CHESAPEAKE BAY TRUST

REQUEST FOR PROPOSALS

CONSULTANT SERVICES
TECHNICAL ASSISTANCE TO SUPPORT CHESAPEAKE BAY PROGRAM GOALS AND OUTCOMES

Fisheries, Habitat, Water Quality, Stewardship, Leadership, and Climate

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SECTION I - INTRODUCTION

1.1 Purpose

The purpose of this Request for Proposals (RFP) is to invite entities experienced in various aspects of fisheries, watershed science and policy, outreach and training, tidal wetlands, data review and development, tree canopy and forest buffers, and other watershed issues to submit proposals to the Chesapeake Bay Trust (the Trust). The Trust has been designated to receive federal funds from the U.S. Environmental Protection Agency (EPA) as part of the Chesapeake Bay Program (CBP) Goal Implementation Team (GIT) Funding Program. The work to be supported will advance specific outcomes from the 2014 Chesapeake Bay Watershed Agreement that have been identified as top priorities to address.

This RFP includes twelve “projects” that have been separated into twelve individual Scopes of Work (Scopes #1 through #12). Offerors can bid on one or more of the individual scopes of work, with each scope of work addressed in a separate proposal. The twelve individual scopes of work are listed below, and scope details and qualifications of Offerors are described in more detail in Appendix A. A maximum bid amount is listed for each project scope. Cost will be a factor in evaluation of bids as described in Section IV.

The Trust has been designated to receive federal funds from the United States EPA as part of the GIT Funding Program to advance specific outcomes from the 2014 Chesapeake Bay Watershed Agreement. Awards under this RFP will be issued as “contracts.” The Trust will establish and manage the contracts in compliance with Title 2 Code of Federal Regulations (CFR) 200 and the terms of the federal funding by the United States EPA, Catalog of Federal Domestic Assistance (CFDA) # 66.466, through the

Cooperative Agreement (Federal Award Identification Number) 96374201 dated 11/1/2021.

The source of the GIT Funding Program is federal funding. Therefore, awarded projects must adhere to federal requirements regarding contracting, including contracts with consultants and the purchase of supplies and equipment. For example, Contractors shall obtain multiple estimates or put the work out for competitive bid (e.g., in a RFP) for subcontracted services over $10,000 and use good-faith efforts to engage Disadvantaged Business Enterprises (DBEs), including Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs), and Small Business Enterprises (SBEs).

1.2 Services/Scopes of Work and Offeror's Minimum Qualifications

A list of the Scopes of Work is provided below with details for each scope of work including the maximum bid and minimum qualifications provided in Appendix A.

List of Scopes of Work:

Scope of Work (SOW)	FFY21 Scope Title	Maximum Bid Amount
SOW 1:	Chesapeake Healthy Watersheds Assessment 2.0	$85,000
SOW 2:	Partnership-Building and Identification of Collaborative Tidal Marsh Adaptation Projects	$75,000
SOW 3:	Equitable Grant Funding in the Chesapeake Bay Watershed	$74,500
SOW 4:	Updating the Chesapeake Bay Fish Passage Prioritization Tool	$65,000
SOW 5:	Strategy Development for Innovative Finance of Riparian Forest Buffer Programs	$70,000
SOW 6:	Tree Canopy Funding and Policy Roundtable	$65,000
SOW 7:	A Local Government Guide to the Chesapeake Bay: Phase II	$80,000
SOW 8:	Facilitating Brook Trout Outcome Attainability through Coordination with CBP Jurisdictions and Partners	$80,000
SOW 9:	A Population Simulation Model for Blue Crab Stock Assessment Performance Evaluation	$80,000
SOW 10:	Updating the Chesapeake Conservation Partnership (CCP) Priority Habitat Dataset of the Chesapeake Conservation Atlas: A Scoping Project	$45,000
SOW 11:	Understanding and Addressing the Impacts of Wetland Mowing to Facilitate Meeting the Chesapeake Bay Wetland Enhancement Goals	$75,000
SOW 12:	Data Review and Development of Multi-Metric Stream Health Indicators	$75,000

SECTION II – BUDGET AND ADDITIONAL SERVICES

2.1 **Amount Available.** It is anticipated that as a result of this procurement action, one contract will be awarded for each Scope. Each successful bidder for each Scope may be engaged in one additional phase of work through this procurement action. Awards will be managed as firm-fixed-price contracts.

2.2 **Additional Services.** The Contract Officer may request ancillary or additional services within the capacity of the Contractor as may be useful or necessary in the interests of the Trust and the Project for the above Scopes.

2.3 **Add/Deduct.** The Trust reserves the right to add or remove items from the base bid proposal during the contract and modify or adjust scope of work and payment as needed.

SECTION III - SUBMISSION INFORMATION

3.1 **Principal Solicitation Officer and Issuing Office:**

Contract Officer:	Sarah Koser
Telephone Number:	410-974-2941, ext. 106
E-Mail	skoser@cbtrust.org
Address:	Chesapeake Bay Trust 108 Severn Avenue Annapolis, MD 21403

The sole point of contact for the purpose of this RFP is the Contract Officer.

3.2 **Prospective Offerors.** An "Offeror" is a person or entity that submits a proposal in response to this RFP.

3.3 **Cancellation; Discretion of Contract Officer.** This RFP may be canceled in whole or in part and any proposal may be rejected in whole or in part at the discretion of the Contract Officer. In addition, the Contract Officer has the right to negotiate separately with any Offeror in any manner which will best serve the interests of the Trust. The Contract Officer may waive any mandatory condition or minimum qualification if the Contract Officer determines that such action is in the best interest of the Trust.

3.4 **Submission Instructions/Proposal Closing Date.** Offerors must submit proposals using our Online Application System, located at: https://www.grantrequest.com/SID_1520?SA=SNA&FID=35071 no later than **4:00 p.m.** on **Monday, April 18, 2022** (the "**Closing Date**"). Requests for extensions will not be granted, late applications will not be accepted, and the online funding opportunity will close promptly at 4:00 pm EST. **Offerors are strongly encouraged to submit at least a few days prior to the deadline** given potential for high website traffic on the due date. The Trust cannot guarantee availability of Online Application System technical assistance on the deadline date. If email confirmation of submission is not received within two business days, please contact the Principal Solicitation Officer listed in Section 3.1.

Proposals are irrevocable for 90 days following the Closing Date.

3.5 **Professional Liability Insurance.** The Offeror shall agree to maintain in full force and effect during the term of the Contract usual and customary amounts of liability insurance coverage in connection with the performance or failure to perform services under the Contract.

3.6 **Eligible Organizations.** No entity may enter into a Contract with the Chesapeake Bay Trust under this funding opportunity if the entity is listed in www.sam.gov as debarred, suspended,

or otherwise excluded. You will be required to submit your Unique Entity ID (UEI) number in the online application form. The federal government has transitioned from a DUNS (Dun & Bradstreet) number to a UEI. Entities and/or Contractors that developed or drafted the scope of work content or developed project specifications in this RFP are not eligible to bid on this opportunity to ensure adherence with Federal guidelines, including Title 2 CFR 200 and specifically §200.319 Competition.

3.7 **Subcontracting Opportunities and Procurement**. This solicitation will result in one "contract" per Scope of Work. The Offeror should specify the intent to procure subcontracting services and demonstrate compliance with federal procurement guidelines for all subcontracting services greater than $10,000 and less than $250,000, including:

a. Obtain three estimates for subcontracted work or
b. Obtain subcontracted services through a competitive bid process.

For all subcontracted work, the Offeror shall be able to demonstrate that Good Faith Efforts were used to engage minority/disadvantaged/women/small business enterprises (MBE/DBE/WBE/SBE) by reaching out to MBE/DBE/WBE/SBE firms to obtain estimates or bids. The following websites may be helpful in identifying MBE/DBE/WBE/SBE firms in states/districts within the Chesapeake Bay Watershed:

DC	https://dslbd.secure.force.com/public/
DE	https://deldotcivilrights.dbesystem.com/FrontEnd/searchcertifieddirectory.asp
MD	https://marylandmdbe.mdbecert.com/
NY	https://ny.newnycontracts.com/frontend/searchcertifieddirectory.asp?
PA	http://www.dgs.internet.state.pa.us/suppliersearch
VA	https://www.sbsd.virginia.gov/directory/
WV	http://apps.sos.wv.gov/business/corporations/searchadvanced.aspx

All subcontractors must be verified by checking at https://sam.gov/content/home to ensure that they have not been suspended, debarred, excluded, or disqualified to do work with federal government resources.

SECTION IV - EVALUATION PROCEDURE

4.1 **Qualifying Proposals.** The Contract Officer will review each proposal for compliance with the minimum qualifications set forth in "Offeror's Minimum Qualifications."

4.2 **Deviations and Negotiation**. The Contract Officer shall have the sole right to determine whether any deviation from the requirements of this RFP is substantial in nature, and the Contract Officer may reject non-conforming proposals. In addition, the Contract Officer may waive minor irregularities in proposals, allow an Offeror to correct minor irregularities, and negotiate with responsible Offerors in any manner deemed necessary or desirable to serve the best interests of the Project.

4.3 **Evaluation.** Proposals shall be evaluated by a review committee composed of technical experts and facilitated by the Contract Officer. Evaluation will be made on the basis of the evaluation criteria discussed below and may include any oral presentation that may be required by the Contract Officer, through a recommendation by the technical review committee, at his or her discretion. The Contract Officer reserves the right to recommend an Offeror for contract award based upon the Offeror's proposal without oral presentations or further discussion. However, the Contract Officer may engage in further discussion if he or she determines that it might be beneficial. In such case, the Contract Officer will notify those responsible Offerors with whom further discussion is desired. In addition, the Contract Officer may permit qualified Offerors to revise their proposals by submitting "best and final" offers.

4.4 **Evaluation Considerations.** Proposals by Offerors who meet the minimum qualifications set forth in Appendix A will be evaluated by the technical review committee on the basis of the following factors:

a. Proposed Approach. Evaluation of the work to be performed to accomplish the goals outlined in the Scopes of Work in Appendix A.
b. Proposed Team (Specific Individual(s) Responsible for Performance of Contract). Evaluation of the qualifications, reputation, and compatibility with needs of the Trust and the Project of the individual or individuals who will perform the Contract.
c. Experience of Offeror. Evaluation of the quality and quantity of the Offeror's (and subcontractor's) experience and expertise in the areas proposed, supported by references.
d. Capacity. Evaluation of the Offeror's ability and commitment to meet timeline for the Project.
e. Cost Effectiveness/Budget. Hourly rate, number of hours to be devoted to the project, and indirect rate. Budget line items and associated costs per line item must: a) support the scope of work and b) be appropriate and cost-effective. Ensure compliance with federal procurement guidelines (Federal funds will support this work), including Title 2 CFR 200. Cash and in-kind match are not required but leveraging funds to make a project more robust is encouraged.

SECTION V: OTHER INFORMATION

5.1 **Disclosure.** Proposals submitted in response to this RFP may be provided to government agencies and be subject to disclosure pursuant to the provisions of the Access to Public Records Act of the State Government Article of the Annotated Code of Maryland (the "Public Information Act") or equivalent for your area. Offerors must specifically identify those portions of their proposals, if any, which they deem to contain confidential or proprietary information and must provide justification why such materials should not, upon request, be disclosed by the State under the Public Information Act.

5.2 **Quality Assurance Project Plan.** Several of the scopes of work listed in Appendix A will require a Quality Assurance Project Plan ("QAPP"). General guidance on QAPP's can be found on the EPA QAPP website: https://www.epa.gov/osa/elements-quality-assurance-project-plan-qapp-collecting-identifying-and-evaluating-existing. If data originates from sources other than federal reports and peer reviewed journals, a statement on data quality suitability will be required in the final report. When submitting a proposal for a scope of work that requires a QAPP, the

Offeror should understand and account for any costs associated with completing this component of the work.

5.3 **Expenses.** The Trust and the Contract Officer are not responsible for any direct or indirect expenses that an Offeror may incur in preparing and submitting a proposal, participating in the evaluation process, or in consequence of this solicitation process for any reason.

5.4 **Acceptance of Terms and Conditions.** By submitting a proposal in response to this RFP:

a. the Offeror accepts all of the terms and conditions set forth in this RFP;
b. the Offeror, if selected for award, agrees that it will comply with all federal, State, and local laws applicable to its activities and obligations under the Contract;
c. the Offeror shall be deemed to represent that it is not in arrears in the payment of any obligation due and owing the United States Government or the State or any department or unit thereof, including, without limitation, the payment of taxes and employee benefits, and, if selected for award, that it shall not become so in arrears during the term of the Contract; and
d. the Offeror, acknowledges that they are compliant with federal employment and non-discrimination laws and have not been debarred, convicted, charged or had civil judgment rendered against them for fraud or related offense by any government agency (federal, State, or local) or been terminated for cause or default by any government agency (federal, State, or local).

5.5 **Minority Business Enterprise (MBE) Program, the Disadvantaged Business Enterprise (DBE) Program, Women Business Enterprise (WBE), and Small Business Enterprise (SBE) Program Participation**: This RFP encourages the participation of MBE/DBE/WBE/SBE firms (members of a group as defined in the State Finance and Procurement Article of the Annotated Code of Maryland (the "Procurement Article"), Section 14-301(f)(i)(ii)). The Trust encourages MBE/DBE/WBE/SBE firms who meet the minimum qualifications to respond to this RFP.

5.6 **Parties to the Contract**: The contract to be entered into as a result of this RFP (the "Contract") shall be between the successful Offeror (the "Contractor") and the Trust and may be subject to EPA approval prior to Contract award.

5.7 **Contract Documents**. The Contract shall include the following documents: this RFP, the Contractor's Proposal (to the extent not inconsistent with the RFP or the Contract), and the Contract. In the event of an inconsistency, the Contract shall have priority over the other documents and specific conditions of the Contract shall have priority over General Conditions.

5.8 **Contract Term**. The Contract term shall commence as of a date to be specified in the Contract and, unless sooner terminated in accordance with the Contract, shall end when all work authorized under the Contract has been successfully completed by the project end date, unless the Contract is renewed or extended at the sole option of the Contract Officer.

5.9 **Billing Procedures and Compensation**.

a. Method: The Contracts to be entered into as a result of this RFP will not exceed the small procurement threshold fixed at 41 U.S.C. 403 (11) (currently $150,000). The Contractor(s)

must comply with billing procedures as may be required by the Contract Officer and US EPA. These may entail monthly reporting of time and eligible expenses or may be based upon satisfactory completion of benchmark tasks.

b. Records: The Contractor(s) shall submit invoices in a form acceptable to the Contract Officer and maintain records relating to the costs and expenses incurred by the Contractor(s) in the performance of the Contracts for a period of three years from the date of final Project payment under the Contracts.

5.10 Certification. The Offeror shall certify that, to the best of its knowledge, the price information submitted is accurate, complete, and correct as of the Closing Date, and if negotiations are conducted as of the date of "best and final offer."

5.11 Branding. All products (outreach materials, events) will be branded with the United States EPA and Chesapeake Bay Trust logos.

SECTION VI: PROPOSAL FORMAT

6.1 Proposal Format. A project narrative and a project budget are required, as described below.

a. Project Narrative. You will be asked to submit a project narrative. Answer the project narrative questions below and upload the MS Word or PDF file. The project narrative should not exceed five (5) pages of text. You may add photos/graphs, resumes, Letter(s) of Commitment, and other materials to support your project proposal in addition to the project narrative questions and submitted as one file (i.e., combine the project narrative answers with additional materials excluding the budget for submission). There is a file attachment limit of 1 gig for the entire application. Each proposal (i.e., a submission in response to each Scope of Work) must include responses to items 1 through 7 in a concise description. Organize your Project Narrative as follows:

1. Scope Number and Title: List the scope number and title of your application.

2. Requesting Organization and Individuals Providing the Services:
   i. Describe your organization and experience.
   ii. Provide the names of individuals providing the services and number of years of experience in such areas.

3. Proposed Approach. Your proposal for how to accomplish the goals and outcomes/deliverables for the Scope(s) of Work (Appendix A).

4. Deliverables. Provide a deliverables schedule using the table format below, including details for each deliverable format (e.g., excel spreadsheet). A template is provided for the first two deliverables. Add rows for additional deliverables and include total cost in the last row. **Awards will be managed as firm-fixed-price contracts.**

Table X. Project deliverables and timeline.			
Report # and Reporting Period	**Project Deliverables**	**Date of Delivery**	**Amount**
Report #1: X/X/20XX to X/X/20XX	The deliverables include: • (add name of deliverables here, along with format of each deliverable)	X/X/20XX	$
Report #1: X/X/20XX to X/X/20XX	The deliverables include: • (add name of deliverables here, along with format of each deliverable)	X/X/20XX	$

5. Will a subcontractor be used in this Project: Yes or No? If Yes, describe the subcontracting process. If a subcontractor is proposed for services over $10,000, describe how you will or have met the criteria for subcontractual work as described in items "5i" or "5ii" below (whichever is appropriate for your project, and is consistent with Section 3.7 above):
    i. If the subcontractor has already been identified by attaining at least three estimates or through a competitive bid process and using good faith efforts to reach MBE/WBE/DBE firms, describe the process and results, e.g., describe the bid process used to obtain bids, including length of time the bid was open for responses, a description of the selection process/criteria used to select the winning bidder (e.g., low bidder, qualifications, criteria, etc.), and reason(s) for selection of the winning subcontractor (lowest qualified bid, etc.).
    ii. If the subcontractor has not already been identified describe the process you will take to secure the subcontractor, e.g., describe the bid process to be used to obtain bids, including length of time the bid was open for responses, a description of the selection process/criteria used to select the winning bidder (e.g., low bidder, qualifications, criteria, etc.), and reason(s) for selection of the winning subcontractor (lowest qualified bid, etc.).

6. Qualifications: Respond to the qualifications section in the Scope of Work. Resumes of key personnel should be included in the application package but will not be considered in the Project Narrative's five-page limit.

7. References: Names, phone numbers, and email addresses of three references.

8. Additional information: Any other information which the Offeror considers relevant to a fair evaluation of its experience and capabilities.

b. Project Budget: You will be asked to upload your budget using the "Application Budget" worksheet of the Chesapeake Bay Trust's Financial Management Spreadsheet (FMS), an excel file template. The template is available in the online application and can be found by visiting www.cbtrust.org/forms where you can also watch a video with instructions on how to complete the FMS. The budget is a spreadsheet that is uploaded separately into the online application. For your budget request:

1. The resources requested in your budget should be able to be accomplish the body of work described in your proposal; be as detailed as possible.

2. The Offeror shall submit a budget including total number of hours and hourly rate of compensation for the services to be performed during the term of the contract broken down by direct rate, benefit rate, indirect rate, profit, and direct expenses; any additional costs required to complete the project; and total compensation. Under this program, food and beverage costs will not be supported.

3. **If your proposed indirect rate is higher than 10% of the direct costs, please provide the Negotiated Indirect Cost Rate Agreement (NICRA) documentation in your proposal**.

4. Matching/leveraged resources are encouraged but not required. Indicate whether each match entry is applied for, pledged, or in-hand. Indicate in the narrative whether your organization has requested financial support from any other sources for the project not listed as match in the budget submitted.

5. Use the “Additional Budget Justification” section in the online application to justify and explain costs. Budgets that are detailed, justified, and itemized are ideal.

6. The proposed rates of compensation will be irrevocable for a period of 90 days from the Closing Date, or if modified during negotiations, for a period of 90 days from the date such modified rates are proposed by the Offeror.

FFY21 Goal Implementation Team (GIT) Projects

APPENDIX A: Scopes of Work

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Overview of Scopes of Work

The tables below present the descriptions of twelve scopes of work, including but not limited to expected deliverables and minimum qualifications of Bidders. Each scope of work is presented in the format below:

Goal Implementation Team (GIT)	This section indicates the Goal Implementation Team **(**GIT) that is presenting the scope of work for bid.
Maximum Bid Amount	This section identifies the maximum bid amount allowed for the scope of work.
Purpose and Outcomes	This section provides the purpose of the work and the expected outcomes of the work. This section provides background information and context for potential Bidders.
Project Steps and Timeline	This section outlines the specific steps and proposed timeline of work that should be accounted for by the Bidder. The Bidder should also account for and provide detail regarding any additional steps or work that may be undertaken to deliver the final products as listed in the "Deliverables" section of the table for that scope of work. Additional project steps and extended timelines may be added throughout the project as agreed upon by the chosen Contractor, the GIT team, the Chesapeake Bay Program (CPB), and the Chesapeake Bay Trust (Trust).
Stakeholder / Participants	This section lists the project stakeholders and/or participants that the Bidder will need to engage throughout the project to meet the deliverables of that scope of work.
Deliverables	This section provides an overview of the major deliverables (the final products) that will need to be submitted and approved by the GIT Technical Lead and Trust teams in order to successfully meet the terms of the contract. Additional deliverables may be added throughout the project as agreed upon by the chosen Contractor, the GIT team, the CPB, and the Trust.
QAPP (Quality Assurance Project Plan) Requirement	This section identifies if there is a need for a Quality Assurance Project Plan (QAPP). General guidance on QAPP's can be found on the Environmental Protection Agency (EPA) QAPP website: https://www.epa.gov/osa/elements-quality-assurance-project-plan-qapp-collecting-identifying-and-evaluating-existing. If data originates from sources other than federal reports and peer reviewed journals, a statement on data quality suitability will be required in the final report. When submitting a proposal for a scope of work that requires a QAPP, the Bidder should understand and account for any costs associated with completing this component of the work. Additional information about QAPP's can be found in the following documents: 1. *EPA Requirements for Quality Assurance Project Plans*, QA/R-5, March 2001 *2. Guidance for Quality Assurance Project Plans*, QA/G-5, December 2002 (http://www.epa.gov/quality/qs-docs/g5-final.pdf) In some cases when secondary data is used, a QAPP is required. Guidance for developing a QAPP for secondary data can be found at https://www.epa.gov/quality/quality-assurance-project-plan-requirements-secondary-data-research-projects. If data originates from sources other than federal reports and peer reviewed journals, a statement on data quality suitability will be required in the final report.
Qualifications of Bidder	This section outlines the experience required by the Bidder's personnel assigned to perform under the Contract.

