentials for surveys, appraisals, environmental assessments, and title and legal reviews. The firms will be selected based upon past performance and work quality. All sourcing of sub-recipients will follow the policies and procedures recorded in the City of Foley Purchasing Manual. Foley City Council formally adopted the

latest version of the City's written Purchasing Manual on November 23, 2016. As stated in the Purchasing Manual, the City of Foley follows all regulations and guidelines set by the Competitive Bid Law codified through Titles 39 and 41 of the Code of Alabama. To summarize, this means that for purchases of materials and services of \$15,000 or greater (\$50,000 or greater for projects that qualify as "Public Works contracts" as defined by the Code of Alabama), the City follows a formal competitive sealed bid process. For purchases under the limits set by law, the City obtains a minimum of three written quotes and follows an internal Purchase Order approvals process. The Purchasing Manual also details the required approval process for certain professional services that are exempt from the Competitive Bid Law. All bid documents will be sent to NFWF for review prior to being put out for bid. Generally, it takes about thirty days to complete procurement after review.

Partnerships:

1. In addition to Sub-recipients that will be part of the Overall Project Team, please identify the other cooperating partners directly related to this project that will not be funded through NFWF and describe their:
 - a. Connection(s) to the project and related responsibilities
 - b. How their work or the availability of funding for such work has the potential to impact the Scope of Work, Schedule or Budget described herein

There will not be any partnerships with this phase of the project.

Risks and Assumptions:

1. If applicable, please describe existing and planned activities (e.g., other conservation work, development activities, etc.) in the vicinity that may interact (positively or negatively) with this proposed project. Please describe any planned actions (internal or external to the project) that will help to either enhance or reduce these interactions in order to optimize and sustain to the project's success.

There are no proposed or existing activities in the vicinity of this project that would interact with the project. Upstream of one of the drainage areas to this project, the city installed a litter trap which would enhance this project by reducing the litter to the overall system.

2. Discuss major uncertainties in project planning or design, and implications for achieving the stated outputs and conservation outcomes.

There are no major uncertainties in project planning or design for this acquisition project. Conservation and restoration components of this project are based on widely used and effective methods that have shown high rates of success in similar habitats.

3. Discuss major project risks that may affect the project's effectiveness or sustainability (e.g., important underlying assumptions that would cause the project to be ineffective if the

assumption proves to be incorrect, potential impacts on adjacent areas, threats due to changing conditions over time such as sea level rise, etc.). The Scope of Work should include measures to mitigate these identified risks, as appropriate.

The major project risks will be encountered in Phase II of the project when project construction and monitoring will occur. One risk anticipated in Phase II of the project will be the occurrence of catastrophic storm events producing rainfall in excess of the 100 year storm event. These events may overwhelm the system and flows escape untreated. Until the vegetation is established there is also the potential for these storm events to wash away the newly planted native wetland vegetation. In order to minimize this risk, we plan to construct and plant in the winter months when we are seasonably dry.

Sustainability and Long-Term Management:

1. Discuss how the project is or will be designed to ensure the sustainability of the intended conservation outcomes (refer to the measurable outcomes entered in the Metrics section of your Full Proposal).

The intended conservation outcomes are to acquire and protect 94 acres of headwaters of the Bon Secour River, develop a water quality improvement project on approximately 60 acres and restore 34 acres of riparian wetlands. Acres acquired in fee is a fairly straightforward metric and will be validated by the transfer of ownership of the property and deed restrictions ensuring the property will be held in conservation for the benefit of public natural resources in perpetuity. The second metric, pounds of sediment avoided, will be accomplished through the development of the water quality treatment project that will intercept and collect approximately 146,800 pounds of sediment annually from eroded agricultural land on the west side of the project. The third metric is to restore 34 acres of riparian wetlands through the removal of invasive exotic plants and replanting of native wetland vegetation. Best management practices will be incorporated into the overall plan and day-to-day operations of the project. All aspects of the project will be inspected throughout construction.

2. Please describe the actions required to adequately manage, operate, and maintain the project over its anticipated project lifespan.

For Phase I of the Bon Secour Water Quality Treatment Project, the site will be assessed to determine a current appraisal, boundary survey, Phase I Environmental Site Assessment and title and legal reviews. Once completed the City will work with the property owner to acquire the property. Following acquisition, the City will engage Volkert, Inc. to complete a wetland delineation and develop engineering and environmental design specifications for the construction of a water quality improvement project. Upon completion of the design specifications, the City of Foley will apply and obtain a USACE permit for wetland and stream impacts and an ADEM 401 water quality certification. Also the City will apply and obtain an ADEM NPDES construction general permit for the land disturbing activity.

3. Please describe how sustaining conservation outcomes over the project lifespan will be funded. If maintenance funds are being requested from the GEBF, please review the provisions for this request in the GEBF Full Proposal Guidelines.

In Phase II, two years following construction completion there will be adaptive management established within the contract between the City and the construction contractor. Following that the City of Foley would absorb maintenance funds into the general fund operating budget with Public Works.

Project Monitoring and Adaptive Management:

Provide a summary description of plans to monitor and adaptively manage the proposed work, as appropriate. Full Monitoring and Adaptive Management plans must be prepared as separate documents in accordance with the Appendix B of the Full Proposal Guidelines. **Please read Appendix B carefully prior to completing this section.**

If a detailed monitoring and adaptive management plan has already been prepared, please submit the completed plan as part of the full proposal process.

GEBF Recipients are required to perform monitoring to:

- i. verify that the project was implemented as outlined in the full proposal (construction or implementation monitoring);
- ii. assess if the project has achieved, or is on track to achieve, the specific goals and objectives outlined in the full proposal (performance monitoring); and
- iii. if applicable, resolve critical implementation uncertainties and monitor risks that must be described in the full proposal to inform adaptive management of the proposed project (monitoring for adaptive management at the project level).

With NFWF approval, a fourth kind of monitoring (monitoring for adaptive management at the program level) may be included to inform future projects.

To ensure datasets are comparable with recovery efforts like NRDA and RESTORE programs, Applicants developing and implementing Monitoring and Adaptive Management Plans should use monitoring protocols adopted by Gulf resource agencies and coordinate with ongoing monitoring efforts.

The costs associated with the development and implementation of the Monitoring and Adaptive Management Plan may be included in this request and should be included as a separate task in the Scope of Work, Schedule, and Budget, as appropriate.

In Phase I the design process will adaptively manage for changing site and stream conditions as determined by the site assessment and wetland delineation. The City has initiated monthly water quality monitoring upstream of the project for basic water quality parameters, turbidity, nitrates and phosphates. This data will provide a baseline of water quality near the project site.

The long-term monitoring parameters and adaptive management will be established as part of Phase II of the project when the actual construction will occur. Monitoring parameters will likely include such standard techniques as temperature, dissolved oxygen, pH, alkalinity and hardness. We also plan to include monitoring for turbidity, nitrates and phosphates. In the wetland restoration area of the project, the monitoring may include native species success counts and identification of re-pioneering invasive species. Lessons learned from previous NRDA, NFWF, and RESTORE Projects will be incorporated in adaptive management strategies and regular assessments of project performance will be made in collaboration with state and federal agencies.