Scope 1: Chesapeake Healthy Watersheds Assessment 2.0

GIT	Healthy Watersheds (GIT 4)
Maximum Bid Amount	$85,000
Purpose and Outcomes	The overall goal of the Chesapeake Healthy Watersheds Assessment (CHWA) is to promote the improvement of Chesapeake watershed health through the visualization of its watershed health metrics. Previous work for the CHWA included an assessment of the current condition of state-identified healthy watersheds within the Chesapeake Bay Watershed. This project will further improve, refine, and finalize the Chesapeake Healthy Watersheds CHWA and will be referred to as CHWA 2.0, since this project will update first version of the CHWA. This CHWA 2.0 project, and other future updates can be used to determine if State-Identified Healthy Waters and Watersheds are being maintained. This addresses a major gap identified in the Healthy Watershed's Management Strategy, "routine collection of information about the status of healthy waters and watersheds is often lacking." A better scientific and technical understanding of healthy watershed threats has also been identified as a key factor in meeting the Healthy Watersheds Goal. Refining and improving the CHWA and its vulnerability metrics information allows for tracking through time and our more holistic understanding of progress toward this outcome. The key stakeholders and audience are the signatory jurisdictions of the 2014 Chesapeake Watershed Agreement who signed onto the Healthy Watersheds Outcome. Generally, this includes Maryland Department of Environment, Virginia Department of Conservation and Recreation, Natural Heritage, Healthy Waters Program, Pennsylvania Department of Conservation and Natural Resources and other jurisdictional departments that are overseeing healthy watershed programs. In addition, this characterization of watershed health and vulnerability has other wide-ranging interests and potential audiences. Previous work for this project have included the EPA Preliminary Healthy Watersheds Assessments (PHWA - https://www.epa.gov/hwp/download-preliminary-healthy-watersheds-assessments), which assessed the current condition of state-identified healthy watersheds within the Chesapeake Bay watershed. That framework was applied to identify key datasets that represent stressors and vulnerabilities of state-identified healthy watersheds and beyond. In addition, a pilot project, the Maryland Healthy Watersheds Assessment (MDHWA - https://cbtrust.org/wp-content/uploads/17715_Implementation-of-Chesapeake-Healthy-Watersheds-Assessment_draft_July21.pdf) is being completed and will be used to demonstrate how to further refine metrics with localized or regional data. In 2019, the CHWA application was completed, which is a visualization tool for watershed GIS data. The application takes complex data—60+ attributes for over 80,000 unique catchments—and allows users, specifically non-GIS professionals such as watershed professionals, land conservation organizations, and researchers, to interact with and visualize the data. Users of CHWA access useful information to support watershed conservation strategies and identify signals of change in healthy waters and watersheds. CHWA Application (https://gis.chesapeakebay.net/healthywatersheds/assessment/); CHWA Report (https://www.chesapeakebay.net/channel_files/26540/chesapeake_healthy_watersheds_assessment_report.pdf); Chesapeake Open Data link to CHWA metrics (https://data-chesbay.opendata.arcgis.com/documents/chesapeake-healthy-watersheds-assessment-data-and-map/about).

Purpose and Outcomes (continued)	The CHWA was developed using ESRI's WebApp Builder Developer Edition. The mapping application contains over 130 layers and nine widgets/tools, which enable users to use specific layers, filter data, turn on satellite imagery as a base map, and create bookmarks for easy navigation, all on demand. One of the key features of the application is a custom reporting tool, which allows users to explore metrics and indices related to watershed health and generate a custom report for the selected catchment. This project would build on all previous work to further improve, refine, and finalize the Chesapeake Healthy Watersheds Assessment. The contractor will release the CHWA Application as a new version (2.0) and will include updated metrics, tables, and additional functionality as well as video tutorials that describe how different stakeholders could utilize the CHWA to inform their conservation, restoration, grant application or other efforts. These updates will be based on and incorporate new data, including findings from analysis conducted as part of MDHWA assessment, user needs, and research related to local leadership, local planners, stakeholders and conservation and restoration professionals. The goal of the update is to address a variety of end user environmental decision support requirements associated with environmental management applications as well as considering climate and Diversity, Equity, Inclusion and Justice (DEIJ). These efforts, along with including recommendations for next steps from previous project reports (PHWA and MDHWA) will result in the new and improved CHWA 2.0, https://gis.chesapeakebay.net/healthywatersheds/assessment/, which will require both an update and a relaunch.
Project Steps and Timeline	**Step 1: Strategy Development (7/1/2022 – 9/30/2022)** Meet virtually with the GIT Technical Lead for a project kick-off meeting to form the Project Action Team, which will include USGS Scientists, the Chesapeake Bay Program (CBP) Web Team, jurisdictional watershed managers, and other subject matter experts, and discuss the full suite of project steps, deliverables, and timeline, and to clarify the role and expectations of the contractor and Action Team. A Quality Assurance Project Plan (QAPP) will be required for this project and the contents of the draft QAPP should be discussed during the kick-off meeting. Quarterly meetings will be held with the Action Team and biweekly meetings will be held with the GIT Technical Lead. The contractor will develop a CHWA 2.0 Project Strategy Document for the Project Action Team to review. This document should be discussed during the kick-off meeting, including a discussion of specific datasets, user needs research, and statistical methodologies. This document will be submitted to the Project Action Team for approval at the end of Step 1. During this timeframe, the Contractor shall also prepare and submit a draft QAPP to the EPA, allowing 45 days for review. After receiving EPA feedback on the draft QAPP, the Contractor should submit a final QAPP with appropriate edits and the necessary signatures back to the EPA for final approval. Guidance for developing a QAPP for secondary data can be found at https://www.epa.gov/quality/quality-assurance-project-plan-requirements-secondary-data-research-projects. This project will be covered under the Chesapeake Bay Program Quality Management Plan (QMP), so the following statement should be included in the QAPP: "All data-related tasks being carried out as a part of this project are covered by the U.S. EPA Region 3 Quality Management Plan." Assume two weeks for revisions and two weeks for EPA to give final approval. This must be done before data collection and analysis can occur. Deliverables for this Step include: • Summary of the project kick-off meeting, agenda, and minutes (Word) • CHWA 2.0 Project Strategy Document (Word) • Draft QAPP (Word) • Final (signed) QAPP (PDF)
	Step 2: User Needs and Research (10/1/2022 – 12/31/2022) The Project Action Team will provide the contractor existing user needs and completed research to inform this project that will be used to help develop a new version of the CHWA decision tool. The GIT Technical Lead will provide a short-list of proposed stakeholders to the contractor to interview, including GIT members, jurisdictional HWGIT leads, land conservation groups,

Project Steps and Timeline (continued)	local planners, representatives of CBP workgroup and teams to solicit feedback and input. From this list of stakeholders, the contractor and the Project Action Team will write a list of interview questions. The Contractor will conduct up to seven small, targeted interviews (virtually) from the list to identify the obstacles of stakeholders when using CBP tools; including how to better communicate ideal conditions for aquatic life of signals of change in health or vulnerability and obstacles surrounding the reporting the status and condition of all watersheds, monitoring of those conditions, and acting on that information to maintain watershed health. From these interviews, the contractor will identify opportunities, data or web/GIS tools needed to refine the CHWA tool to overcome barriers, respond to, meet stakeholder, and end-user needs. Note that some resources already exist from a user-needs survey of GIT members previously completed in 2021 and a cross-outcome mapping needs research project previously completed in 2021: https://www.chesapeakebay.net/channel_files/42214/presentation_to_star_05_27_21.pdf. The contractor will compile and summarize those resources as related to CHWA scope (with guidance from the GIT Technical Lead). The contractor will summarize findings including any recommendations for current scope improvements and future considerations, and work with the GIT Technical Lead and Project Action Team to refine the scope (if necessary) and incorporate input. These recommendations will be based solely on the interviews conducted with stakeholders in this Step, and the previously completed user needs surveys noted earlier. The interviews will enable the contractor and Project Action Team to integrate jurisdictional needs in the CHWA tool and displays. For example, this could include adding functionality to the CHWA 2.0 tool that incorporates state-based data, run analysis for a geography different that catchment scale, or add case studies to the tutorials outlining specific examples of how to utilize the CHWA raised by the interviewees. The contractor will then present analysis, findings, and recommendations to the Project Action Team. The contractor will submit a Summary Report that will either be an addendum to the CHWA 2.0 Project Strategy Document submitted above in Step 1, or a standalone document. This document will include recommendations on CHWA 2.0 enhancement within this scope and beyond and should include the following: summaries and key findings of user needs resources and research, summaries, and key findings from the targeted stakeholder input, as well as CBP workgroup and other CBP team input. Approval of Step 2 will be required by the Project Action Team to move forward with development and execution in Step 3. Deliverables for this Step include: • Meeting agendas, minutes, and key actions from all activities (Word) • List of all stakeholders interviewed (Excel) • List of interview questions for stakeholders (Word) and stakeholder transcripts (as appropriate) • Summary Report (Word) • Presentation(s) to the Project Action Team (PowerPoint)
	Step 3: Data Compilation, Calculations, and CHWA Updates (1/1/2023 – 3/31/2023) This step of the project consists of data compilation, analysis, and activities associated with calculating and updating the first version of the CHWA metrics. This step will rely heavily on the lessons learned, new datasets and findings of both the CHWA analysis and the subsequent MDHWA work (will be completed in June 2022). The contractor will investigate new and emerging datasets including conductivity, fish habitat, CBP/ICPRB Chesapeake Bay Basin-wide Index of Biotic Integrity (Chessie BIBI), stream temperature, FACET (Floodplain and Channel Evaluation Tool) channel metrics, hi-resolution hydrography, CBP modeled loading for water quality, fisheries habitat, groundwater, The Nature Conservancy (TNC) resilient lands, CHWA and CAST relationship, overlay/complementary datasets and more. From these datasets, the contractor will identify and compile relevant ones for incorporation into CHWA 2.0. The contractor will then develop a comprehensive listing of metrics to be developed, corresponding data sources, and proposed methods for calculations. The contractor will conduct statistical analytical assessment based on MDHWA approach using Chessie BIBI measured and modeled

Project Steps and Timeline (continued)	data as a proxy for watershed health. The contractor will compile results and conclusions and submit a draft CHWA geodatabase and methods to the Project Action Team for review. Once the candidate metrics have been constructed, they can be tested for effectiveness, in terms of the strength of the relationship between the metric and stream response. Note that stream response can be quantified in terms of direct diagnostic measures of stream health, such as biological condition. Where biological, in-stream data are available, the relationship between predictive metrics and biological condition can be assessed. Using a stepwise Multiple Linear Regression (MLR) model, the strength of prediction for metrics individually and in combination can be tested. Finally, the contractor will refine and resubmit the CHWA 2.0 geodatabase (see Chesapeake Open Data link for a sample), the updated toolboxes, and the code. Chesapeake Open Data link to CHWA metrics https://data-chesbay.opendata.arcgis.com/documents/chesapeake-healthy-watersheds-assessment-data-and-map/about. Deliverables for this Step include: • Comprehensive listing of metrics to be developed, corresponding data sources, and proposed methods for calculations (Excel) • Statistical analytical assessment based on MDHWA approach using Chessie BIBI measured and modeled data as a proxy for watershed health • Results and conclusions and the draft CHWA geodatabase and methods (Word) • Refine and resubmit CHWA 2.0 geodatabase (GIS data and code)
	Step 4: Content Development and Roll-Out (4/1/2023 – 6/30/2023) Following Step 3, the contractor will update the CHWA web application, which will include finalizing the CHWA 2.0 geodatabase, associated code, toolboxes, readme files, etc. The contractor will also develop content to promote the use of the updated tool by using existing templates for factsheets, tables, or other resources as appropriate (templates will be provided by GIT Technical Lead). The contractor will work with the GIT Technical Lead to develop succinct text, graphics, and inset maps to update the CHWA Story Maps as appropriate. Using the deliverables developed in Steps 1, 2, and 3 (methods and results), the contractor will submit a Final CHWA 2.0 Project Strategy document. The contractor will also develop a video tutorial of how to use the CHWA 2.0, which will include developing three (3) to five (5) Use Case video tutorials that describe how different stakeholders could utilize the CHWA to inform their conservation, restoration, grant application or other efforts. The contractor will develop a relaunch announcement flyer and email for the finished CHWA 2.0 product and will send out the announcement to a list of contacts provided by the CBP Web Team. The contractor will present the final project to the Healthy Watersheds GIT or other appropriate CBP partner related venue (either in-person or virtual). Finally, the contractor will create a Factsheet summarizing the project (two pages). Deliverables for this Step include: • Meeting agendas, minutes and key actions from all activities (Word) • Final CHWA 2.0 geodatabase • Promotional materials for the updated tool (Word and Excel) • Final CHWA 2.0 Project Strategy Document (Word) • Relaunched CHWA 2.0 website and all associated data download files; Chesapeake Open Data and Chesapeake Progress (as applicable) • Communications and Training Materials (PDF) • Slide deck for demonstrations and webinars (PowerPoint) • Overview Video tutorial for CHWA 2.0 (video) • Use Case video tutorials (3 to 5 total videos) • Relaunch announcement flyer (PDF) • Presentation of Final Report (PowerPoint) • Factsheet summarizing project (Word)

Deliverables	1. Summary of project kick-off meetings: agenda, minutes, and key actions 2. CHWA 2.0 Project Strategy Document 3. Draft and Final (signed) QAPP 4. Meeting agendas, minutes, and key actions from all activities 5. List of all stakeholders interviewed 6. List of interview questions for stakeholders and transcripts 7. Presentation(s) to the Project Action Team 8. Comprehensive listing of metrics to be developed, corresponding data sources, and proposed methods for calculations 9. Statistical analytical assessment 10. Final CHWA 2.0 geodatabase 11. Promotional materials for the updated tool (Word and Excel) 12. Final CHWA 2.0 Project Strategy Document (Word) 13. Relaunched CHWA 2.0 website and all associated data download files 14. Communications and Training Materials (PDF) 15. Overview Video tutorial for CHWA 2.0 (video) 16. Use Case video tutorials (3 to 5 total videos) 17. Relaunch announcement flyer (PDF) 18. Presentation of Final Report (PowerPoint) 19. Factsheet summarizing project (Word)
Stakeholders/ Participants	• Healthy Watersheds Goal Implementation Team Jurisdictional members • USGS Chesapeake Scientists • Potomac Conservancy • Local Leadership workgroup contacts • CBP Coordinators, Staffers and CBP Goal Team and workgroup Chairs.
QAPP Requirement	Yes, a QAPP is required.
Qualifications of Bidder	• Demonstrated experience in ArcGIS or ESRI products/suite, Storymaps, Geo-narratives (USGS non-product specific equivalent of a Storymap), or other Interactive-Participatory Online mapping tools is required • Geospatial mapping, data management and data analysis on as-needed basis may include, but are not limited to, geospatial application design and implementation; needs assessment; database design and development; metadata development and maintenance; advanced data analysis and data modeling; data conversion, geospatial feature creation, editing, and maintenance; software integration, and desktop, web and mobile GIS application development; cartographic production; 3D modelling, geocoding; and training services • Experience with statistical analytical assessments • Capacity to undertake the project during the proposed project period in a timely and high-quality manner • Demonstrated ability to translate user needs (such as building upon previous GIS work to further improve and refine the data) into solutions (such as releasing an updated application as a new version and communicating the use through promotional materials and video tutorials)

Scope 2: Partnership-Building and Identification of Collaborative Tidal Marsh Adaptation Projects

GIT	Scientific, Technical Assessment and Reporting (STAR)
Maximum Bid Amount	$75,000
Purpose and Outcomes	This project aims to advance the Chesapeake Bay Program (CBP) Climate Adaptation Outcome in the 2014 Chesapeake Bay Watershed Agreement by identifying needed large-scale tidal marsh restoration projects that maximize marsh benefits (e.g., shoreline protection, flood mitigation, habitat formation, water quality improvements) under changing climate conditions and require collaboration for success. This project will: • **Build partnerships** where organizational priorities align to collaboratively implement the potential projects identified and • **Involve stakeholder engagement activities**, including: o Outreach with individual stakeholder groups (e.g., federal, state, and local natural resource management agencies, nonprofits implementing tidal wetland or living shoreline projects, academic institutions involved in tidal marsh and climate resilience research, underrepresented groups interested in tidal marsh benefits) and o Facilitation of a two-day workshop. This work includes the compilation of existing resilience and social vulnerability metrics, review of tidal marsh information, identification of stakeholder priorities, and targeted workshop discussions. The project will result in the identification of: 1) regional focus areas in Maryland and Virginia to target large-scale tidal marsh adaptation projects; 2) partnerships that can support collaborative, large-scale tidal marsh restoration and research; and 3) large-scale tidal marsh adaptation projects where funding can be pursued in the short-term (< 5 years) and long-term (>5 years). This project will build upon the collaborations, data, and information previously collected from the 2019 Marsh Resilience Summit (Marsh Summit, https://chesapeakebayssc.org/marsh-summit/) and the GIT-funded "Synthesis of Shoreline, Sea Level Rise, and Marsh Migration Data for Wetland Restoration Targeting" (Marsh Synthesis, https://www.chesapeakebay.net/channel_files/42208/mitchell_marsh_migration_project_update.pdf). The proposed workshop will also build on the reports, notes, and findings of other planned wetland workshops occurring in 2022 (e.g., U.S. EPA coastal resilience workshop, the CBP wetland outcome attainability workshop, the STAC programmatic workshop on wetland systems approach to Best Management Practice crediting for improving water quality). Relevant findings and recommendations from these reports/proceedings will be reviewed and considered when developing this project's workshop agenda. The identification of regional focus areas will include consideration of existing metrics involving marsh migration potential (e.g., The Nature Conservancy's Resilient and Connected Landscapes data, www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/Pages/default.aspx) and proximity to socially vulnerable or disadvantaged populations (e.g., low income and other metrics found in EJ Screening Tool (www.epa.gov/ejscreen). The proposed collaborative, large-scale tidal marsh restoration and research projects could vary in size and include one project or collections of connected projects. Ideally, this project will identify marsh research needs and opportunities to coincide research with the identified large-scale marsh restoration projects. A two-pronged focus on restoration and research opportunities will support short-term collaborative action in vulnerable areas, as well as long-term adaptive management to preserve tidal wetlands as environmental conditions change.

Purpose and Outcomes (continued)	<u>This project will be implemented in the following three phases over 15 months:</u> Phase 1: Understanding Regional Research and Stakeholder Priorities (will Inform Workshop Development) Phase 2: Plan and Convene Two Day Workshop Phase 3: Informing Strategic Collaborative Tidal Marsh Adaptation <u>The outcomes of this project (Phases 1 through 3) include:</u> ● Collection and compilation of resilience metrics, geographic priorities, and organizational goals (e.g., marsh migration, fish habitat, bird habitat, *Phragmites* management, community resilience, water quality improvement) across environmental stakeholders, including underrepresented groups. ● Identification of potential partnerships that could initiate large-scale tidal marsh restoration and research projects in Maryland, Virginia, or neighboring tribal lands that correspond with areas that have high potential for marsh migration and where collaborative partnerships are vital for project success. ● Identification of large-scale tidal marsh restoration projects that can build ecosystem and community resilience to sea level rise and other climate change effects (e.g., extreme storm events). ● Identification of data gaps and research needs (e.g., monitoring, modeling, evaluating restoration techniques) to inform on-the-ground tidal marsh management and adaptation at regional scales. ● Identification of potential research opportunities that could coincide with the tidal marsh restoration efforts to increase understanding of the success of climate resilience strategies (e.g., thin-layer sediment placement, optimal plant species to mitigate wave energy, water quality and habitat benefits of migrating marsh, carbon sequestration, erosion control and flood mitigation performance of living shorelines, etc.) and increase understanding of environmental triggers (e.g.,. erosion rates, internal ponding, vegetation density, ghost forests, etc.) for identifying when adaptation action is needed. ● Identification of potential short-term and long-term funding opportunities for proposed tidal marsh restoration and research projects that could be pursued by collaborative partnerships. These outcomes will assist the CBP Climate Resiliency Workgroup and partners to foster interest and momentum in short-term (restoration that is needed now; < 5 years) and long-term (research to inform future restoration strategies: > 5 years) actions across federal, state, and local jurisdictions, environmental stakeholders, and research partners for pursuing collaborative large-scale tidal marsh restoration projects that can build towards meeting and sustaining the attainability of the CBP wetland acre goal (https://www.chesapeakebay.net/what/goals/vital_habitats) in light of climate change. Proposed tidal restoration projects from this effort could also inform future efforts to develop a Chesapeake Bay-wide comprehensive plan for tidal wetland restoration. Additionally, the identified collaborative tidal marsh restoration projects could potentially support Water Quality Goal Implementation Team (WQGIT) efforts related to Watershed Implementation Plans (WIPs) by state and local jurisdictions. The targeted end-users include the STAR/Climate Resiliency Workgroup (CRWG) and Habitat GIT/Wetland Workgroup and the identified partner collaborations from the workshop.
Project Steps and Timeline	*Note that the "CBP Project Team" refers to the GIT Technical Lead and a small group of CBP partners assisting with the implementation of the project. The "Project Steering Committee" refers to an expanded group that includes the CBP Project Team and additional jurisdictional and CBP workgroup experts in marsh resilience, restoration and management, and a Diversity Equity Inclusion and Justice (DEIJ) expert. The Project Steering Committee will advise on selection of metrics, regional focus areas, stakeholders to engage, workshop themes and goals, and connections with other CBP wetland-related efforts. A total amount of $3,000 out of the*

Project Steps and Timeline (continued)	*total $75,000 should be reserved for compensation of underrepresented groups to participate in stakeholder engagement activities in Phase 1 and/or attend the workshop in Phase 2.* Phase 1: Understanding Regional Research and Stakeholder Priorities (Will Inform Workshop Development) **Step 1: Project Meetings and Review of Existing Information and Data for Metric Selection (6/1/2022 – 9/30/2022)** **Step 1a. Meet with the CBP Project Team** at project initiation for a kick-off meeting to discuss the project goals, deliverables, timeline, information and data sources, and approach. The Contractor should develop minutes for this kick-off meeting. The GIT Technical Lead will schedule and coordinate the kick-off meeting and provide all documents for review in subsequent steps, beginning in Step 1c below. **Step 1b. Meet with the Project Steering Committee** at the end of each quarter (3-month periods) to discuss progress. The Contractor will be responsible for scheduling and organizing the following quarterly progress meetings and documenting feedback and next steps. In addition to quarterly meetings, progress reports will also be submitted to the Trust, the GIT Technical Lead, and the Project Steering Committee at the end of each quarter (every 3 months). All quarterly progress reports should include a project update, issues and concerns, and any additional information that will improve the project in future steps. **Step 1c. Review and summarize tidal marsh resilience information** provided by the GIT Technical Lead from the Marsh Synthesis Project, the Marsh Summit and the planned 2022 Wetland Workshop Reports/Notes. Workshop Reports to review will include the EPA Coastal Resilience Workshop, the Wetland Outcome Attainability Workshop, and the STAC Programmatic Workshop on Wetland Systems Approach to BMP crediting, and other jurisdictional climate resilience-related plans, as directed by the Project Steering Committee to identify potential data layers, common marsh resilience topics and discussion needs. This review will help inform the stakeholder engagement products (see Step 2) and development of the workshop agenda (see Step 3b). The contractor will submit a document (estimated 10 to 15 pages) that summarizes the relevant tidal marsh resilience information. **Step 1d. Review and compile data outcomes** from the Marsh Synthesis project and other partner efforts, such as data layers from the George Mason University/The Nature Conservancy SLAMM update for Maryland (www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/md/Pages/EESLR-Study.aspx), The Nature Conservancy's Resilient and Connected Landscapes data (www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/Pages/default.aspx), NOAA Sea Level Rise Viewer (www.coast.noaa.gov/digitalcoast/tools/slr.html), and social vulnerability metrics from American Community Survey (www.census.gov/programs-surveys/acs) and EJ Screening Tool (www.epa.gov/ejscreen) as directed by the CBP Project Team. These data tools will be reviewed to identify and compile resilience (e.g., marsh migration corridors, erosion rates, unvegetated-vegetated marsh ratio) and social vulnerability-related (e.g., census variables such as low income) data that could support the data mapping by the CBP GIS Team. This task will assist with the identification of regional focus areas for potential collaborative marsh restoration and research projects. The contractor will provide the data outcomes that were reviewed along with weblinks as a spreadsheet to the GIT Technical Lead to share with CBP GIS Team. The CBP GIS Team will incorporate the data layers for the project. **Step 1e. Organize a 2-hour meeting** with the CBP Project Team, Project Steering Committee, and CBP GIS Team to review the list of available resilience and social vulnerability data

Project Steps and Timeline (continued)	layers, identify and prioritize metrics for selection of regional focus areas, and select final data layers for CBP GIS Team. This can coincide with one of the quarterly Project Steering Committee meetings in Step 1b above. **Step 1f. Create data spreadsheet** for review by the CBP Project Team based on selections of prioritized data layers and identified metrics from Step 1d above to share with the CBP GIS Team to create maps. <u>Deliverables for this Step include:</u> • A summary of the discussion, decisions, and next steps from the kick-off meeting (Word, Step 1a) • Quarterly progress reports (Word, Step 1b) • Summary Document (Word, Step 1c) • Spreadsheet of all data sources reviewed, including relevant data layers and links to data (Excel, Step 1d) • Agenda, attendees, presentation, and notes from the Meeting (Word, Step 1e) • Refined data spreadsheet (Excel, Step 1f)
	Step 2: Conduct Stakeholder Outreach, Identify Stakeholder Priorities, and Present Results of Collected Data (10/1/2022 – 1/31/2023) **Step 2a. Conduct stakeholder outreach** to collect priorities for tidal marsh restoration, research, and resilience goals, including targeted areas, geographic information of ongoing and planned projects (e.g., GIS data layers, coordinates, tributary names, drawn boundaries on maps), and purpose of restoration efforts (e.g., shoreline protection, flood mitigation, habitat formation, water quality improvements). The CBP Project Team will provide the stakeholder outreach list of approximately 20 organizations that includes state and federal agencies, tribal governments, university partners, environmental nonprofits in Maryland and Virginia, and tribal lands. Organizations that are engaging in tidal marsh management, community programs, restoration practices and/or research will be prioritized. The contractor will develop stakeholder questions informed by the review of tidal marsh resilience information (see Step 1c) and guidance from the CBP Project Team. The contractor will submit a list of draft questions to the CBP Project Team for review and approval before finalizing the questions. These questions can then be delivered to the organizations via phone interviews, listening sessions, an online questionnaire, virtual group participatory mapping, or other methods as proposed by the contractor and approved by the CBP Project Team. The stakeholder questions should also aim to gather information from the organizations on known local, state, and federal community resilience needs and priorities, and identify representatives from communities, including underrepresented communities. **Step 2b. Share findings of stakeholder outreach with CBP Project Team.** Provide results and summary of the stakeholder outreach to inform workshop development. Share stakeholder-identified geographic and resilience priorities related to tidal marsh restoration or research, including new or emerging research in the region related to marsh health, condition, migration, and resilience. The contractor will submit a spreadsheet of the stakeholders included in the outreach and results of the stakeholder priorities, including any links and descriptions of geographical information (e.g., GIS data layers, coordinates, tributary names, drawn boundaries on maps) of existing/planned restoration or research related to tidal marsh projects The spreadsheet will then be used by the CBP GIS Team to overlay the geographical priorities and planned restoration and research with the resilience and social vulnerability metrics identified above in Step 1. The contractor will submit a document that summarizes the findings from the stakeholder outreach that includes information on tidal marsh restoration priorities and research, an appendix with the collected data, and list of unresponsive stakeholders.

Project Steps and Timeline (continued)	**Step 2c. Review maps and propose regional focus areas**. Use maps from the CBP GIS Team and the stakeholder outreach findings to propose regional focus areas (at a minimum, three areas within Virginia and three areas within Maryland or neighboring tribal lands) for potential collaborative tidal marsh restoration and research. Regional focus areas should incorporate areas where there is greater potential for marsh migration, opportunities for reducing social vulnerability, and alignment of stakeholder priorities. The contractor will submit a document (estimated 5 to 10 pages) that summarizes the list and recommendations on potential regional focus areas and the method of selection and rationale for the proposed regional focus areas with inclusion of static maps provided by the CBP GIS Team. **Step 2d. Organize and facilitate a 2-hour meeting** with the CBP Project Team and Project Steering Committee to present information on the proposed regional focus areas for the Project Steering Committee to select one regional focus area in MD and one in VA to pursue workshop discussions that will identify large-scale collaborative tidal marsh restoration and research projects. Gather Project Steering Committee feedback on potential workshop invitees from the selected regional focus areas. This can coincide with one of the quarterly Project Steering Committee meetings noted above in Step 1b. Deliverables for this Step include: • Draft and Final Stakeholder Questions (Word, Step 2a) • Summary Document (Word, Step 2b) • Spreadsheet of stakeholders and results of stakeholder priorities (Excel, Step 2b) • Summary Document (Word, Step 2c) • Agenda, attendees, presentation, and notes from the Meeting (Word, Step 2d)
	Phase 2: Plan and Convene 2-Day Workshop **Step 3: Plan and Convene a 2-Day Workshop (2/1/2023 – 4/30/2023)** **Step 3a. Create draft workshop agenda and materials,** including a draft list of workshop attendees and presenters (e.g., speaker list, registrants, facilitation questions, presentations, etc.). The workshop should aim to include Maryland, Virginia, and tribal stakeholders. Deliverables from Phase 1 will be used to inform the workshop agenda, attendees, and materials. The planned workshop discussions should aim to identify: 1) partnerships and projects for large-scale tidal wetland restoration in areas that have climate resilience potential for the marsh and nearby communities; 2) research opportunities that can coincide with tidal marsh restoration efforts to increase understanding of the success of climate resilience strategies, 3) implementation challenges and research gaps; and 4) a framework, including potential funding opportunities, for pursuing collaborative large-scale tidal marsh restoration and research projects post-workshop. The workshop should balance identification of short-term collaborative restoration actions with long-term research needs. **Step 3b**. **Organize and facilitate a 2-hour meeting** with the Project Steering Committee and CBP Project Team to define relevant terms for the workshop (e.g., large-scale restoration, resilience, adaptation, etc.) and review the workshop agenda and materials. Document feedback from the Project Steering Committee and CBP Project Team and incorporate feedback into workshop agenda and materials. This can coincide with one of the quarterly Project Steering Committee meetings in Step 1b above. **Step 3c**. **Submit final agenda and materials** that incorporate feedback from Step 3b to the GIT Technical Lead for review and approval. **Step 3d**. **Facilitate one 2-day workshop** of 50 to 60 participants that incorporates discussions outlined in Step 3a. The proposal and budget should reflect a hybrid workshop that includes options for in person and virtual attendance, where refreshments are included for in person

Project Steps and Timeline (continued)	attendees. The participants representing underrepresented groups (i.e., leaders of organizations led by and serving people of color and underrepresented communities) could potentially be offered compensation for their time and attendance at the workshop (in person or virtually). The budget for this project could include funding for this compensation. ***The contractor should consider reserving a total amount of $3,000out of the total project budget for compensation of underrepresented groups to participate in stakeholder engagement activities and to participate in the workshop. The contractor will reimburse the underrepresented groups for participation following the workshop.*** Deliverables for this Step include: • Draft and Final workshop agenda and materials (Word, Step 3a and Step 3c) • Agenda, presentation, and notes from the Meeting in Step 3b (Word) • List of workshop attendees and participants (Excel, Step 3d)
	Phase 3: Informing Strategic Collaborative Tidal Marsh Adaptation **Step 4: Follow-up with Stakeholders, Create Project Report and Summaries, Present Results (5/1/2023 – 9/29/2023)** **Step 4a. Follow-up with workshop participants** (e.g., phone calls, emails) to gather any new information or data layers brought up during the workshop related to stakeholder priorities, resilience, and social vulnerability metrics, or identified tidal marsh restoration and research projects. The contractor will submit a list of workshop participants and notes from follow-up calls. **Step 4b**. **Update data and stakeholder priority spreadsheets** from Step 1e and Step 2b with any new data layers and stakeholder priorities identified during the workshop and follow-up discussion with workshop participants for CBP GIS Team. **Step 4c**. **Create and submit draft report** (estimated 50 to 75 pages) to the GIT Technical Lead that: 1) describes and outlines organizational stakeholder priorities and resilience metrics; 2) provides descriptions and lists of the potential and selected regional focus areas, methods for focus area selection, and maps from CBP GIS Team; 3) describes marsh research and restoration needs from stakeholder engagement activities and workshop; 4) provides descriptions and lists of identified large-scale tidal marsh restoration and research project opportunities and potential partnerships (e.g., organizations, point of contact information) for the selected regional focus areas; 5) provides possible funding opportunities and next steps for continued collaboration leading to the implementation of the proposed restoration and research projects; 6) identifies major challenges to ongoing collaborations to promote marsh resilience to sea level rise and other climate change impacts; 7) outlines the stakeholder engagement and workshop process and lessons learned to inform replication at a later date in other regional geographies; and 8) include recommendations on how the metrics and stakeholder process could inform future efforts to develop a Chesapeake Bay-wide comprehensive plan for tidal wetland restoration; and 9) includes appendices with a summary of project activities, including stakeholder engagement and feedback, data and stakeholder mapping, workshop activities and discussions, stakeholder contacts, and additional information gathered (e.g., new/emerging marsh condition tools, data and resources for use by managers). **Step 4d**. **Organize and facilitate a 2-hr meeting** with the CBP Project Team and Project Steering Committee to debrief on workshop findings and discuss contents in draft project report. This can coincide with one of the quarterly Project Steering Committee meetings above in Step 1b. **Step 4e**. **Develop stand-alone internal communication documents** for the two regional focus areas that summarize the resilience and social vulnerability metrics of the areas, list and describe the identified large-scale tidal marsh restoration and research projects and research

Project Steps and Timeline (continued)	needs, and identify associated partner connections and priorities, contact information, and next steps for continued collaboration leading to the implementation of the projects. **Step 4f. Submit Final Report** to GIT Technical Lead that has addressed comments on Draft Report and includes the stand-alone communication documents in an appendix. **Step 4g**. **Present results** of the final report during a pre-scheduled CBP Climate Resiliency Workgroup meeting. Finally, the contractor will create a factsheet summarizing the project (two pages). Deliverables for this Step include: • List of workshop participants and notes from follow-up calls (Excel, Step 4a) • Updated Data and Stakeholder Priority Spreadsheets (Excel, Step 4b) • Draft and Final Report (Word, Steps 4c and 4f) • Agenda, attendees, presentation, and notes from Meeting (Word, Step 4d) • Stand-alone internal communication documents (Word, Step 4f) • Presentation of Final Report from Climate Resiliency Workgroup meeting (PowerPoint, Step 4g) • Factsheet summarizing project (Word)
Stakeholders/ Participants	GIT Technical Lead: • Nicole Carlozo, Maryland Department of Natural Resources, nicole.carlozo@maryland.gov Preparers/CBP Project Team: • Jackie Specht, The Nature Conservancy (TNC), jackie.specht@tnc.org • Taryn Sudol, Maryland Sea Grant, tsudol@umd.edu • Molly Mitchell, Virginia Institute of Marine Science (VIMS), molly@vims.edu • Julie Reichert-Nguyen, NOAA Chesapeake Bay Office (NCBO), Julie.reichert-nguyen@noaa.gov • Breck Sullivan United States Geological Survey (USGS), bsullivan@chesapeakebay.net • Alex Gunnerson, Chesapeake Research Consortium (CRC), agunnerson@chesapeakebay.net • Wetland Workgroup representative (TBD) Project Steering Committee: • TBD, but will include CBP Project Team, additional jurisdictional and CBP workgroup experts in marsh resilience/restoration/management, and a DEIJ expert. Stakeholder Participants: Participants (50 to 60 people) will be selected; includes approximately 20 organizations engaging in tidal marsh management, restoration, research, or resilience activities, including state and federal agencies, tribal governments, groups representing underrepresented communities, university partners, environmental nonprofit, and neighboring tribal lands. *Stakeholder participation will also aim to include representatives from the Climate Resiliency Workgroup, Water Quality Goal Implementation Team (WQGIT), Wetland Workgroup, Fish Habitat Team, Forestry Workgroup (given the competing land-use needs between forests and marshes), Stewardship GIT, and Diversity Workgroup.*
Deliverables	Step 1: Project Meetings and Review of Existing Information and Data to Select Metrics 1. A summary of the discussion, decisions, and next steps from the kick-off meeting 2. Quarterly progress reports 3. Summary Document 4. Spreadsheet of all data sources reviewed, including relevant data layers and links to data 5. Agenda, attendees, presentation, and notes from the Meeting 6. Refined data spreadsheet Step 2: Conduct Stakeholder Outreach, Identify Stakeholder Priorities, and Present Results of Collected Data

Deliverables (Continued)	7. Draft and Final Stakeholder Questions 8. Summary Documents 9. Spreadsheet of the stakeholders and results of stakeholder priorities 10. Agenda, attendees, presentation, and notes from the Meeting <u>Step 3: Plan and Convene a 2-Day Workshop</u> 11. Draft and Final workshop agenda and materials 12. Agenda, presentation, and notes from the Meeting 13. List of workshop attendees and list of participants <u>Step 4: Follow-up with Stakeholders, Create Project Report and Summaries, Present Results</u> 14. List of workshop participants and notes 15. Updated Data and Stakeholder Priority Spreadsheets 16. Draft and Final Report 17. Agenda, attendees, presentation, and notes from Meeting 18. Stand-alone internal communication documents 19. Presentation of Final Report 20. Factsheet summarizing project
QAPP Requirement	No, a QAPP is not required
Qualifications of Bidder	<u>Required Qualifications:</u> • Expertise in stakeholder engagement with various groups, including local, state, federal, and tribal governments, nonprofits, academic institutions, and community organizations. Preferred experience includes engagement activities with local community organizations representing underrepresented groups. *Describe or provide examples of the different types of stakeholder experience.* • Expertise in collecting and organizing information and data from stakeholders using phone interviews, focus groups, questionnaires, virtual mapping, participatory mapping, or other methods. *Provide an example project in the application to demonstrate expertise.* • Expertise in organizing and facilitating workshops with diverse participants from different types of organizations (e.g., local, state, federal, and tribal governments, nonprofits, academic institutions, community organizations) and technical expertise. *Include virtual workshop experience; a workshop example should be included in application to show experience.* • Familiarity with interpreting mapped data for identifying and recommending restoration projects (*Note: GIS mapping of metrics and priorities will be completed by the CBP GIS Team, not the contractor*) • Expertise in reviewing technical reports, writing reports, and presenting information to both technical and nontechnical audiences <u>Preferred Qualifications:</u> • Preferred experience working with organizations and communities in the Chesapeake Bay region • Preferred expertise in summarizing information in formats that lead to follow-up actions by organizations in planning and implementing environmental restoration projects • Familiarity with requisite subject matter (e.g., tidal marsh restoration, climate change, sea level rise/tidal marsh resilience issues) and use of metrics • Preferred familiarity with the coastal geography of the Chesapeake Bay and systems thinking related to large-scale restoration projects

Scope 3: Equitable Grant Funding in the Chesapeake Bay Watershed

GIT	Stewardship (GIT 5)
Maximum Bid Amount	$74,500
Purpose and Outcomes	The purpose of this project is to leverage expertise and share resources among organizations that fund activities in the Chesapeake Bay Watershed, specifically improving efforts to improve diversity, equity, inclusion, and justice (DEIJ) in their grant programs and *under–resourced** organizations that are seeking funding. This project will strive to improve *equitable funding*** for activities related to conservation, restoration, and stewardship (public engagement) throughout the Chesapeake Bay watershed. This project will focus on understanding the funding challenges that face organizations representing Black, Indigenous and people of color (BIPOC) communities such as local, grassroots community organizations, the education sector, local neighborhood leaders/groups, and faith-based organizations, as these groups tend to be the most underrepresented in the environmental field and under-resourced. Research conducted by the Inclusion, Diversity and Equity in Environmental Philanthropy (InDEEP) initiative has shown that white-led organizations are funded by about $2.7 billion more than BIPOC-led organizations despite the value of BIPOC-led work in this field (InDEEP Closing the Gap Report https://www.indeepinitiative.org/reports). Under-resourced organizations have lacked adequate access to grant funding opportunities due to factors including, but not limited to, lack of mutual awareness and communication with funders, lack of capacity to competitively apply for and manage grant applications and respective projects, and the hurdles of federal, state, and local government regulations. Some funders in the Chesapeake Bay Region, such as those represented in the Chesapeake Bay Funders Network, have made changes to address barriers to equitable funding but more collaboration and innovation is needed to fully address inequities and improve access to funding for environmental restoration and community development. This project builds on lessons-learned and recommendations from the Diversity Workgroup's 2021 Fiscal Year Project titled, *Cultivating and Strengthening Partnerships with Underrepresented Stakeholders.* Focus groups composed of representatives from diverse organizations, geographies, and backgrounds revealed that underrepresented stakeholders in the Chesapeake Bay Watershed need more technical assistance and capacity when accessing and applying for funding. With the ability to leverage the expertise of Goal Implementation Teams (GITs) and Workgroups, connections with local to federal partners in conservation, and access to funder networks initiating discussions around DEIJ, the Chesapeake Bay Program (CBP) is in a unique position to connect funders throughout the Chesapeake Bay Watershed with under-resourced communities and organizations. In the Chesapeake Bay Watershed Agreement, the CBP made a commitment to carry out the conservation and restoration activities that achieve healthy local streams, rivers and a vibrant Chesapeake Bay and to create meaningful opportunities and programs to recruit and engage diverse stakeholders in the Bay Program's efforts (https://www.chesapeakebay.net/what/what_guides_us/watershed_agreement).

Purpose and Outcomes (continued)	This project aims to enhance CBP's connections among a diverse pool of funders and under-resourced organizations, accelerate progress towards the Diversity Outcome, and contribute to meeting the Chesapeake Bay Watershed Agreement's Stewardship goal long-term. **The Project Outcomes for this scope include the following:** • Improved understanding of the challenges communities face when applying for grant funding that goes through the Chesapeake Bay Program partnership (specifically), with practical solutions identified; • Improved collective understanding and awareness of equitable changes funders in the Chesapeake Bay Watershed are currently making to grants regarding their application process, outreach, and reporting; • Improved awareness among funders about equitable funding challenges, best practices, experiences of under-resourced communities, and strategies for funders to measure their progress in improving equity in grantmaking; and • Improved ability of under-resourced organizations and/or organizations serving under-resourced communities to navigate the grant funding process. **Under-resourced in this proposal refers to resource inequities such as physical assets, money, power, institutions, and services (Alliance for the Chesapeake Bay; https://www.allianceforthebay.org/wp-content/uploads/2021/12/DEIJ-Terminology-Guide-September-2021-1.pdf).* ***Equitable funding involves the alignment of philanthropy and environmental justice and includes expanding the pool of resources for organizations owned by and serving people of color, Indigenous, and low-income communities (Building Equity and Alignment for Impact https://bea4impact.org/)*
Project Steps and Timeline	**Step 1: Establish an Understanding of Needs, Barriers and Ongoing DEIJ Efforts to CBP-related Grants (6/15/2022 - 6/30/2022)** Meet with the Project Steering Committee for this project (convened by the GIT Technical Lead) for a kick-off meeting to review the project scope, timeline, Project Steering Committee roles and responsibilities, milestones, and desired outcomes. Other possible agenda items: review list of under-resourced organizations and funders, discuss additional data/information needs, establish schedule for regular check in, etc. The following materials will be provided by the Project Steering Committee to the contractor: • List of under-resourced organizations • List of funders • Resources to assist with Step 2 (reports, papers, factsheets, etc.) The contractor will submit a project implementation plan incorporating input from the Project Steering Committee during the kick-off meeting. The contractor will also develop a final list of funders and a final list of under-resourced organizations that will be reviewed and approved by Project Steering Committee. Deliverables for Step 1 include: • Summary of kick-off meeting notes, agenda, and attendees (Word) • Approved Project Implementation Plan (Word) • Final list of funders (Excel) • Final list of under-resourced organizations (Excel) • Draft list of interview questions (Word)

Project Steps and Timeline (continued)	**Step 2: Collect Information and Conduct Interviews (6/30/2022 - 8/31/2022)** **Step 2a: Collect Funding Information and Conduct Interviews** The contractor will develop and submit a draft list of interview questions for the approved funders identified in Step 1. After the interview questions are approved by the GIT Technical Lead, the contractor will conduct interviews with the approved funders to describe the strategies funders have employed to increase equitable grant funding, improve access to funding opportunities and build connections with under-resourced communities, as well as the challenges or barriers faced in these efforts. It is expected that five to ten interviews will be conducted. The contractor should use literature and additional resources (provided by the Project Steering Committee) to supplement information gathered from interviews. The information from the interviews and literature review should be used to inform Step 4 and answer questions such as: • What challenges do communities face when trying to acquire grant funding? • In general, where is money distributed geographically? How much overlap is there with communities of environmental justice concern? • What equitable funding outcomes are organizations trying to achieve? What are their equitable funding goals? • How are organizations defining success? • Which funders have been successful at meeting their goals, attracting diverse applicants, and awarding money to under-resourced communities? • What measures/strategies have been taken by successful funders to support equitable grantmaking (e.g., applicant support, outreach, DEIJ evaluation criteria)? • What challenges/barriers (such as statutory limitations, outreach impediments) have funders faced in achieving equitable funding goals? • Will funders share their portfolios to help get a better idea of which under-resourced organizations have been successful at receiving CBP partnership funding? • Are funders open to participating in the workshops in Phase 3 (Steps 6 and/or 7 described below)? **Step 2b: Collect Under-resourced Organization Information and Conduct Interviews** Use literature and additional resources (provided by the Project Steering Committee) to learn about challenges, needs, and interests in engaging with CBP funding opportunities. The contractor will develop and submit a draft list of interview questions for the approved under-resourced organizations identified in Step 1. After the interview questions are approved by the GIT Technical Lead, the contractor will conduct interviews with the under-resourced organizations to further inform information gathered from the literature. It is expected that five to ten interviews will be conducted. The contractor should consider offering compensation to the interviewees for their time and for sharing their expertise. In the budget for this project, the contractor should consider including funding for compensation that should be at least $50 per hour per individual (it is reasonable to plan to interview five to ten individuals). Only participants in Step 2b should be considered for compensation. The below information should be used to inform Step 4 and answer questions such as the following: • What is your understanding of how to get funding? • What are your funding needs/interests? • Which grant programs are you working on applying to or are interested in? • What types of grants/grant programs would help you reach your goals? • How, if at all, have you been able to access CBP related funding in the past?

Project Steps and Timeline (continued)	• What would be the most meaningful changes funders could make? • Would your organization be willing to participate in a workshop to learn more about funding opportunities and tips for success? Deliverables for Step 2a and 2b include: • Final list of funders that were interviewed (Excel) • Final list of under-resourced organizations that were interviewed and associated compensation (Excel) • Final list of interview questions and answers from the funders (Word) • Final list of interview questions and answers from the community organizations (Word) • List of literature and additional resources reviewed (Excel)
	Step 3: Compile Initial Findings (8/31/2022 - 9/30/2022) The contractor will work with the Project Steering Committee to use the information from Step 2a and 2b to summarize barriers/opportunities for equitable funding and compile the findings into a summary document. The "Summary Document of Findings" will include results from both the interviews and literature reviews. The Project Steering Committee will have one week to review the draft summary and provide comments and feedback. The contractor will submit a final summary document that addresses comments and feedback. Deliverables for Step 3 include: • Draft Summary Document of Findings (Word) • Final Summary Document of Findings (Word)
	Step 4: Design and Plan Workshops (09/30/2022 - 11/30/2022) The contactor will meet with the Project Steering Committee to design and plan two types of workshops: 1. At least one virtual workshop to convene funders, 2. At least two virtual workshops to convene under-resourced organizations with funders. This step should be informed by the information collected in Phase 1 (Steps 1 through 3) and will include determining the number of workshops, topics, speakers, dates, time, virtual platform, etc. The contractor will work with the Project Steering Committee for this project to identify potential participants for the workshops. This list should include funders, under-resourced organizations, and any other groups that may benefit from attending workshops. Possible focus ideas for the funders workshop sessions include: • Have funders report out on the changes they are making/have made to improve their ability to reach under-resourced organizations. • Have funders share what their DEIJ goals are and why those are their goals. • Have funders network and share resources that can benefit each other. Possible focus ideas for the funders and under-resourced organizations workshop sessions could include: • Share strategies for effectively applying for grants • Share strategies for effectively managing grants. • Connect a variety of funders with under-resourced organizations to share resources and encourage discussions around funding successes, challenges, and lessons learned. • Invite successful applicants to share projects in the form of case studies. • Provide opportunities for community organizations to express other barriers funders have not yet addressed. The contractor will submit (as a deliverable of this step) a "Workshop Planning Document" that provides the planning information for the workshops, including number of workshops, topics, speakers, dates, time, venue, etc. The contractor should draft pre- and post-knowledge checks for both types of workshops that would measure success of the workshops and indicate achievement of the project outcomes. Finally, draft outreach materials to encourage under-resourced organizations to participate in and attend the workshops, including draft emails or

Project Steps and Timeline (continued)	talking points for phone calls that will be completed under Step 5 will be submitted for review to the GIT Technical Lead. Deliverables for Step 4 include: • Workshop Planning Document (Word) • Draft Agendas and objectives for the workshops (two total, Word) • Draft Pre- and Post-Workshop Knowledge Checks (two total, Word) • Participant lists (two total, Excel) • Draft outreach materials (e.g., draft email/talking points for phone calls) (Word/PDF)
	Step 5: Engage Under-Resourced Organizations and Encourage Workshop Participation (11/30/2022-12/31/2022) Conduct outreach (e.g., email, phone calls) and encourage the participation of under-resourced organizations to attend the virtual workshops to learn more about funding opportunities and tips for success. Outreach should be to under-resourced organizations provided to the contractor in Phase 1. The contractor will submit a list to track organizations contacted, when contacted, and responses. The contactor will also submit a confirmed list of attendees for the virtual workshops to convene under-resourced organizations with funders as well as the on-line registration details. Deliverables for Step 5 include: • Final outreach materials • List of contacted under-resourced organizations and responses (Excel) • Confirmed attendee list (Excel) • Online-registration details
	Step 6: Host Virtual Workshop for Funders (12/31/2022-02/28/2023) The contractor will facilitate at least one virtual workshop for funders identified in Step 4 who have a shared interest in DEIJ initiatives, an interest in sharing strategies to enhance each other's work, and to help funders who still face barriers when trying to reach diverse and or under resourced communities. It is expected that the workshop will be half a day or less. This conversation can further inform the format and the topics of the workshop(s) for funders and community organizations. The contractor will issue the pre- and post-workshop knowledge assessments. The contractor will submit all materials for meetings which will include: agenda(s), presentation(s), summary notes, attendee list(s), etc. Deliverables for Step 6 include: • Final Meeting Materials (Word, Excel, PDF) • Pre- and Post-Workshop Knowledge Results (Word or PDF)
	Step 7: Host Virtual Workshops Between Funders and Under-Resourced Organizations (12/31/2022-02/28/2023) Host a minimum of two virtual workshops between funders and under-resourced organizations and/or organizations serving under-resourced communities. It is expected that the workshop will be half a day or less. Approximate attendance should be 20 to 50 participants at each workshop. The contractor will issue the pre- and post-workshop knowledge checks. The contractor will submit all materials for these meetings which will include: agenda, presentation, summary notes, attendee list, etc. Deliverables for Step 7 include: • Final Meeting Materials (Word, Excel, PDF) • Pre- and Post-Workshop Knowledge Results (Word or PDF)
	Step 8: Develop products and Generate Final Reports (02/28/2023 - 03/31/2023) **Step 8a: Generate Final Reports and Materials** The contractor will create a decision tree tool or another product that helps under-resourced organizations find and apply for available funding opportunities that work for them based on the workshop findings in Step 7. The contractor will also submit a summary and

Project Steps and Timeline (continued)	recommendation plan for funders compiled from the information/recommendations identified in the summary document and other phases. These materials will be distributed by the Diversity Workgroup Coordinator and Staffer and posted to the Diversity Workgroup Website. **Step 8b: Generate Final Reports and Materials for Future Use** Develop a Final Report that compiles the summary and recommendation plan for funders submitted in Step 8a above, as well as updates based on the Project Steering Committee review and all activities conducted and information learned from this project. This includes content, outcomes, analysis of findings for if the funders and under-resourced organizations indicate improved understanding based on intended outcomes and recommendations for next steps from the above activities. The contractor will present the Final Report to the Diversity Workgroup during a virtual meeting. The Final Report will be distributed by the Diversity Workgroup Coordinator and Staffer and posted to the Diversity Workgroup Website. Finally, the contractor will create a Factsheet summarizing the project (two pages). Deliverables for Step 8a and 8b include: • Decision Tree Tool for Under-Resourced Organizations • Summary and Recommendation Plan for Funders (Word) • Final Report (Word and PDF) • Presentation of Final Report (PowerPoint) • Factsheet summarizing project (Word)
Stakeholders/ Participants	The contractor will interact with participants of interviews/focus groups. The specific stakeholders and participants are yet to be determined. The contractor will work with Diversity Workgroup leadership, as stated above, to identify participants. The contractor will primarily interact with the key contacts identified below (Chair, Vice-Chair, Coordinator, Staffer, and select Project Steering Committee members), though may also present to and seek feedback from the broader Project Steering Committee and Diversity Workgroup membership. The project key contacts can meet with the contractor at any time depending on availability of schedules. The contractor can interact with the larger Diversity Workgroup Steering Committee through its standing monthly meetings or staff can gather their feedback over email and provide it to the contractor. The same applies to the broader Diversity Workgroup membership and, if needed, the contractor can seek feedback during a workgroup meeting or via email. • Diversity Workgroup Chair: Kevin Newman, DOEE kevin.newman@dc.gov • Diversity Workgroup Vice-Chair: Wendy O'Sullivan, NPS, wendy_o'sullivan@nps.gov • Diversity Workgroup Coordinator: Allison Ng, EPA, ng.allison@epa.gov • Diversity Workgroup Staffer: Briana Yancy, Chesapeake Research Consortium, yancy.briana@epa.gov *Note: It is expected that the contactor, the GIT Technical Lead, and the Project Steering Committee will work with a variety of funding programs related to Chesapeake Bay Watershed Agreement activities: mostly Federal (CBP/EPA, NOAA, FWS, and NPS) and State opportunities (there are numerous opportunities at the state level, some of which are Federal funds through states such as CBIG and LWCF's state SCORPs and ORLP urban outdoor access funds); also non-government, such as NFWF, CBT and CBFN which include private dollars. This project is not limited to CBP dollars; instead this project will expand the range of help and topics to better assist our audiences to be more successful. This project will also help inform CBP funding opportunities to be more equitable.*

Deliverables	1. Kick-off meeting notes and attendees 2. Final list of funders approved by Project Steering Committee 3. Final list of under-resourced organizations approved by Project Steering Committee 4. Approved Project Implementation Plan 5. Final list of funders interviewed 6. Final list of under-resourced organizations interviewed 7. Draft and Final list of interview questions and answers 8. Draft and Final Summary Document of Findings 9. Workshop Planning Document 10. Agendas and objectives for the workshops 11. Draft and Final Pre- and Post-Workshop Knowledge Assessments 12. Attendance lists for all Workshops 13. Draft and Final outreach materials 14. Final Meeting Materials for all Workshops 15. Pre- and Post-Workshop Knowledge Results 16. Decision Tree Tool for Under-Resourced Organizations 17. Summary and Recommendation Plan for Funders Final Report 18. Presentation of Final Report 19. Factsheet summarizing project
QAPP Requirement	No, a QAPP is not required.
Qualifications of Bidder	The bidder should demonstrate the following skills:* • Possesses the skills to suggest effective approaches and subject matter expertise to go beyond what is written in the RFP to achieve desired results for this project • Ability to collect qualitative and quantitative data, analyze it and use the data to derive insights and inform processes • Ability to facilitate interviews, focus groups and/or use other social science techniques to gather input from diverse groups • Ability to organize successful virtual workshops • Ability to convene events in a manner that prioritizes equity and inclusivity • Expertise in DEIJ topics and advancing DEIJ in the environmental field and/or funding field • Ability to create tools, such as the decision tool and recommendation plan listed in Step 8, and resources and carry out workshops • Excellent written and oral communication skills • Demonstrated experience with successful project management **The bidder does not need to be familiar with the Chesapeake Bay Program partnership*

Scope 4: Updating the Chesapeake Bay Fish Passage Prioritization Tool

GIT	Habitat (GIT 2)
Maximum Bid Amount	$65,000
Purpose and Outcomes	The Fish Passage Workgroup (FPWG) manages an online tool called the Chesapeake Fish Passage Prioritization Tool (https://maps.freshwaternetwork.org/chesapeake/) that assists the group in identifying high priority fish passage projects. The tool ensures all habitat restoration practitioners (including those not part of the Fish Passage Workgroup) have access to the data to select the highest priority dam removal and fish passage projects for project implementation based on their goals and objectives (e.g., selecting sites with anadromous fish presence or selecting sites in high quality Brook Trout habitat). The tool is the most comprehensive geodatabase in the watershed that contains detailed information on existing dams and fish blockages. Grant agencies such as the National Oceanic and Atmospheric Administration (NOAA) and the United States Fish and Wildlife Service (USFWS) use this tool as a metric to make informed funding decisions where the highest priority projects receive higher scores in the project selection process for grant awards. In addition, the tool serves as the FPWG's geodatabase to track progress towards meeting the Chesapeake Bay Program goals and houses the information used in Chesapeake Progress. Chesapeake Progress is a CBP online tool (https://www.chesapeakeprogress.com/) that tracks progress towards the outcomes listed in the Chesapeake Bay Watershed Agreement. The information/data displayed on this website is publicly accessible and is updated regularly to show up-to-date information not only on the state of the outcomes, but also factors influencing progress. For the Fish Passage Outcome, the page on the website (https://www.chesapeakeprogress.com/abundant-life/fish-passage) discloses the current progress and outlook for our goal of opening an additional 132 miles, via dam removals and fish passage projects, every two years, and also shows figures/graphs/maps of the current data, our management strategy/logic and action plan, and participating partners. The data used to create the figures shown for our outcome on Chesapeake Bay Progress is housed in the Fish Passage Prioritization Tool - which is one of many reasons why it is so critical to update the Tool. The FPWG has agreed that periodic upgrades to the tool are needed every few years since the technology changes and data are improved over time. Bidders are encouraged to review the existing tool and its methods for development here: https://maps.freshwaternetwork.org/chesapeake/ prior to submitting a proposal. The tasks below outline the needed improvements to the tool as part of this Project: 1. **Update the Tool to Version 4.x:** Updates to the tool are critical so the existing tool does not become unsupported/unusable (expired Information Technology/IT platform) and does not reflect inaccurate and/or dated sources of information. The tool is currently hosted by The Nature Conservancy, who originally developed the tool. *The contractor will not be required to host the tool.* 2. **Update the Geodatabase and add Data Layers to the Tool:** The dam geodatabase has already been developed and this scope requests adding and/or modifying the existing geodatabase. Perform updates including making changes to existing dam database and adding data layers. For example, the dam geodatabase needs to be updated as field assessments are completed that identify new dams and fish blockages. In addition, updated climate data layers related to the impacts to anadromous fishes (e.g., modeled stream temperature changes) need to be added to the tool to use for future project prioritization, as available. Updates to the tool would also include updated information from the Eastern Brook Trout Joint Venture on priority Brook Trout areas. The North Atlantic Aquatic Connectivity Collaborative data (https://streamcontinuity.org/naacc) collected on culvert passability will be added to the dam geodatabase to show a more comprehensive picture of fish blockages in each watershed.

Project Steps and Timeline	**Step 1: 6/15/2022 – 7/15/2022** The contractor will meet with the GIT Technical Lead at project initiation for a kick-off meeting to discuss the project goals, deliverables, timeline, data sources, and the contents of the draft Quality Assurance Project Plan (QAPP). A Project Steering Committee for this project will be convened by the GIT Technical Lead. The members of the Project Steering Committee will be discussed during the kick-off meeting. The contractor will prepare and submit a draft QAPP to the EPA, allowing 45 days for review. After receiving EPA feedback on the draft QAPP, the contractor should submit a final QAPP with appropriate edits and the necessary signatures back to the EPA for final approval. Guidance for developing a QAPP for secondary data can be found at https://www.epa.gov/quality/quality-assurance-project-plan-requirements-secondary-data-research-projects. This project will be covered under the Chesapeake Bay Program Quality Management Plan (QMP), so the following statement should be included in the QAPP: "All data-related tasks being carried out as a part of this project are covered by the U.S. EPA Region 3 Quality Management Plan." Deliverables for this Step include: • Meeting minutes and list of attendees from kick-off meeting (Word) • Draft QAPP (Word) • Final (signed) QAPP (PDF)
	Step 2: 7/15/2022 – 1/31/2023 *Please note that Steps 2 through 5 below will be completed concurrently.* The contractor will upgrade the existing tool to version 4.x of the ArcGIS JavaScript Application Programming Interface (API). Please note that the existing Version 3.x will be depreciated in 2022. Deliverables for this Step include: • Updated Chesapeake Fish Passage Tool in 4.x of the ArcGIS JavaScript API
	Step 3: 7/15/2022- 11/1/2022 The contractor will develop a list of geodatabases and/or data layers to be updated for the tool. As part of this process, the contractor will review up to 20 geodatabases and/or data layers with the GIT Technical Lead and Project Steering Committee via a 2-hour conference call. The contractor will update/revise the list of geodatabases (the dam geodatabase in the tool in ArcGIS format) and/or data layers as needed based on feedback from the Project Steering Committee or new/additional datasets. This update will include the addition of several more existing geodatabases and data layers such as those available for environmental justice, climate change and newly assessed culvert information. The tool will also be updated to provide downloadable data files for the miles opened each year, which can be used by stakeholders. Specifically, the ArcGIS layers showing each mileage calculation by year the project was completed and by species present should be updated - this will be a linear dataset similar to the National Hydrography Dataset Stream Segments (https://www.usgs.gov/national-hydrography). Lastly, the contractor will develop in cooperation with the Fish Passage Working Group (FPWG) the ability to track miles opened based on existing metrics in the current version of the tool and a new metric focusing on potential miles opened to specific diadromous species (including American shad, hickory shad, river herring, and American eel). Deliverables for this Step include: • Meeting minutes from conference call (Word) • List of geodatabases and/or data layers to be updated for the tool (Excel) • Update dam geodatabase in the tool in ArcGIS format (file geodatabase) • Draft geodatabase including new databases and/or data layers to the tool (included in existing file geodatabase) • New mileage calculations for fish passage projects and dam removals (ArcGIS)
	Step 4: 7/15/2022 – 1/31/2023 The contractor will evaluate the dam removal and fish passage project prioritization method with the GIT Technical Lead and Project Steering Committee via a 2-hour conference call. The current prioritization method can be found here:

Project Steps and Timeline (continued)	https://maps.freshwaternetwork.org/chesapeake/plugins/barrier-prioritization-proto2/images/ChesapeakeFishPassagePrioritization_Report.pdf. The contractor will discuss the benefits of updating the geodatabase prioritization method using a Z-score method with the GIT Technical Lead and Project Steering Committee. The contractor will provide the Z-Scores for each prioritization metric. The Z-score method is a statistical method that refers to the number of standard deviations each data value is from the mean; a Z-score of zero indicates the exact mean. More information on Z-scores can be found here: https://desktop.arcgis.com/en/arcmap/latest/tools/spatial-statistics-toolbox/what-is-a-z-score-what-is-a-p-value.htm. If the GIT Technical Lead and Project Steering Committee agree the Z-score statistical method would improve the geodatabase, the contractor will update the prioritization method using the Z-score statistical method. Deliverables for this Step include: • Meeting minutes from conference call (Word) • Z-Scores for each prioritization metric (Excel) • Update the prioritization method using the Z-score statistical method (if appropriate)
	Step 5: 7/15/2022-1/31/2023 The contractor will review the tool functionality and modify the tool based on feedback from the FPWG. Feedback from the FPWG will be conducted by a series of two 2-hour conference calls. The contractor will create the ability for users to download information and data layers directly from the tool itself. This will allow any user to obtain the most recent dam removal and fish passage project locations, year project was implemented and an ArcGIS file (file geodatabase) containing all miles opened via fish passage projects. The contractor will submit a Final, updated dam database in ArcGIS format to the GIT Technical Lead. Finally, the contractor will create a Factsheet summarizing the project (two pages). Deliverables for this Step include: • Final Updated Dam database (ArcGIS) • Factsheet summarizing project (Word)
Stakeholders/ Participants	The following Fish Passage Workgroup members will serve as the Project Steering Committee: • Alan Weaver, Jim Thompson, Serena McClain, Jessie Thomas-Blate, Dave Dippold, Katlyn Fuentes, and Mary Andrews.
Deliverables	*Please note that Steps 2 through 5 will be completed concurrently. All final deliverables for Steps 2 through 5 will be due 01/31/2023 as noted in the steps above. There is one major interim deliverable due on 11/1/2022 (draft geodatabase and added data layers).* 1. Meeting minutes from kick-off meeting and all conference calls 2. Draft and Final (signed) QAPP 3. Updated Chesapeake Fish Passage Tool in 4.x of the ArcGIS JavaScript API 4. List of geodatabases and/or data layers to be updated for the tool 5. Updated dam geodatabase in ArcGIS format 6. Draft geodatabase including new databases and/or data layers to the tool 7. New mileage calculations for fish passage projects and dam removals in ArcGIS formats 8. Z-Scores for each prioritization metric 9. Update the prioritization method using the Z-score statistical method (if appropriate) 10. Final updated dam database in ArcGIS format 11. Factsheet summarizing project
QAPP Requirement	Yes, a QAPP is required.
Qualifications of Bidder	• Extensive experience designing and developing web mapping applications using ArcGIS for use in habitat restoration activities • Proficient in migrating web applications from older, deprecated technologies to newer platforms • Experience in coalition building with Chesapeake Bay Fish Passage stakeholders • Prior experience with the Chesapeake Bay Fish Passage Tool preferred, but not required

Scope 5: Strategy Development for Innovative Finance of Riparian Forest Buffer Programs

GIT	Water Quality (GIT 3)
Maximum Bid Amount	$70,000
Purpose and Outcomes	The Forestry Workgroup is proposing a "Natural Filters Revolving Fund" (NFRF) as a model to bring riparian forest buffer and upland tree planting to a watershed-wide scale. Partner Non-Governmental Organizations (NGOs), including small grassroots organizations and non-profits, and private restoration companies are often able to implement cost-effective buffer restoration due to their existing connections with landowners and their capacity to procure restoration contractors, which enables them to restore larger parcels. Through the NFRF, these groups would complete on-the-ground buffer restoration and tree plantings while local governments or other entities would be able to purchase the associated environmental outcomes at a low cost. Dollars from the purchased outcomes would then revolve back into the NFRF program to finance future buffer restoration work. By reducing transaction costs and creating a stable source of funding, the NFRF will support economies of scale and make buffer restoration more accessible for local governments and other entities. Although local jurisdictions have expressed interest in the NFRF, there are barriers to securing the initial "seed" funding for a pilot project and initiating the NFRF. Potential funders and local jurisdictions want to better understand the costs and benefits of purchasing outcomes through the NFRF as well as the logistics of how transactions with the NFRF would work. ***This project would work to understand and address the barriers of initiating a program like the NFRF, while identifying the details (who-what-where) of program implementation that can be used as a guide for the program***. The end-result of this scope will include documenting how buffer restoration and other tree planting practices translate into Municipal Separate Storm Sewer System (MS4) credits (urban) and other creditable benefits (rural). <u>Desired outcomes include:</u> • Develop two Business Plans (one urban and one rural) that demonstrate to local governments and potential funders how the NFRF can provide MS4 credits and other environmental outcomes reliably and efficiently. These plans will be "handed-off" or explained via meetings to identified localities. • Develop two "How To" Guides that will complement the Business Plans. • Identify one or more localities that will initiate a pilot project to test the NFRF cycle. • Identify one or more investors that will provide the up-front funding to support a pilot project.
Project Steps and Timeline	**Step 1: Project Kick-off and Convening of Project Steering Committee (6/15/2022 – 7/29/2022)** Through coordination with the GIT Technical Lead, the contractor will assemble a Project Steering Committee composed of GIT and workgroup members and other partner organizations. The contractor will schedule and meet virtually with the GIT Technical Lead and the Project Steering Committee for a kick-off meeting to establish common understanding and basic design of a Natural Filters style program and its possible permutations. Potential jurisdictions (referred to as focal localities) that may be interested in a pilot project will be discussed and identified during the kick-off meeting. The GIT Technical lead will provide a list of leads for urban jurisdictions in MD that are known to be interested in piloting the NFRF program. Additional outreach will be required by the contractor (with support from the Project Steering Committee) to identify interested rural jurisdictions. Focal rural jurisdictions may be in MD or elsewhere in the watershed. After the kick-off meeting, the contractor will conduct initial scoping meetings with potential focal localities to identify at least one urban and one rural jurisdiction interested in working to develop a pilot project. Once the two focal localities have been identified (one

Project Steps and Timeline (continued)	urban, one rural) and approved by the GIT Technical Lead, the contractor will work with the Project Steering Committee to develop discussion guides for the jurisdictional meetings that will be conducted in Step 2. During the kick-off meeting, the GIT Technical Lead and the Project Steering Committee will discuss with the contractor organizations that could ultimately implement NFRF model and will provide a list of potential implementers (e.g., partner NGOs or private restoration companies). Identifying the implementers will be an iterative process beyond Step 1. It is envisioned that the Project Steering Committee will provide an initial list, but as the contractor starts to engage with the jurisdictions, other implementers may be identified. The Project Steering Committee will be consulted throughout the project, with at least one virtual meeting to be scheduled and facilitated by the contractor for each major step of the project (at least 5 meetings). Deliverables for this Step include: • Kick-off meeting agenda and minutes (Word) • Summary of Project Steering Committee meeting and list of attendees (Word) • Notes from scoping meetings with potential focal localities (Word) • List of finalized Project Steering Committee members (Excel) • Description of at least two focal localities and other local/regional partners that could support pilot projects in each locality (Word) • Discussion guides for jurisdictional meetings that will be conducted in Step 2 (Word) • List of potential implementers of the NFRF model (Excel)
	Step 2: Initiate Business Plan Development (8/1/2022 – 10/29/2022) The contractor will work with the two approved focal localities identified above in Step 1 to better understand their needs and barriers to using conservation finance models for tree planting. This will require at least three virtual meetings with each of the two focal localities. The contractor will use the feedback from the meetings to develop a draft outline for two Business Plans, which would be designed for jurisdictional budget leads and potential outside investors to analyze economic considerations for establishing a Natural Filters program. One Business Plan would be for buffer/tree planting that applies to MS4 jurisdictions. The second Business Plan would target more rural jurisdictions who would have a different cost-benefit analysis. Developing the rural Business Plan will involve reviewing the literature and information from existing programs to derive best estimates of the other benefits of natural filters practices, for example carbon sequestration or flood hazard mitigation, depending on the interests of the jurisdiction. The draft Business Plans would explain the revenue model for the program, including transactions within NFRF conservation finance models, the total addressable market for these transactions, projections for market growth, and potential sources of risk. The plans would also include estimates of costs and benefits in a spreadsheet for different implementation methods. Both of these draft Business Plans would be developed with the focal localities in mind but would be general enough to be useful for multiple jurisdictions. The Project Steering Committee will be provided an opportunity to review and provide input on the outline. The contractor will address comments on the draft outline and will submit a final outline to the GIT Technical Lead. Deliverables for this Step include: • Summary of Project Steering Committee meeting and list of attendees (Word) • Meeting notes and summaries from at least three virtual meetings with each focal locality (6 meetings minimum) (Word) • List of sources reviewed for estimates of benefits of natural filters practices (Word) • Draft and Final Outlines of two Business Plans (one urban, one rural) (Word)
	Step 3: Develop and Present Draft "How To" Guides and Business Plans (11/1/2022-4/14/2023) Work directly with the two focal localities, potential implementers (e.g., partner NGOs or private restoration companies), and relevant Project Steering Committee members to develop "How To" Guides to address local needs— one each for the focal rural and urban localities. The contractor will either interview the identified implementers or invite them to meetings with the jurisdictions to get their perspectives to incorporate into the "How To" Guides. The guides

Project Steps and Timeline (continued)	would be designed primarily for the focal localities and partners and would focus on the operational model for the program. The guides will describe how a revolving fund program could be initiated and operated within the current legal landscape, suggest tools that could support the NFRF, assign specific roles for various partners, and address other needs or barriers identified by the focal localities and Project Steering Committee. These "How To" Guides will complement the Business Plans. The draft Business Plans and "How To" Guides will be provided to the focal localities and the Project Steering Committee. Draft guides and Business Plans will also be presented in an explanatory and collaborative fashion to the two focal localities to better position them for use. Plan for two, two-hour webinars, which should be recorded and shared with the Project Steering Committee. Request comments on draft "How To" Guides and draft Business Plans from the focal localities and the Project Steering Committee. Deliverables for this Step include: • Summary of Project Steering Committee meeting and list of attendees (Word) • Draft versions of two "How To" Guides (one urban, one rural) (Word) • Draft versions of two Business Plans (one urban, one rural) (Word) • Two recorded webinars for focal localities (one urban, one rural) (PowerPoint/weblink)
	Step 4: Provide Support for Setting up Initial Pilot Transactions (4/17/2023 - 9/29/2023) Assist the two focal localities with setting up initial NFRF pilot transactions, documenting steps involved, and update the Draft Business Plans and "How To" Guides accordingly (the contractor *would not be responsible* for managing and executing the transactions). The contractor will identify at least five potential investors who may be interested in supporting a pilot project in each focal locality and initiate contact with at least three potential investors. For investors interested in learning more but not yet ready to commit to a pilot project, the contractor will develop briefing materials and work with the applicable focal localities to prepare pitches for briefings with investors. The contractor will prepare a short summary of the barriers that exist for initiating a program like the NFRF based upon the conversations and feedback received during Steps 1 through 4. Finally, the contractor will work with the localities to identify next steps, including supporting the development of documentation through Memorandum of Understandings (MOUs) needed for project initiation if the investor agrees to support the project. Deliverables for this Step include: • Summary of Project Steering Committee meeting and list of attendees (Word) • Spreadsheet listing at least five investors who may be interested in supporting pilot projects in each focal locality, documenting which investors have been contacted and when, and highlighting any investors interested in learning more (Excel) • Briefing materials to pitch the concept to potential investors (e.g., PowerPoint, supporting documentation, etc.) • Short summary of barriers identified for initiating a NFRF program (Word) • Documentation of next steps for initial NFRF transactions, including MOUs or contract templates if an investor agrees to support the project (Word)
	Step 5: Prepare Final Deliverables and Disseminate Findings (4/17/2023-9/29/2023) Respond to comments on draft "How To" Guides and draft Business Plans and produce final documents. Provide a summary presentation to two GIT/workgroup meetings (likely the water quality GIT and the Budget and Finance Workgroup) and a Factsheet summarizing the project (two pages). Deliverables for this Step include: • Summary of Project Steering Committee meeting and list of attendees (Word) • Final versions of two "How To" Guides (one urban, one rural) (PDF) • Final versions of two Business Plans (one urban, one rural) (PDF) • Presentation of findings (PowerPoint) • Factsheet summarizing project (Word)

Stakeholders/ Participants	• Forestry Workgroup, Katie Brownson and Sally Claggett (USFS), katherine.brownson@usda.gov, sally.claggett@usda.gov • Water Quality GIT, Coordinator- Jeremy Hanson, hansonj@chesapeake.org • Budget and Finance workgroup, Co-chair- Elliot Campbell, elliott.campbell@maryland.gov • Local leadership workgroup, Coordinator- Laura Cattell Noll, lnoll@allianceforthebay.org • Regional organizations (e.g., Potomac River Basin Commission) • Partner NGOs (e.g., Alliance for the Chesapeake Bay, Chesapeake Conservancy) • Local government officials (TBD) • Conservation Finance partners (TBD)
Deliverables	1. Kick-off meeting agenda and minutes 2. Meeting agenda, notes, and attendees from all Project Steering Committee meetings 3. List of Project Steering Committee members 4. List of at least focal jurisdictions that could support pilot projects 5. Discussion Guides for jurisdictional meetings in Step 2 6. List of potential implementers of the NFRF model 7. Meeting notes/summaries of virtual meetings for each focal locality (6 meetings minimum) 8. Two Draft and Final "How To" Guides (one urban, one rural) 9. Two Draft and Final Business Plans (one urban, one rural) 10. Two recorded webinars for the focal localities (one urban, one rural) 11. List of investors interested in supporting pilot projects for each focal locality 12. Briefing materials developed for potential investors 13. Summary of barriers and next steps 14. Presentation of findings 15. Factsheet summarizing project
QAPP Requirement	No, a QAPP is not required.
Qualifications of Bidder	• Extensive knowledge of conservation finance and innovative restoration finance models, including legal and policy requirements for setting up transactions. Experience with conducting cost-benefit analyses and developing Business Plans for these transactions is also required • Proven experience interacting with local governments and investors, including an ability to promote and secure funding for innovative project ideas • Experience engaging with and developing communications materials for local governments and other organizations (include any relevant samples of communications materials with application)

Scope 6: Tree Canopy Funding and Policy Roundtable

GIT	Water Quality (GIT 3)
Maximum Bid Amount	$65,000
Purpose and Outcomes	The Chesapeake Bay Watershed Agreement (2014, amended in 2020) includes the goal to expand urban and community tree canopy by 2,400 acres between 2014 and 2025 (https://www.chesapeakebay.net/documents/FINAL_Ches_Bay_Watershed_Agreement.withsignatures-HIres.pdf). Despite the presence of many programs and partners planting trees throughout the watershed, a recent land use change analysis shows a net loss of over 15,000 acres of tree canopy in developed areas over a 4-year period (2013/2014 – 2017/2018), which likely will result in not meeting the tree canopy expansion goal by 2025. Based on ongoing stakeholder input (Forestry Workgroup) and the results of engaging tree canopy practitioners through two prior Chesapeake Tree Canopy Summits (2014, 2020), funding and policy gaps at the local and state level are in

Purpose and Outcomes (continued)	many cases primary factors limiting progress on the Watershed Agreement's tree canopy expansion goals. Furthermore, a stronger focus on equity and climate resilience is needed moving forward, to address long-standing inequities in tree canopy distribution in low-income neighborhoods and communities of color. To address these challenges, the Chesapeake Bay Program (CBP) Forestry Workgroup seeks a skilled policy/stakeholder process facilitator to design and deliver a Tree Canopy Funding and Policy Roundtable, as outlined in the latest Chesapeake Tree Canopy Outcome Logic and Action Plan (https://www.chesapeakebay.net/documents/22044/iii.d_final_srs_documents_for_tree_canopy.pdf) . It is envisioned that the Roundtable would engage a strategically selected group of state and local government leaders in developing new solution pathways and actionable strategies to advance tree canopy progress (approximately 60 to 80 participants, with balanced representation from all jurisdictions). The Roundtable will consist of a virtual, interactive format (such as 10 hours over 2 days) that will be used to enable key participants from across the watershed to participate without extra travel time and cost. The Roundtable will be designed to focus on timely cross-GIT connections with tree canopy, such as new land use change data illustrating where losses and gains are occurring; trees as a prominent climate resilience strategy showing up in national and state goals and legislation including the Tree Solutions Now Act of 2021, Maryland HB991 (https://trackbill.com/bill/maryland-house-bill-991-tree-solutions-now-act-of-2021/2018306/) and new datasets, tools, and community engagement strategies to aid Diversity, Equity, Inclusion and Justice (DEIJ) efforts, such as the Tree Equity Score by American Forests (https://treeequityscore.org/) and other models for community-based initiatives. The Roundtable process should build from prior partnership efforts such as the "Financing Urban Tree Canopy Programs" guidebook (https://chesapeaketrees.net/category/funding/) and "Making your Community Forest Friendly" (https://owl.cwp.org/mdocs-posts/making-your-community-forest-friendly-a-worksheet-for-review-ofmunicipal-codes-and-ordinances/). It should also include key participants and build upon findings from recent tree canopy stakeholder forums held within the jurisdictions. These connections will be facilitated by a Project Steering Committee with the necessary background and expertise to help guide the objectives, topic-based briefing papers, speakers, and other deliverables, to ensure the Roundtable incorporates and builds upon the best work to date. In addition to the Roundtable, and since each of the seven jurisdiction's policy contexts is unique, the contractor will conduct pre- and post-Roundtable Jurisdiction Strategy Sessions with a core group of jurisdiction program leaders to identify key issues and opportunities and, by project end, capture a list of strategies and specific actions that will be pursued in each jurisdiction (total 14 sessions, approximately 2 hours each). The Project Outcomes include the below: 1)Through Roundtable presentations by topic experts and innovators, equip local and state decision makers with the best available data, tools, and innovative approaches to strengthen tree canopy outcomes towards climate resilience and equity. The contractor will create topic-based briefing papers (e.g., a set of two-pagers to frame key issues/opportunities) and compile presentations from the Roundtable that will be designed to be valuable and accessible online to local, state, and nongovernmental organizations beyond those in attendance at the virtual Roundtable event. Examples of briefing paper topics can be found in the Tree Canopy Logic & Action Plan p.7-8, but will be refined through input from Steering Committee and pre-Roundtable Jurisdiction Strategy Sessions (https://www.chesapeakebay.net/documents/22044/iii.d_final_srs_documents_for_tree_canopy.pdf) . 2) Through Roundtable discussions/input sessions, the contractor will engage local and state decision makers in identifying new funding, policy, and programmatic solution pathways to address key challenges and opportunities. The Roundtable is envisioned to be one event, designed with multiple break-out sessions by topic and/or jurisdiction to generate recommendations regarding key

Purpose and Outcomes (continued)	gaps, priorities, and strategies. The target audience for the Roundtable is state and local government leaders, including those representing communities of color. 3) Through the Roundtable and pre- and post- Jurisdiction Strategy Sessions, the contractor will generate an actionable set of findings and present the recommendations to CBP leadership, including an initial set of jurisdiction-specific strategies to be pursued in the next two years and tracked through the Chesapeake Bay Program's adaptive management process (Strategy Review System, https://www.chesapeakebay.net/decisions). Project Success will be defined as the below: • Roundtable participants will provide valuable input on actionable state and local government strategies to advance tree canopy outcomes toward climate resilience and equity, • Roundtable results will be well-documented and disseminated for the benefit of practitioners across the watershed, and • The seven jurisdictions and CBP leadership will gain a robust, well-informed set of Bay-wide and jurisdiction-specific strategies that will can ultimately be implemented, tracked and strengthened over time through the CBP's adaptive management process.
Project Steps and Timeline	**Step 1: Project Kick-Off meeting and Pre-Roundtable Jurisdiction Strategy Sessions Planning (6/15/2022 – 7/31/2022)** The GIT Technical Lead will provide the contractor with a contact list of the Project Steering Committee with cross-GIT and jurisdiction representation to advise at key stages throughout the process. The contractor will schedule and facilitate a kick-off meeting with the Project Steering Committee to get preliminary input on the overall Roundtable design and the plan for the Pre-Roundtable Jurisdiction Strategy Sessions, including format, topics, and key participants to include (2 hours). The contractor will then consult with the GIT Technical Lead to prepare and submit the Draft Roundtable Framework, the pre-Roundtable Jurisdiction Strategy Session agenda, the jurisdiction strategy participant lists (DC, DE, MD, NY, PA, VA, WV), and the draft meeting materials. The Pre-Roundtable Jurisdiction Strategy Sessions will be virtual and should be focused on capturing the jurisdiction needs and priorities around tree canopy to guide the Roundtable design. The contractor should develop a participant list for the Pre-Roundtable Strategy Sessions (including contact information for scheduling for each jurisdiction). The Draft Roundtable Framework should include a summary of the purpose/objectives of Roundtable process, content options, and discussion questions to guide the jurisdictional input on Roundtable design to meet their needs. The GIT Technical Lead will provide one set of comments on the draft documents for the contractor to incorporate before finalizing the materials. *Note: In order to incorporate equity into this project, the contractor's budget for the Roundtable should consider setting aside at least $3,000 to cover compensation as needed for Roundtable speakers (topic experts, innovators) in Step 3 for time preparing, presenting, and participating.* Deliverables for this Step include: • Kick-off meeting notes and list of attendees (Word) • Draft Roundtable Framework (Word) • Agenda for Pre-Roundtable Jurisdiction Strategy Sessions (Word) • Draft and Final materials for pre-Roundtable Strategy Sessions (Word and PDF) • Pre-Roundtable Strategy Session participant lists (Excel)
	Step 2: Complete Pre-Roundtable Jurisdiction Strategy Sessions and Distill Findings (8/1/2022 – 9/30/2022) The contractor will schedule and convene the virtual Pre-Roundtable Jurisdiction Strategy Sessions (seven total 2-hr sessions) that follows the approved agenda and will submit detailed notes or a transcript from the sessions (for internal use by GIT Technical Lead). Following the session, the contractor will prepare a one-page summary of key findings from each of the seven sessions to guide the Roundtable Framework. The contractor will refine the Draft Roundtable Framework document submitted in Step 1, which should include options and questions for the Project Steering Committee. This Draft-Final Roundtable Framework should include a draft agenda, session topics,

Project Steps and Timeline (continued)	potential speakers, a plan for briefing materials, and participant invite lists for each of the seven jurisdictions. Finally, the contractor will schedule and meet virtually with the Project Steering Committee to review findings, accept comments, and obtain input on the Draft-Final Roundtable Framework. Deliverables for this Step include: • Detailed notes or transcript of Pre-Roundtable Jurisdiction Strategy Sessions (Word) • Pre-Roundtable Jurisdiction Strategy Session summaries (seven one-pagers, Word) • Draft-Final Roundtable Framework (Word) • Steering Committee Meeting notes or summary (Word)
	Step 3: Finalize Framework and Facilitate Roundtable Event (10/1/2022- 1/31/2023) The contractor will refine and finalize the Roundtable Framework based on input from the Project Steering Committee and the GIT Technical Lead. The Final Roundtable Framework should include objectives, agendas, session topics, final list of speakers, plans for briefing materials, break-out discussion facilitation guides, participant invites, and attendance lists). After the framework is finalized, the contractor will generate the promotional materials (digital) for invited participant list and manage all aspects of Roundtable invites and registration, in consultation with the GIT Technical Lead. The target audience for the Roundtable is state and local government leaders, including those representing communities of color. The contractor will organize all Roundtable content to meet objectives specified in Roundtable Framework (prepares topic briefing papers and slides, confirms and prepares speakers, plans interactive discussion sessions, logistics/facilitation support, etc.). The contractor should consider compensating the Roundtable speakers (topic experts, innovators) for their time and participation (budget should consider at total of $3,000 for the speakers). In summary, the contractor should consider budgeting a total of $3,000 in the proposal to compensate speakers at the conclusion of the Roundtable. The contractor will deliver a successful Roundtable, gathering substantive input on solution pathways from the desired target audience as determined by Steering Committee. The contractor will submit high quality materials from the Roundtable (briefing materials, presentations, discussion notes, participant feedback, etc.) for the CBP staff to make accessible online to a broader audience (through Chesapeake Tree Canopy Network partnership website or similar). After the Roundtable is completed, the contractor will submit a draft outline for the Roundtable Report to the GIT Technical Lead for review and comment. Deliverables for this Step include: • Final Roundtable Framework (Word) • Recorded Presentations of a two-day virtual Roundtable event (10 total hours, Videos) • List of Roundtable speakers (Excel) • High quality Roundtable materials (PDF)
	Step 4: Develop Roundtable Report and Plan Post-Roundtable Sessions (2/1/2023 - 3/1/2023) The contractor will schedule and virtually convene a meeting with the GIT Technical Lead and the Project Steering Committee for a debrief of the completed Roundtable, get input on the Roundtable Report draft outline, and plan the agenda for the post-Roundtable Jurisdiction Strategy Sessions. The contractor will develop the draft Roundtable Report after the outline is approved by the GIT Technical Lead. The contractor will also submit the draft Agenda and support materials (e.g., pre-work) for the Post-Roundtable Jurisdiction Strategy Sessions; these sessions should be focused on jurisdiction leaders and generating a list of strategies and actions they can commit to pursuing over the next 2 years and beyond. Deliverables for this Step include: • Draft Roundtable Report (Word) • Draft Agenda for Post-Roundtable Jurisdiction Strategy Sessions
	Step 5: Refine Roundtable Report, and Complete Post-Roundtable Jurisdiction Strategy Sessions (3/1/2023 - 6/30/2023) The contractor will present the draft Roundtable Report to the Forestry Workgroup in early March 2023, followed by a 2-week comment period for stakeholder feedback on the report (GIT Technical Lead will solicit feedback from relevant parties and provide one set of comments). The contractor will then address comments to the draft report in consultation with the GIT Technical Lead. The

Project Steps and Timeline (continued)	contractor will also finalize the agenda and materials for the Post-Roundtable Jurisdiction Strategy Sessions, which should be scheduled for April/May 2023. The contractor will complete the Post-Roundtable Jurisdiction Strategy Sessions (seven total, 2 to 3-hr sessions). Finally, the contractor will generate a draft 2-year action strategy for each of the seven jurisdictions, which will be the basis for each jurisdiction to further refine, elaborate and implement strategies in the future (beyond this project). Deliverables for this Step include: • Presentation to Forestry Workgroup (PowerPoint) • Final Roundtable Report (Word) • Post-Roundtable Jurisdiction Strategy Session summaries, seven total, one-page each (Word) • Detailed notes and summary of the Post-Roundtable Jurisdiction Strategy Sessions (Word) • Draft Action Strategies (seven total, one for each jurisdiction) from the Post-Roundtable Jurisdiction Strategy Sessions (Word)
	Step 6: Present Final Results (6/30/2023 – 8/31/2023) The contractor will submit a draft Project Report (2 to 3 pages) to the GIT Technical Lead and then incorporate comments to finalize the report. The Final Action Strategies documents (seven total, one for each jurisdiction) from the Post-Roundtable Jurisdiction Strategy Sessions will be submitted. After the Project Report is finalized, the contractor will present the outcomes of the Roundtable process in a 1-hour (publicly available) webinar organized by the GIT Technical Lead. The contractor will complete a short presentation (less than 1 hr) of the key project recommendations to CBP leadership (meeting will be planned and scheduled by the GIT Technical Lead). Finally, the contractor will create a Factsheet summarizing the project (two pages). Deliverables for this Step include: • Draft and Final Project Report (Word) • Final Action Strategies (seven total, one for each jurisdiction) from the Post-Roundtable Jurisdiction Strategy Sessions (Word) • Webinar presentation and slides (PowerPoint) • Leadership presentation and slides (PowerPoint) • Factsheet summarizing project (Word)
Stakeholder/ Participants	Stakeholders include the groups below (specific contacts will be provided by GIT Technical Lead): • Forestry Workgroup and Tree Canopy Jurisdiction Leads • CBP Coordinators for Local Leadership, LGAC, Diversity, Land Use Methods, Land Use Options, Climate Resiliency, Budget & Finance • Chesapeake Bay Commission • Designated jurisdiction leadership group (from Management Board and/or Principal Staff Committee)
Deliverables	1. Kick-off meeting notes or summary 2. Draft, Draft-Final, and Final Roundtable Framework, 3. Agenda for pre-Roundtable Jurisdiction Strategy Sessions 4. Draft and Final materials to present at the pre-Roundtable Strategy Sessions 5. Pre-Roundtable Strategy Session participant lists 6. Notes or transcript of Pre-Roundtable Jurisdiction Strategy Sessions 7. Pre-Roundtable Jurisdiction Strategy Session summaries, seven total, one-page each 8. Steering Committee Meeting notes or summary 9. Recorded Presentations of a two-day virtual Roundtable event 10. List of Roundtable speakers and Roundtable materials 11. Draft and Final Roundtable Report 12. Draft and Final Agenda for Post-Roundtable Jurisdiction Strategy Sessions 13. Post-Roundtable Jurisdiction Strategy Session summaries, seven total, one-page each 14. Detailed notes and summary of the Post-Roundtable Jurisdiction Strategy Sessions 15. Draft and Final Action Strategies from Post-Roundtable Jurisdiction Strategy Sessions 16. Draft and Final Project Report 17. Factsheet summarizing project 18. Webinar presentations and slides

QAPP Requirement	No, a QAPP is not required.
Qualifications of Bidder	• Experience in organizing large multi-jurisdictional virtual events for state and local government participants; demonstrated skill in guiding stakeholder input processes around policy issues and developing solution pathways and action strategies • Knowledge of innovative funding, policy, and programmatic approaches around urban forestry/tree canopy, climate resilience, equity • Excellent communication skills • Demonstrated ability to distill key information into compelling written reports, provide clear/concise oral presentations, develop briefing materials for similar audience(s), etc. (provide examples)

Scope 7: A Local Government Guide to the Chesapeake Bay: Phase II

GIT	Leadership and Management (GIT 6)
Maximum Bid Amount	$80,000
Purpose and Outcomes	In 2021, *A Local Government Guide to the Chesapeake Bay* series was created to support local elected officials in decision making, by increasing their knowledge and capacity on issues related to water resources (https://www.chesapeakebay.net/channel_files/42951/module_overview_one_pager_(1).pdf). The series (Phase I of the project, which has been completed) included seven modules of non-branded, editable PowerPoint files and summary handouts that frame clean water issues through the lens of the local government priorities of: 1) economic development; 2) public health and safety; 3) infrastructure maintenance and finance; and 4) education. This project, *A Local Government Guide to the Chesapeake: Phase II*, builds on this previously successful effort by filling gaps that were identified in Phase I. There are three key project components to this Phase II project: • The development of three to four additional educational modules. For reference, the current modules are available as pdfs on the Local Leadership Workgroup (LLWG) webpage (https://www.chesapeakebay.net/who/group/local_leadership_workgroup). • The creation of an online repository for educational materials and resources that are tailored to local officials (perhaps something similar to Bay Backpack https://www.baybackpack.com/). • A 'train the trainer' workshop (less than half day) for users of the modules and the online repository, which will likely include staff at county associations and municipal leagues. <u>Key outcomes of this project include:</u> • Increased access to additional educational materials to increase the knowledge and capacity of local officials on a broader suite of clean water issues. • *A Local Government Guide to the Chesapeake Bay: Phase II* and other educational materials that are tailored to local elected officials and easily accessible online. • Assurance that local government trusted sources (including county associations and municipal league staff) are: 1) aware of the educational materials that are available; 2) know how to access them; and 3) are trained on how to use and edit the existing materials and share them with their networks.

Project Steps and Timeline	**Step 1: Draft Educational Modules (6/1/2022 – 10/31/2022)** The contactor will meet virtually with the GIT Technical Lead for a kick-off meeting to discuss the full suite of project deliverables, timeline, the role and expectations of the contractor, and to discuss potential topics for the modules. Based on guidance from the LLWG and Local Government Advisory Committee (LGAC), the contractor will identify key topics for creating three to four additional educational modules. Guidance from LLWG and LGAC to the contractor will occur via both small group meetings and two presentations at larger quarterly meetings, scheduled by the GIT Technical Lead. Potential topics include, but are not limited to: environmental/public health, flooding, outdoor recreation, agriculture, education, stewardship, social science, natural filters etc. Results from the *Local Leadership Baseline Survey* that will be completed by Summer 2022 that will also inform topic selection. The survey is being completed under a separate contract and the results will be provided to the contractor by the GIT Technical Lead. After the topic selection is approved, the contractor will draft three or four modules. The draft modules will be submitted to the GIT Technical Lead, the LLWG, LGAC, CBP Coordinators/Staffers, and a group of subject matter experts for feedback. The styling/formatting of the modules should match *A Local Government Guide to the Chesapeake Bay* (editable files available from the GIT Technical Lead). The modules should include highly visual PowerPoint (editable) presentations with references, approximately 20 to 30 slides, presenter notes, and photo credits. For all modules, a two-page Adobe InDesign factsheet should also be submitted. Deliverables for this Step include: • Kick-off meeting notes (Word) • Meeting summary of group meetings and/or quarterly meetings (Word) • Three or four draft modules (PowerPoint and PDF) • Three or four draft factsheets (InDesign and PDF)
	Step 2: Receive Feedback and Finalize Education Modules (11/1/2022 – 12/31/2022) The contractor will receive feedback from LLWG, LGAC, CBP Coordinators/Staffers and subject matter experts and will revise the draft modules based on feedback. The contractor will finalize the draft modules and submit files to the GIT Technical Lead. Deliverables for this Step include: • Three or four final modules (PowerPoint and PDF) • Three or four final factsheets (InDesign and PDF)
	Step 3: Create Plan for Online Repository of Existing Educational Materials and other Resources (1/1/2023 - 4/30/2023) The GIT Technical Lead will schedule and set up a meeting with the CBP Web team and the contractor in early 2023. There is currently a *User Research Study* being conducted by the CBP web team that will be completed as part of a separate contract by the end of 2022. The contractor will meet with the CBP Web team to discuss the results of the *User Research Study* to understand any implications these results might have for this project. Based on the results of the *User Research Study*, the contractor will draft a proposed plan for creating a web product that will serve as an online database/repository. The contractor will schedule a meeting with and virtually share the proposed plan with the steering committee (comprised of a small group of LLWG members) and the CBP Web Team. The LLWG will provide the materials/content to the contractor which will include but is not limited to: case studies, funding sources, technical assistance, educational materials, webinars, model ordinance etc. Ideally the database/repository will be editable, easy to use and can be embedded into local government association webpages (perhaps something like the Local Government ARPA Investment Tracker or Bay Backpack). Ongoing communications between the contractor and the CBP Web Team will be essential during this step, since the CBP Web Team will ultimately be completing the long-term maintenance of the web product. Finally, the contractor will revise the proposed plan based on feedback from the steering committee and create a minimum viable web product for sharing with LLWG, LGAC, and the CBP Web Team.

Project Steps and Timeline (continued)	Deliverables for this Step include: • Meeting summary of group meetings and/or quarterly meetings (Word) • Draft Plan for online database/repository (Word) • Final (revised) Plan for web product (Word and PowerPoint) • Minimum viable product/beta version (Web Product)
	Step 4: Finalize Online Repository of Existing Educational Materials and other Resources (5/1/2023 - 6/30/2023) Following the review of the beta version by LLWG, LGAC, CBP Web Team and other stakeholders, the contractor will incorporate feedback and build out a highly visual, easy-to-use web product of the educational materials and resources targeted for local governments. The Final web product will be maintained by the CBP Web Team (back-end maintenance) and the LLWG staff (content). Deliverables for this Step include: • Final online database/repository of educational materials and resources (Web Product)
	Step 5: Train the Trainer for Users of the Educational Materials Database (5/3/2023-6/30/2023) The contractor will plan and conduct a two to four-hour virtual training for 20 to 30 people on resources available to local governments and how to use them (including *A Local Government Guide to the Chesapeake Bay: Phase I* as well as the new modules and the newly created resource database that was completed in this Phase II project). The training should be recorded to allow for wide sharing beyond the attendees. The target audience for the training includes: 1) county association and municipal league staff and 2) state agency staff who interface with local elected on clean water issues. Many target audience members are already LLWG members, but some additional outreach by the contractor will be needed to engage five to ten additional attendees. The contractor will provide the list of all contacts invited to the training and all attendees of the training. Finally, the contractor will create a two-page Factsheet summarizing the project. Deliverables for this Step include: • Agenda for training (Word) • List of Attendees and contact information for training (Excel) • Recorded video of training (.mov or .mp4 or similar) • Factsheet summarizing project (Word)
Stakeholders/ Participants	• Local Leadership Workgroup (LLWG) • Local Government Advisory Committee (LGAC) • CBP Coordinators/Staffers (C/S) • Communications Workgroup (Comms WG) • Enhancing Partnering, Leadership and Management GIT • Subject Matter Experts (SME) from other Bay program GITs/Workgroups, who will review draft modules as needed
Deliverables	1. Kick-off meeting notes 2. Meeting summary of group meetings and/or quarterly meetings 3. Three or four draft and final modules 4. Three or four draft and final factsheets 5. Draft Plan for online database/repository 6. Final (revised) Plan for web product 7. Minimum viable product/beta version (Web Product) 8. Final online database/repository of educational materials and resources 9. Agenda for training 10. List of Attendees and contact information from training 11. Recorded video of training 12. Factsheet summarizing project

QAPP Requirement	No, a QAPP is not required.
Qualifications of Bidder	• Local government experience, specifically experience communicating with local elected officials • Familiarity with the Chesapeake Bay Watershed Agreement and Chesapeake Bay Program Partnership • Understanding of the Local Leadership Workgroup's work to increase the knowledge and capacity of local officials, including but not limited to A Local Government Guide to the Chesapeake Bay: Phase I • Demonstrated experience facilitating collaborative efforts and meetings • Familiarity with flood mitigation, stormwater mitigation, wetland restoration, fish habitat, and land use • Experience developing content in various delivery methods, including web-based resource repositories • Graphic design capabilities • Demonstrated experience with user research and web design (including back-end and front-end design)

Scope 8: Facilitating Brook Trout Outcome Attainability through Coordination with Chesapeake Bay Program (CBP) Jurisdictions and Partners

GIT	Habitat (GIT 2)
Maximum Bid Amount	$80,000
Purpose and Outcomes	The Brook Trout Workgroup (BTWG) is requesting support to coordinate workgroup activities and products with the Chesapeake Bay Program (CBP) Goal Implementation Teams (GITs) to help ***identify opportunities for cross-GIT collaborations and improve our ability to track progress in achieving the CBP Brook Trout Outcome*** (an 8% increase in brook trout habitat). The contractor will also strengthen communication and coordination with other stakeholders (e.g., Trout Unlimited, watershed groups) to develop synergies in goals and objectives relating to brook trout restoration and conservation goals across the Chesapeake Bay Watershed. Improved coordination will be measured by the extent of new stakeholder data on brook trout conservation projects contributing to meeting the Brook Trout Outcome. The contractor will collect and compile existing data from stakeholders and analyze monitoring and implementation data necessary to adequately track progress towards achieving the Brook Trout Outcome. The BTWG is currently working with the CBP Data Center Team to develop a tracking/reporting application that will support quality assurance (QA) procedures, and a completed database. For this project, ***the contractor will work with the Data Center Team and the stakeholders currently collecting these data to populate a functional system to better measure the Brook Trout Outcome performance.*** An additional measurement of this project will be the increased focus and collaboration that will be brought to the outcomes in the other GITs and associated workgroups that support brook trout habitat, including the outcomes described below. <u>The Project Outcomes include the below:</u> 1. Building stronger ties to improve relationships both within the CBP and with external stakeholders/partners by increasing coordination between the groups listed in bullets below. The success of these coordination efforts will be measured by documenting meetings held, points of contact (POCs) identified, and identifying commonalities and overlaps across the

Purpose and Outcomes (continued)	groups and recommendations as part of a final report. We expect that this project will help to align priority activities among the following workgroups: • The Habitat Goal Implementation Team's (GIT 2) Brook Trout Workgroup, Stream Health Workgroup, and Fish Passage Workgroup; • The Sustainable Fisheries Goal Implementation Team's (GIT 1) Fish Habitat Workgroup; • The Water Quality Goal Implementation Team's (GIT 3) Forestry Workgroup and Land Use Workgroup; • The Maintain Healthy Watersheds Goal Implementation Team (GIT4); • The Fostering Chesapeake Stewardship Goal Implementation Team's (GIT 5) Stewardship Workgroup; • Climate Resiliency Workgroup (CRWG); • Relevant agencies in states with brook trout populations (New York, West Virginia, Pennsylvania, Maryland and Virginia); and • Other stakeholders (e.g., Trout Unlimited, Western Pennsylvania Conservancy) 2. Developing appropriate reporting metrics and a reporting framework, by compiling and analyzing existing data with conservation and reporting projects, that can be continued after this project ends. This will enable the BTWG to accurately assess progress toward the outcome and increase our understanding of the status in meeting the outcome, as this information is currently unknown.
Project Steps and Timeline	**Step 1: 6/1/2022 – 6/30/2022** The contractor will meet virtually (or in-person) with the GIT Technical Lead and the Project Steering Committee for a kick-off meeting to discuss the project goals and objectives, deliverables, timeline, and the role and expectations of the contractor. The kick-off meeting will also be used to collaboratively develop the project workplan and discuss the external stakeholders and local decision makers that should be included in project coordination tasks. Following the kick-off meeting, the contractor will continue to draft the workplan and will have a completed final workplan submitted to the Project Steering Committee for review. To better coordinate across CBP GITs/Workgroups, the workplan should include coordination with workgroups responsible for outcomes associated with climate monitoring and assessment, climate resiliency, fish passage, stream health, forest buffer, tree canopy, land use methods and metric development, and protected lands. The Draft Workplan should include a list of potential questions for conversations with other GITs/ relevant external organizations. This list of questions will be determined by the contractor and the Project Steering Committee and will include general questions that will be consistent for all organizations plus some questions which may be unique (as needed) to a particular group. The Draft Workplan will be submitted to the GIT Technical Lead and the Project Steering Committee for comments. <u>Deliverables for this Step include</u>: • Kick-off meeting minutes including list of attendees (Word) • Draft Workplan (Word)
	Step 2: 7/1/2022 - 9/30/2022 The contractor will attend a check-in/teleconference with the GIT Technical Lead and the Project Steering Committee at least every other week. A Final Workplan will be submitted that addresses comments to the Draft Workplan, submitted in Step 1, due to the GIT Technical Lead and Project Steering Committee by 7/15/2022. The contractor will submit quarterly progress reports that should include a summary of activities, accomplishments, potential obstacles, and supplemental information. The contractor will work with the Project Steering Committee to collate a list of relevant organizations (e.g., CBP teams, agencies, NGOs, etc.) and Points of Contact (POCs) that may possess data on completed and/or in-progress brook trout conservation and restoration projects across the Chesapeake Bay Watershed. After generating a list of an estimated 10 to 15 relevant organizations/POCs, the contractor will meet virtually (or in-person) with representatives from the various groups, relevant organizations and POCs to discuss the questions finalized in Step 1. After meeting with the identified organizations/POCs, the

Project Steps and Timeline (continued)	contractor will submit a list of organizations contacted, the name/information for points of contact, as well as summaries of the answers to the questions developed in Step 1. The contractor will continually work with CBP Data Team on the database including developing appropriate reporting metrics and the process for collecting data from organizations (the reporting framework).
	Deliverables for this Step include:
	• Quarterly Progress Report (Word)
	  • Spreadsheet of organizations contacted and summary of response (Excel)
	  • Final Workplan, due 7/15/2022 (Word)

	Step 3: 10/1/2022 - 12/31/2022 The contractor will attend a check-in/teleconference with the GIT Technical Lead and the Project Steering Committee at least every other week. Following the initial meetings with relevant organizations/POCs completed in Step 2, the contractor will continue to lead the Workplan efforts of coordinating with organization POCs and CBP Data Team to collect relevant data on previously completed and in-progress brook trout conservation and restoration projects. The contractor will work with the CBP Data Team to continue developing appropriate reporting metrics and the process for collecting data from organizations (the Draft Reporting Framework) that can be continued by the BTWG after the contract ends. The contractor will submit a Draft Reporting Framework to the GIT Technical Lead and the Project Steering Committee for review and comment. During this timeframe, the Project Steering Committee will take the lead on creating materials and presenting them to CBP stakeholders, with assistance from the contractor. Deliverables for this Step include: • Quarterly Progress Report (Word) • Updated spreadsheet of organizations contacted and updates (Excel) • Draft Reporting Framework (Word)
	Step 4: 1/1/2023 – 3/31/2023 The contractor will attend a check-in/teleconference with the GIT Technical Lead and the Project Steering Committee at least every other week. After receiving feedback from the Project Steering Committee on the Draft Reporting Framework submitted in Step 3, the contractor will finalize this material. The contractor will lead the efforts to coordinate testing of draft the database/reporting tool with stakeholders/CBP Data Team, will collate and analyze feedback from testing, and will update the database/reporting tool as appropriate. Note that while the contractor will be leading these efforts regarding the draft database, the CBP IT Team will lead construction of the database, with minimal assistance needed from the contractor. The contractor will continue to assist the Project Steering Committee and BTWG leads with their presentations to the CBP stakeholders. Deliverables for this Step include: • Quarterly Progress Report (Word) • Final Reporting Framework (Word)
	Step 5: 4/1/2023 – 4/30/2023 The contractor will attend a check-in/teleconference with the GIT Technical Lead and the Project Steering Committee at least every other week. The contractor will lead work efforts with organization POCs and CBP Data Team to collect current data and fully populate and implement database/reporting tool framework and results of analyses. The contractor will deliver a draft report on activities and results. This report will include a compilation of all activities to date (from previous progress reports) as well as a "how-to guide" chapter. The how-to guide" chapter will provide a recommended approach on how to maintain newly established lines of communication with other GITs/Stakeholders for continued collaborative efforts and data-sharing moving forward. If necessary (as determined by the contractor and Project Steering Committee), this "how-to guide" chapter may be drafted separately from the report and submitted as a separate document. Deliverables for this Step include: • Draft Report on activities and results, including a "how-to guide" chapter (Word)
	Step 6: 5/1/2023 – 5/31/2023 The contractor will attend a check-in/teleconference with the GIT Technical Lead and the Project Steering Committee at least every other week. The contractor will revise the Draft Report based

Project Steps and Timeline (continued)	on reviews and feedback to create final version. A PowerPoint presentation of the Final Report will be created by the contractor, for use in assisting the Project Steering Committee with presentations to CBP stakeholders. The contractor will present the final report on activities and results to the Brook Trout Workgroup and cross-GIT stakeholders. Finally, the contractor will create a Factsheet summarizing the project (two pages). Deliverables for this Step include: • Final report on activities and results, including a "how-to guide" chapter (Word) • Presentation of the final report on activities and results (PowerPoint). • Factsheet summarizing project (Word)
Stakeholders/ Participants	• Eastern Brook Trout Joint Venture • National Fish & Wildlife Foundation • State & Natural Resource Agencies • Relevant cross-GIT workgroups: GIT 1 (Fish Habitat Workgroup), GIT 2 (Stream health and Fish Passage workgroups), GIT 3 (Forestry and Land Use Workgroups), GIT 4, GIT 5 (Stewardship Workgroup), and STAR (Climate Resiliency Workgroup) • Trout Unlimited
Deliverables	1. Kick-off meeting minutes 2. Draft and Final Workplan 3. Quarterly Progress Reports 4. Spreadsheet of organizations contacted and summary of answers to questions 5. Draft and Final Reporting Framework 6. Draft and Final Report on activities and results, including a "how-to guide" chapter 7. Presentation of the final report on activities and results 8. Factsheet summarizing project
QAPP Requirement	No, a QAPP is not required.
Qualifications of Bidder	• Familiarity with the Chesapeake Bay Program • Familiarity with Eastern Brook Trout (EBT)/other species conservation/restoration approaches • Familiarity with database development/management • Demonstrated experience coordinating stakeholder collaborations, including facilitation, across a wide range of stakeholder organizations (e.g., state/federal agencies, NGOs, CBP workgroups)

Scope 9: A Population Simulation Model for Blue Crab Stock Assessment Performance Evaluation

GIT	Sustainable Fisheries (GIT 1)
Maximum Bid Amount	$80,000
Purpose and Outcomes	Blue crab management in the Chesapeake Bay is based on an annual assessment of stock status relative to reference points for adult female abundance and harvest. Comprehensive, accurate stock assessment models are therefore necessary to ensure a sustainable and productive blue crab population and fishery. The Chesapeake Bay Stock Assessment Committee (CBSAC), a technical workgroup composed of fisheries managers and scientists from around the Bay, provides support and advice for blue crab science priorities and management. Development of a blue crab population simulation model was identified as a high-priority science need by CBSAC in recent years, as there is currently no model that simulates the blue crab population in the Chesapeake Bay (beyond the existing stock assessment model). This project aims to address this identified science need by developing a spatially-explicit simulation model that would essentially create a naturally-behaving, virtual population to which

Purpose and Outcomes (continued)	different parameter estimates (e.g., fishing pressure, natural mortality) could be applied to predict how the population would respond. This simulation model would allow CBSAC to test the assumptions of the stock assessment model currently being used to manage the population. For example, the current stock assessment model assumes natural mortality and catchability are the same for males and females, but if they are in fact different, the simulation model could be used to determine how those discrepancies affect the stock assessment model's performance. By running various scenarios (based on thoughtful, deliberate hypotheses) through the simulation model and comparing the results to the current stock assessment model, CBSAC could identify factors that are introducing bias and make the appropriate corrections to the stock assessment model. The simulation model should also be able to predict out-of-sample indices of abundance with reasonable accuracy and precision. The results of this project could confirm the robustness of the current blue crab management framework or identify the need to adjust the framework through a benchmark stock assessment. The simulation model could also be used for a future management strategy evaluation by applying various harvest strategies and regulations to determine which would best achieve the fishery management objectives. This project therefore has a direct link to management by providing a better understanding of our current assessment model assumptions and a foundation for management strategy evaluation to ensure that we are using the best framework to manage the Chesapeake Bay blue crab population. The blue crab population simulation model would also have utility in years to come as it could be maintained and updated by CBSAC with no additional funding, unless fundamental changes to the model need to be made. Because the model development requires knowledge of modeling, population dynamics, blue crab biology and ecology, and fishery management, preference will be given to proposals with a collaborative approach and interdisciplinary team.
Project Steps and Timeline	**Step 1: 7/1/2022 – 9/30/2022** Meet with the CBSAC at project initiation for a kick-off meeting to discuss the project goals, deliverables, timeline, data sources, and analytical approach. The contents of the draft QAPP will be discussed during the kick-off meeting. The contractor should develop minutes for this kick-off meeting, which should include an initial list of hypotheses for the simulation model to test; these hypotheses may be refined as the project progresses. CBSAC will act as the Project Steering Committee for this project, and the contractor will meet with CBSAC at the end of each quarter (3-month periods) to discuss progress. The GIT Technical Lead will schedule and coordinate the kick-off meeting, and the contractor will be responsible for scheduling and organizing all quarterly progress meetings. In addition to quarterly meetings, progress reports will also be submitted to the Trust, the GIT Technical Lead, and CBSAC at the end of each quarter (every 3 months). During this timeframe, the contractor should also prepare and submit a draft QAPP to the EPA, allowing 45 days for review. After receiving EPA feedback on the draft QAPP, the contractor should submit a final QAPP with appropriate edits and the necessary signatures back to the EPA for final approval. Guidance for developing a QAPP for secondary data can be found at https://www.epa.gov/quality/quality-assurance-project-plan-requirements-secondary-data-research-projects. This project will be covered under the Chesapeake Bay Program Quality Management Plan (QMP), so the following statement should be included in the QAPP: "All data-related tasks being carried out as a part of this project are covered by the U.S. EPA Region 3 Quality Management Plan." Deliverables for this Step include: • Summary of the minutes from the kick-off meeting with CBSAC, including the initial list of hypotheses to be tested (PDF) • Draft QAPP (Word) • Final (signed) QAPP (PDF) • Quarterly progress report, including a project update, issues and concerns, and any additional information that will improve the project going forward (PDF)

Project Steps and Timeline (continued)	**Step 2: 10/1/2022 - 12/31/2022** Compile all relevant biological and fisheries data into a database (e.g., Excel, Access). This should include blue crab abundance and harvest data from Maryland, Virginia, and the Potomac River. CBSAC and other Chesapeake Bay Program (CBP) partners and stakeholders can provide support for identifying and accessing appropriate datasets. Once all the appropriate data are collected and examined, the contractor should develop an analytical framework including the data, variables, models, and spatial/temporal scales that will be used to simulate the blue crab population response to various scenarios. The contractor should expect to present this framework to CBSAC and the GIT Technical Lead at the progress meeting at the end of the quarter. *Suggested data sources include (but are not limited to):* Maryland Department of Natural Resources • Blue Crab Winter Dredge Survey • Blue Crab Summer Trawl Survey • Blue crab harvest reports Virginia Institute of Marine Science • Blue Crab Winter Dredge Survey • Juvenile Fish and Blue Crab Trawl Survey • Chesapeake Bay Multispecies Monitoring and Assessment Program Virginia Marine Resources Commission • Blue crab harvest reports Potomac River Fisheries Commission • Blue crab harvest reports Patuxent Environmental and Aquatic Research Laboratory • George Abbe Blue Crab Pot Survey Deliverables for this Step include: • Database of all biological and fisheries data and sources (Excel) • Presentation of proposed analytical framework submitted (PowerPoint and PDF) • Quarterly progress report (PDF)
	Step 3: 1/1/2023 - 3/30/2023 Develop a population simulation model for blue crabs in the Chesapeake Bay using appropriate statistical/modeling software. The simulation model should be able to address as many of the hypotheses identified in Step 1 as practicable. The contractor should also document all decisions made throughout model development and testing to provide context on the approach and techniques used. For example, if certain hypotheses cannot be tested with the model, an explanation with explicit reasoning should be provided. Deliverables for this Step include: • Population simulation model script (code) and any relevant outputs • Documentation of all decisions made throughout model development and testing (Word) • Quarterly progress report (PDF)
	Step 4: 4/1/2023 – 6/30/2023 Compare the simulation model output to available population data to ensure the simulation model behaves as expected. The simulation should be able to predict out-of-sample indices of abundance with reasonable accuracy and precision. The contractor will present the model validation results to CBSAC during a quarterly meeting and the model will be refined as needed, including the hypotheses tested. Deliverables for this Step include: • Model validation script (code) and results, including the prediction skill of the model • Quarterly progress report (PDF)

Project Steps and Timeline (continued)	**Step 5: 7/1/2023 – 9/30/2023** Conduct experiments with the simulation model to test how the current stock assessment model performs under different hypotheses identified throughout the project period (e.g., sex-specific natural mortality, survey catchability, etc.), and demonstrate how the model can be used for Management Strategy Evaluation (https://www.integratedecosystemassessment.noaa.gov/national/management-strategy-evaluations). Deliverables for this Step include: • The simulation experiment script (code) and results • Quarterly progress report (PDF)
	Step 6: 10/1/2023 – 11/17/2023 Prepare a draft report for the project that includes all model code and outputs in addition to the analytical approaches used and the results. The draft report should be submitted to the GIT Technical Lead and CBSAC six weeks prior to the end of the project period. CBSAC and the GIT Technical Lead will provide edits and feedback in preparation for the final report. Deliverables for this Step include: • Draft report (Word) for review and feedback.
	Step 7: 11/18/2023 – 12/31/2023 After receiving feedback on the draft report, the contractor should finalize the report and work with the CBP and NOAA Chesapeake Bay Office communications teams to develop the language for communication products (e.g., web articles) aimed toward the CBP and the general public. The CBP communication teams will create the communications products, but the contactor will be expected to provide language and review the products to ensure the results of the project are accurately represented and communicated. During this timeframe, the contractor should also present the final project results to relevant stakeholders across the Chesapeake Bay Program (CBP), such as the Sustainable Fisheries Goal Implementation Team, at either in-person meetings or via webinar. Finally, the contractor will create a factsheet summarizing the project (two pages). Deliverables for this Step include: • Presentation of final project (PowerPoint and PDF) • Final Report package (PDF), including the editable database and the modeling code and output files • Factsheet summarizing project (Word)
Stakeholder Participants	• Chesapeake Bay Stock Assessment Committee • Sustainable Fisheries Goal Implementation Team • Maryland Department of Natural Resources • Virginia Marine Resources Commission • Potomac River Fisheries Commission
Deliverables	1. Meeting minutes from the project kick-off 2. Draft and Final (signed) QAPP 3. Quarterly progress reports 4. Database of all biological and fisheries data used in the analyses and the sources 5. Presentation of proposed analytical framework including the data, variables, models, and temporal/spatial scales 6. Copy of the population simulation model code and outputs 7. Documentation of decisions made throughout model development and testing 8. Copy of the simulation model validation code and results 9. Copy of the simulation experiment code and results 10. Draft and Final project report 11. Presentation of the final project results 12. Final report package (editable database, modeling code, and output files) 13. Factsheet summarizing project

QAPP Requirement	Yes, a QAPP is required.
Qualifications of Bidder	• Experience with fisheries survey and harvest data • Expert knowledge of blue crab ecology and biology • Knowledge of analytical modeling software • Experience developing population simulation models (include examples of previous modeling projects with the proposal materials) • Proficiency with database software and development • Strong written and verbal communication skills • Knowledge of the Chesapeake Bay blue crab fishery preferred Note: It is strongly recommended that the bidder put together a team that demonstrates the most expertise for all bullets above, including subcontracting steps of the project to present a collaborative approach for completing the project.

Scope 10: Updating the Chesapeake Conservation Partnership (CCP) Priority Habitat Dataset of the Chesapeake Conservation Atlas: A Scoping Project

GIT	Stewardship (GIT 5)
Maximum Bid Amount	$45,000
Purpose and Outcomes	The project will produce a report that describes various potential approaches, and associated resources required, for an updated, watershed-wide dataset of important habitat to guide land conservation and terrestrial and aquatic habitat conservation, restoration, and stewardship. ***This project is the first phase that will lead to a more detailed future project*** that will update the Chesapeake Conservation Partnership (CCP) Priority Habitat dataset (habitat dataset). See http://www.chesapeakeconservation.org/our-work/goal-mapping/habitat/. ***This first phase will result in a written document outlining the topics, data sets and analyses needed*** for updating the existing Priority Habitat dataset, which can be used for targeting, prioritizing, and understanding the value of certain landscapes, connectivity, wildlife, climate, and other important considerations for the Chesapeake region in a habitat context. The CCP Priority Habitat dataset depicts important habitat related to the Chesapeake Conservation Partnership's (http://www.chesapeakeconservation.org/) long-term habitat conservation goal: "Protect a network of large natural areas and corridors sufficient to allow nature to respond to a changing climate and land development and to support thriving populations of native wildlife, migratory birds, fish and plants and sustain at-risk species." The Priority Habitat mapping was conducted in 2017 and identifies important habitat (in acres) for conservation and identifies habitat already permanently conserved. However, it is anticipated that these acareages will change somewhat in the future as: (a) higher resolution land cover data is put into use and (b) we learn more about how climate change projections may affect habitat. ***Now is the time to investigate how the data changes and future climate change data will impact the CCP Priority Habitat dataset, its use, and future needs.*** The current Priority Habitat map was primarily produced by the North Atlantic Land Conservation Cooperative (NALCC) in consultation with the Regional Conservation Opportunity Areas Team of the Northeast Association of Fish and Wildlife Agencies. The NALCC or Nature's Network data (https://nalcc.databasin.org/datasets/3d670fad4c924e7ba2ae02f04a128256/) was the primary data used in the 2017 assessment. The scale of the data is consistent with National Land Cover Data (NLCD) 30m resolution and includes ancillary data to augment and improve understanding and resolution of the input data. However, with the completion of the Chesapeake Bay high

Purpose and Outcomes (continued)	resolution (1m and 10m) land use land cover and land use change data for the 2013/14 and 2017/18 years, there is the opportunity to further inform and improve the underlying datasets (e.g., higher resolution data) that would map habitat, be used to quantify/display habitat change, identify important habitats to protect/preserve and potentially restore, and with climate data inclusion to quantify/display resiliency and vulnerability outputs under various landscape change scenarios. All of these improvements and updated data delivery/display will support local decision-making (e.g., land-use planning, land protection and preservation, habitat restoration, communicating resiliency goals, etc.). Due to the differing methodologies used to create the Nature's Network data and the Chesapeake Bay Land Use/Land Cover data, an investigation is necessary to identify where utilizing higher resolution land cover data would improve scientific understanding of vital lands and habitat. The purpose of this improved scientific understanding is to communicate what the end-user can do with that information, (e.g., use the outputs to support their decision and policy-making, and informing the location and type of protection and/or restoration activity). ***This study should include an assessment of how the high-resolution data assists with the evaluation of (1) landscape scale and (2) individual and parcel scale land conservation projects.*** Investigating climate change projections and emerging data related, for example, to marsh migration and rising stream temperature and their effects on habitat is another key area of interest. This project is designed to be a roadmap for future updates to the Priority Habitat data and map, and will include engagement with and coordination of a stakeholder group, including end-users and a Project Action Team. This project will develop a series of guiding principles to assess current/future datasets and resulting models in use; recommend updates including specifics for cost, time, expertise, etc.; incorporate climate considerations and diversity, equity, inclusion, and justice (DEIJ) matters as applicable in the recommendations; coordinate and present to end-users throughout the project to ensure all steps and the outcome are well vetted, robust, and will ultimately be useful (by CBP/GIT and end-user/policy makers) to efforts related to protection, restoration, and habitat decision making. The end product will be a plan that can be implemented to realize these goals. ***This project is a "scoping project" and is the first phase that will lead to a more detailed future project that will update the CCP habitat dataset. This project requests the following:*** • Provide a scope of work describing the top approaches (based on stakeholder feedback) and resources (data, expertise, cost, etc.) required for an updated, Chesapeake Bay watershed-wide dataset of habitat important for sustaining native wildlife populations (e.g., migratory birds, fish), plants and at-risk species, to guide land conservation, and terrestrial and aquatic habitat conservation, restoration, and stewardship. The written document will outline the topics and analyses needed for updating the CCP Habitat dataset. In addition, this project will incorporate a stakeholder input process to ensure important habitat criteria used by Chesapeake Bay watershed jurisdictions are considered in the methodological alternatives, as well as an assessment of the limitations of the current habitat layer for targeting the resources and actions for conservation and restoration. • Provide recommendations related to data, methodology, process, timeline, and cost estimates for the updated habitat dataset for CCP, and will lay the foundation for ecological assessment, ecosystem service valuation, and a better understanding of high value habitats in need of protection. The CCP habitat dataset will be utilized by CBP workgroups to inform management actions related to important habitats for land conservation outcomes and beyond (e.g., a key habitat metric of the Chesapeake Healthy Watersheds Assessment includes the CCP Habitat dataset). • Provide a comprehensive foundation to support decision-making for programs such as the Chesapeake Watershed Investments for Landsccape Defense (Chesapeake WILD) Act, and implementation of the Department of Interior's America the Beautiful plan, to aid in both programmatic priority-setting and funding award decisions. Chesapeake WILD is required to

Purpose and Outcomes (continued)	"develop a comprehensive watershed-wide strategy supporting science-based activities targeting cost-effective projects with measurable results" and sees the Chesapeake Conservation Atlas (of which the habitat dataset is a component) as one of the key resources upon which "to identify and develop shared biological, ecological, and societal outcomes that reflect current and potential restored and conserved conditions of the natural lands, waters, and resources as called for in the law." <u>Additional notes on coordination:</u> This project includes coordination with the CBP GIS team, which have already engaged with a small team of subject matter experts in the development of this project. The GIT Technical Leads, who are on the CBP GIS Team, will faciliate this as part of the Project Action Team. The CCP Priority Habitat dataset (a subset of the CCP Atlas) is hosted on Natureserve's website and will require some coordination with Natureserve. Due to the unique nature of the CCP, the CBP web and communications team support is not needed except for some potential help to advertise and share the new dataset once the project is completed.
Project Steps and Timeline	**Step 1: Strategy Development, Kick-Off, and Stakeholder Interviews (7/1/2022 – 10/31/2022)** The contractor will convene an advisory team referred to as the Project Action Team that should include the GIT Technical Lead(s), pre-selected subject matter experts and member(s) of the CCP for a kick-off meeting was well as for quarterly check-ins throughout the project. The Project Action Team (expected to include six individuals and the contractor) will include CBP representatives from USGS and EPA as well as a representative from the CCP. A larger Stakeholder team will consist of habitat data subject matter experts, and representatives from key CBP GITs and workgroups, NGOs (land trusts, and potentially others) and natural resource/wildlife agency representatives, GIS and Land use / Land cover experts, and at least one climate scientist. Coordination with the Project Action Team is estimated to be quarterly and will inform each deliverable. Monthly calls with the GIT Technical Lead(s) will also be expected throughout the project. After the kick-off meeting, the contractor will work to draft a Project Strategy document to serve as a blueprint for the overall project and include milestones, reports, deliverables, and end products as well as a timeline for all deliverables. In addition, the Project Strategy should: • Develop a series of guiding principles that can be used to evaluate priority habitat model decision rules and data selection criteria informed by conservation biology, landscape ecology, and restoration science principles. • Develop process for getting to recommendations and associated cost estimates for translating these principles into potential GIS-based modeling approaches; including but not limited to, defining the GIS modeling expertise required, assessing cloud computing options and implications, identifying machine learning/Artificial Intelligence (AI) opportunities, etc. • Develop recommendations to ensure the Priority Habitat model has value in a cross-GIT/cross-Outcome or cobenefits context (i.e., incorporating Habitat values into the Chesapeake Assessment Scenario Tool (CAST)). • Assess the tradeoffs of applying high-resolution data for both landscape and local/parcel-level applications, including the ecological and computational impacts. The contractor will conduct 10 stakeholder interviews (estimated at 1 hour in length each) with key CBP staff, habitat experts, land conservation and restoration professionals, state and private stakeholders, Federal and State land protection programs, and land trusts, to understand current and future mapping needs. The Project Action Team will provide a list of recommended interviewees. The questions should be developed with and approved by the Project Action Team. Stakeholder interviews are designed to eliminate ambiguity and are focused on assuring data quality. The following are potential topics or questions for the interviews: • Determine existing and future habitat mapping needs of CCP (What are the most important considerations for updating the habitat dataset for CCP?).

Project Steps and Timeline (continued)	• Determine Habitat mapping needs for additional CBP Vital Habitat outcomes (https://www.chesapeakebay.net/what/goals/vital_habitats) that could benefit from high value habitat data. • Assess limitations in the current habitat layer for targeting conservation and restoration resources. • Investigate current and future habitat mapping needs. • Identify opportunities to investigate the intersection of important habitats and DEIJ issues relative to underrepresented populations, including locally significant conservation and restoration opportunities. • Document use cases related to how a stakeholder might use the data or information to make decisions related to land conservation or other management action, including restoration (for example, targetting tree planting to fill gaps in forested corridors to network connectivity). • Compile user needs research. • *Note: Some resources already exist in the form of user needs survey of GIT members, and cross outcome mapping needs research, (both completed in 2020-2021) the work will be to compile and summarize those resources as related to habitat mapping needs (with guidance from GIT Technical Lead).* Following these interviews, the contractor will summarize the interviews and develop draft key findings including potential use cases for the Priority Habitat dataset and compiled user needs research – specifically, the contractor will describe what cases are to be made for the Priority Habitat dataset and will compile user research needs. These findings and the summary of the project thus far will then be presented to STAR, CCP, Habitat GIT or other relevant venue(s), virtually or in person, incorporate feedback as guided by the Project Action Team. Deliverables for this Step include: • Meeting agenda, minutes, and key actions from kick-off meeting (Word) • Meeting agendas, minutes, and key actions from the quarterly meeting (Word) • Notes from monthly call with the GIT Technical Lead(s) (Word) • Draft Project Strategy (Word) • Final interview questions and list of interviewees (Excel) • Recorded interviews with the stakeholders (unedited recordings) • Summary of Stakeholder Interviews and Draft Narrative (Word) • Presentations to STAR, CCP, Habitat GIT (PowerPoint)
	Step 2: Habitat Models and Data Assessment (11/1/2022 – 2/28/2022) The contractor will investigate existing national, regional, and/or statewide habitat assessment models and key datasets used to support these models. This step will also include an investigation of existing habitat prioritization tools and models used by the CBP Vital Habitat GIT and Workgroup representatives. Finally the contractor will submit an inventory of potential overlays that highlight opportunities or impacts to habitat vulnerability and resiliency based on: (1) undderrepresented populations, (2) climate change, (3) population growth and development, and (4) protected lands. The contractor will assess other large landscape habitat assessment models, including those used by key national programs related to identification and conservation of high value habitat and vital lands. This would include but is not limited to the following: Chesapeake WILD, ESRI's Green Infrastructure Initiative, Center for Conservation Innovation, NatureServe's Biodiversity Importance Models, and the Department of Interior's America the Beautiful/American Conservation and Stewardship Atlas. The contractor will submit a Draft Assessment that provides a summary of each model invesigated, including the following: goals or objectives of the model, data requirements, applicable spatial scale, and management questions that could be addressed with the model or tool. Following the assessment of the large landscape models, the contractor will assess existing decision-support tools and key datasets in use by Vital Habitats GIT Workgroups to address Watershed Agreement Outcomes. The contractor will submit a Draft Assessment that provides a summary of each tool investigated, including the following: goals or objectives of the tool or dataset, the source data required to apply the model, any thresholds necessary for interpreting the data, sample management

Project Steps and Timeline (continued)	questions the tool aims to address, and the potential for leveraging high-resolution (1 meter) land use/land cover (if appropriate). The tool inventory should include tools identified from Step 1 during the stakeholder interview process. The following examples are illustrative, but should be confirmed during Step 1: • Existing CCP Priority Habitat model (GIT 5) • Natures Network composite model and individual components (GIT2, GIT 5) • Watershed Resources Registry (Forestry Workgroup, Wetlands Workgroup) • Chesapeake Healthy Watersheds Assessment (GIT 4) • Stream Health Assessment (Chessie BIBI) (Stream Health Workgroup) • Brook Trout Assessment Tools (Brook Trout Action Team, Eastern Brook Trout Joint Venture) • Black Duck Watershed Prioritization (Black Duck Action Team) • Predicted species occurrence and biodiversity abundance through various machine learning models (USGS, NatureServe) • National Fish Habitat Assessment (Fish Habitat Action Team) • Freshwater Network Fish Passage Prioritization- (Fish Passage Workgroup) • Others as identified by project leads and stakeholder interviews. The contractor will also assess important overlays potentially useful in evaluating habitat vulnerability and resiliency and submit a Draft Assessment of the results. Potential overlays include the below: • Climate Resilience (e.g., The Nature Conservancy's Resoilient Landscapes Tool, other climate change model scenarios) (Climate Resiliency Workgroup) • Land-use change projections under various planning scenarios (e.g., Chesapeake Bay Land Change Model) (Land Use Workgroup) • Environmental justice demographic data (e.g., EJ Screen) (Diversity Workgroup) • Protected Lands (Protected Lands Workgroup) • Parcel boundaries *Note: Data being assessed for this project will not be modified and used for purposes other than what the data were generated for originally.* <u>Deliverables for this Step include:</u> • Meeting agendas, minutes, and key actions from quarterly meeting (Word) • Notes from monthly call (once every two weeks) with the GIT Technical Lead(s) (Word) • Draft Assessment of other large landscape habitat assessment models (Word), that will become a chapter in the Final Report. • Draft Assessment of existing decision-support tools and key datasets to address Watershed Agreement Outcomes (Word), that will become a chapter in the Final Report. • Draft Assessment of important overlays potentially useful in evaluating habitat vulnerability and resiliency (Word), that will become a chapter in the Final Report.
	Step 3: Synthesis and Final Report (3/1/2023 – 5/31/2023) The contractor will submit a Draft Report of the synthesized summary of findings from Steps 1 and 2 was well as a set of recommendations for developing an updated priority habitat model. The recommendations should include: a description of specific data sets to include, the rationale for including them, any thresholds or interpretations of the data that would be necessary to understand the practical application of the data, and their relevance (if any) to each of the Outcomes associated with the Vital Habitats Goal of the Chesapeake Bay Watershed Agreement. The recommendations should also include an overview of the proposed geoprocessing (high-level) steps required to develop the CCP Priority Habitat dataset. The Draft Report should also include a discussion and recommendations for the types of management questions the priority habitat model could address, including a discussion of the potential Chesapeake Bay Program partnership audiences of the model. The Draft Report should discuss the appropriate scale for applying the proposed model and any limitations for using the model at a high-resolution or "parcel" scale. The Draft Report should include a high-level summary of the relationship and

Project Steps and Timeline (continued)	applicability of the updated model to the following topics: quantifying habitat-related ecosystem services, climate resiliency, restoration, proximity to underrepresented (demographic) populations, and vulnerability associated with population growth and development. The Draft Report should also include a cost estimate for developing the CCP Priority Habitat Dataset, a summary of the proposed expertise necessary to create the model, and a description of the database design required to house the input datasets and the model output. The contractor will submit the Draft Report to the Project Action Team for review and comment. The contractor will incorporate feedback from the Draft Report and submit a Final Report. Finally, the contractor will create a factsheet summarizing the project (two pages). <u>Deliverables for this Step include:</u> • Meeting agendas, minutes, and key actions from quarterly meeting (Word) • Notes from monthly call with the GIT Technical Lead(s) (Word) • Draft Report (Word) • Presentation(s) to STAR, CCP, Habitat GIT or other relevant venue(s) (PowerPoint) • Final Report (Word) • Factsheet summarizing project (Word)
Stakeholders/ Participants	Habitat Goal Team, Fish Passage Workgroup, Stream Health Workgroup, Wetland Workgroup, Brook Trout Action Team, Black Duck Action Team, STAR, Climate Resiliency Workgroup, Cross-GIT Program Coordinator, NGO partners, TNC, Audubon, Joint Ventures, Defenders of Wildlife, land trusts with history of using spatial data to ID conservation and restoration opportunities, Fed/State natural resource/wildlife agency reps (including state conservation agencies, USFWS, USGS, and National Park Service), and Chesapeake Conservation Partnership representatives.
Deliverables	1. Meeting agenda, minutes, and key actions from kick-off meeting 2. Meeting agendas, minutes, and key actions from quarterly meeting 3. Notes from monthly call with the GIT Technical Lead(s) 4. Draft Project Strategy 5. Final interview questions and list of interviewees 6. Summary of Stakeholder Interviews and Draft Narrative 7. Presentations to STAR, CCP, Habitat GIT 8. Presentations, stakeholder transcripts, and analyses 9. Draft Assessment of large landscape habitat assessment models 10. Draft Assessment of existing decision-support tools and key datasets 11. Draft Assessment of important overlays 12. Draft and Final Report 13. Factsheet summarizing project
QAPP Requirement	No, a QAPP is not required.
Qualifications of Bidder	• Experience in facilitating discussions amongst wide-ranging groups and conducting interviews • Demonstrated capability to develop strategic plans to achieve objectives • Experience in estimating costs of completing data collection, analysis, tool development; using spatial data and analytical methods to assess landscape/watershed function with a focus on habitat suitability; developing data visualization and decision-support tools • Knowledge of and familiarity with geospatial mapping, data management and data analysis on as-needed basis may include, but are not limited to, geospatial application design and implementation; needs assessment; database design and development; advanced data analysis and data modeling; for the purpose of describing next steps for dataset creation • Capacity to undertake the project during the proposed project period and submit a complete set of deliverables in a timely manner

Qualifications of Bidder (continued)	• Demonstrated ability to translate user needs (such as building upon an existing dataset) into solutions (through materials that will inform management actions related to important habitats for land conservation outcomes and beyond)

Scope 11: Understanding and Addressing the Impacts of Wetland Mowing to Facilitate Meeting the Chesapeake Bay Wetland Enhancement Goals

GIT	Habitat (GIT 2)
Maximum Bid Amount	$75,000
Purpose and Outcomes	The majority of tidal wetlands in the Chesapeake Bay Watershed are located on private property and are therefore managed by private landowners (including homeowners and residents). Consequently, how tidal wetlands are managed by private landowners has a tremendous influence on the suite of ecosystem services the wetlands can provide over space and time. Since the upper limits of tidal wetlands flood infrequently, these private landowners often have difficulty discerning the line between tidal wetlands and uplands, especially when the landscape is dominated by grasses. As a result, grass lawn mowing by landowners can often inadvertently extend into tidal wetland such as high marshes; neighbors often take cues of where to stop mowing from their adjacent landowners, which can further exacerbate tidal wetland mowing. These factors contribute to unintended, adverse impacts on tidal wetlands. Other landowners knowingly mow tidal wetlands for a variety of reasons, including but not limited to: a mowed path for access to piers/docks, personal aesthetics, to maintain a lawn-like landscape in order to prevent the growth of tall grasses which are considered by some as suitable and likely habitat for snakes and/or rats (as well as ticks, snakes, mosquitoes, etc.), and to expand upland land use and recreation area. Wetland professionals acknowledge that wetland mowing is practiced throughout the Chesapeake Bay Watershed with unquantified impacts. Mowing wetland grasses and removing wetland shrubs can lead to multiple negative consequences, such as increased bank erosion, reduction in carbon sequestration, destruction of wildlife habitat, reduced water quality from nutrient runoff, decreased species diversity, the introduction of invasive and/or non-wetland plants, and improper land use. Based on decades spent walking tidal shorelines and observing in some cases commonplace mowing of the upper edge of tidal marshes, Wetland Workgroup members note that in some areas of the Watershed this practice can be widespread. In several states (such as Virginia), mowing wetlands is tolerated and law enforcement policies vary (i.e., The City of Norfolk, VA, has treated unpermitted wetland mowing as a violation of State wetland regulations and conducts enforcement to stop the practice, while most other Virginia localities do not). Conflicting perspectives from federal, state, and local regulatory entities on whether wetland mowing is a regulated activity (and results in adverse impacts to wetlands) or whether wetland mowing constitutes a violation of law leads to confusion and lack of awareness among private landowners regarding the impacts associated with this behavior. **The scope of this project includes gathering data to inform an understanding of the potential impact and extent of tidal wetland mowing across the entire Chesapeake Bay Watershed.** This project will focus on characterizing mowing prevalence and estimating the extent of the practice in the tidal areas of Maryland and Virginia to establish a baseline of the practice. Estimating the spatial extent of tidal wetland mowing will provide information necessary to quantify the impacts posed by wetland mowing and to assess if there is a benefit to engaging in behavior change initiatives with private landowners to reduce wetland mowing. At the completion of this project, the CBP will be able to provide qualified estimates of tidal wetland mowing to state and federal regulators to communicate the extent of this issue and ensure there is awareness related to existing mandates for wetland protection (and no net loss of

Purpose and Outcomes (continued)	wetlands) and for future wetland policy considerations. The findings will also help inform the next phase of this project; subsequent phases of this project would aim to reduce or eliminate this practice among private landowners through a social marketing strategy for the behavior change of this target audience, the development of communications materials, technical assistance, and/or enhancements to statutory and regulatory programs, local policies, and state laws regarding wetland mowing. The goal of this project is to estimate the current amount and extent of wetland mowing in the tidal areas of MD and VA through stratified random sampling representative of the variable topographies and development patterns (i.e., urban and rural, inner and outer coastal plain), or aerial imagery or a similar scientifically valid approach from coastal MD and VA to set the baseline. Specific outcomes include: 1. Compilation of the laws, regulations, and enforcement practice relative to wetland mowing through a policy review and interviews with key tidal wetland regulators 2. Determination of the present extent and location of wetland mowing to establish a baseline acreage from which to measure potential wetland enhancement acreage that would result from a future landowner behavior change project 3. Identification of possible geographies in MD and VA where it would be most beneficial to focus follow-up phases of this project based on the deliverables from this phase (maps and tables that show where this behavior is most prevalent) 4. Follow-up communication of the extent of wetland mowing to state and federal regulators in VA and MD An identified end-user of the deliverables from this project will be the Project Steering Committee created as part of this project and the Wetland Workgroup members, who will use the information to inform the next phase of the project. Establishing a standardized method in this scope to develop an estimate of the current extent of tidal wetland mowing will establish a baseline. In the future, social marketing techniques to private landowners could then be employed. Using the same standardized method from the baseline study (following implementation of social marketing techniques), metrics could then be generated to quantify the effectiveness of the social marketing campaign and any behavior change that may occur after subsequent phases of this project. These metrics would be used to track progress toward the wetland enhancement goal. Another end user of the deliverables will be regulatory and non-regulatory agencies. The Wetland Workgroup will distribute the results of this project to these agencies for informational purposes. This project is one phase of a larger effort that will ultimately inform a long-term, multi-phase effort to reduce the behavior and practice of tidal wetland mowing and make progress towards Chesapeake Bay Program Partnership wetland enhancement goals and outcomes. This project will also support progress toward meeting the Wetland Outcome under the Vital Habitats Goal within the Chesapeake Bay Watershed Agreement (https://www.chesapeakebay.net/documents/FINAL_Ches_Bay_Watershed_Agreement.withsignatures-HIres.pdf). For example, the reduction of wetland mowing would contribute toward the goal of enhancing the functionality of an additional 150,000 acres of degraded wetlands by 2025. This project will build upon previously completed social marketing research and initiatives through the Chesapeake Bay Program, such as behavior-change trainings and webinars, including the GIT-funded project "Behavior Change Training and Submerged Aquatic Vegetation Pilot Implementation" (completed in April 2021, CB Trust SAV Report) and the GIT-funded projects "Shoreline Marketing to Improve Shoreline Management," (completed in January 2021, Final Shoreline Implementation Plan and Shoreline Management Barriers and Benefits) and "Developing Communications and Guidance on Shoreline Protection Options for Coastal Landowners" (completed in December 2021, Living Shoreline Outreach Implementation Plan).

Purpose and Outcomes (continued)	The overall goal (beyond this scope) of the phased larger effort will be to develop and implement a multi-phase project resulting in tool development (outreach materials, marketing products, model ordinances) to reduce or eliminate the practice of tidal wetland mowing.
Project Steps and Timeline	**Step 1: Complete QAPP and Hold Kick-Off Meeting (6/15/2022 – 10/1/2022)** Meet with the project team and convene the Project Steering Committee (invited by the project team and the Wetland Workgroup and identified by the GIT Technical Lead for this project) for a project kick-off meeting to discuss the full suite of project deliverables and timeline. The contents of the draft QAPP will be discussed during the kick-off meeting. The contractor will be responsible for initiating contact and scheduling the kick-off meeting. Note that the "project team" refers to the GIT Technical Lead, the authors of this proposal, and the contractor team. The "Project Steering Committee" refers to an expanded group that includes the same members of the project team, plus representatives from the Wetland Workgroup, EPA CBP GIS team, and other individuals that the project team identifies. Before any data collection begins, the contractor must develop and receive approval of a Quality Assurance Project Plan (QAPP). All data-related tasks being carried out as a part of this project are covered by the EPA Region 3 QMP. The contractor will submit a draft QAPP to the EPA. General guidance on QAPP's can be found on the EPA QAPP website: https://www.epa.gov/osa/elements-quality-assurance-project-plan-qapp-collecting-identifying-and-evaluating-existing. The contractor will receive comments from the EPA within 45 days and must resubmit a final QAPP with necessary signatures in place to the EPA to receive the approved QAPP. Once the EPA approves the final QAPP, the project can begin. Deliverables for this Step include: • Kick-off meeting notes and list of attendees (Word or PDF) • Draft QAPP (Word) by 7/15/2022 • Final (signed) QAPP (PDF)
	Step 2: Literature and Policy Review and Interviews (10/1/2022 - 12/1/2022) The contractor will review relevant work to familiarize themselves with this topic, including federal, state and/or local laws and policies in Maryland and Virginia addressing wetland mowing. Since enforcement postures are often based on interpretation of the written regulations, the contractor will also interview key local, state, and federal tidal wetland regulatory permit and enforcement personnel to determine if tidal wetland mowing is a regulated activity, and to determine if tidal wetland mowing is considered a violation of existing regulations (estimate 10 to 20 interviews). The GIT Technical Lead will provide a list of contacts to the contractor for potential interviews. Prior to conducting the interviews, the contractor will provide the list of interview questions to the GIT Technical Lead for approval. The contractor will be responsible for contacting and setting up interviews. The contractor will provide a summary of the policy review and interviews that outlines state and local laws, policies, regulations, and on-the-ground applications of policy regarding wetland mowing in both Maryland and Virginia. The GIT Technical Lead and project team will review and provide comments within one week. The contractor will incorporate the feedback from the project team and provide a final draft of the summary. The contractor will also provide a summary of the interviews that were conducted and a list of the contacts that were interviewed. The language will be included in the final project report due at the end of the project. Deliverables for this Step include: • Draft Summary of Laws and Policies by 11/15/22 • Final List of Interview Questions (Word) by 11/15/22 • Draft-Final Summary of Laws and Policies • Summary of Interviews (PDF) • List of Contacts Interviewed (Excel)
	Step 3: Determination of Project Geography (Extent), Selection of Sample Locations, Development of Project Methodology, and Creation of a Mowing Index GIS Layer For Sample Area (12/1/2022 - 3/1/2023)

Project Steps and Timeline (continued)	Task 1: The contractor will work with the project team to define a target geography (or geographies) of shoreline communities in coastal Maryland and Virginia with low elevation landscapes and tidal marsh along the shoreline. A minimum of four locales or communities that represent urban or suburban (high density development) and rural landscapes (low density development) in both Maryland and Virginia will be selected for an initial sample analysis. Task 2: The contractor will propose and present a method for determining the locations of tidal wetlands that are currently being mowed, the selected study area geographies, and for determining the areal extent of mowed wetlands within the sample area in MD and VA to a joint virtual meeting of the Project Steering Committee and the Wetland Workgroup. The contractor will coordinate with the GIT Technical Lead to identify and select the most useful among existing data sources to be used for the analysis. The contractor will use GIS data layers of existing tidal wetlands in MD and VA. For example, the "1972 Tidal Maps in Maryland" exist through MERLIN (https://gisapps.dnr.state.md.us/MERLIN/index.html) and the "Tidal Marsh Inventory" in Virginia exists through AdaptVA (http://cmap2.vims.edu/AdaptVA/adaptVA_viewer.html). Potential methods for determining the locations of tidal wetlands that are currently being mowed may include stratified random sampling that is representative of the variable topographies and development patterns (i.e., urban and rural, inner and outer coastal plain), collection and interpretation of aerial imagery, or a similar scientifically valid approach. Mowed wetlands may be identified in remotely sensed imagery based on several factors which include, but are not limited to: 1. short wetlands vegetation has a different "roughness" appearance from natural marshes particularly where mowing has suppressed the commonly occurring ecotone shrub species like *Baccharis* and *Iva* 2. mowed wetlands can differ in color signature from natural wetlands due to less healthy vegetation stressed by mowing and the color of the substrate (soil) becomes a part of the color signature for wetland plants mowed to the height of typical turf grasses; and/or 3. the occurrence of mowed wetlands flanked by unmowed wetlands (with similar elevation profiles). The Project Steering Committee will provide feedback to the GIT Technical Lead for consideration. With the agreement of the GIT Technical Lead, the contractor will identify a final repeatable methodology to determine the prevalence and estimate extent of wetland mowing within the selected sample geographies. With the concurrence of the GIT Technical Lead, the contractor will implement an appropriate methodology to generate a "mowing index" GIS data layer. The mowing index will be used to indicate the presence of mowing occurring within the geographic sample area using a threshold and criteria agreed upon by the contractor and GIT Technical Lead. Task 3: The contractor will develop draft report language detailing the data and methodology that was used to create the mowing index. The draft language will be provided to the Project Steering Committee and project team. The Project Steering Committee will have seven days to provide their feedback to the GIT Technical Lead, who will review all feedback and provide comments back to the contractor. The contractor will incorporate the feedback from the project team and submit the draft-final data and methodology text to describe the mowing index, which will be included as a chapter in the final report due at the end of the project. Deliverables for this Step include: • Draft data and methodology text to describe the mowing index (Word) by 2/1/2023 • A map showing the shoreline communities in coastal Maryland and Virginia with low elevation landscapes and tidal marsh along the shoreline and the areas selected for the sample analysis (shapefile and PDF of maps) • A map showing the "mowing index" of the sample area as determined by the analysis (shapefile and PDF of map(s)) including calculations of areas affected by mowed wetlands)

Project Steps and Timeline (continued)	• A zip file of the analysis including the project file, raw data, shapefiles, models, scripts, GIS layers, JPEGs, and any other data used to complete the analysis (if the file is too large to be transferred over email it can be provided on a USB) • Draft-Final data and methodology text to describe the mowing index (PDF) • Meeting minutes and list of attendees from Project Steering Committee meeting
	Step 4: Verification of Sample Analysis (3/1/2023 – 5/1/2023) The contractor will verify the analytical results of the sample analysis in Step 3 via a QA/QC process. Validation may involve ground-truthing via physical site visits, on the water observations, communications with wetlands regulators, coastal managers, or watershed organizations or a combination of methods. Validation may result in the development of confidence limits, model validation, etc. The contractor will develop draft report language detailing the verification process, if/how it effects the results, and how they will adjust the methods of the analysis if necessary. The contractor will provide this draft report language to the project team. The project team will have one week from the date of delivery to provide their feedback to the GIT Technical Lead, who will review all feedback and provide comments back to the contractor. The contractor will incorporate the feedback from the GIT Technical Lead and provide draft-final language on the verification methods text, which will be included as a chapter in the final report due at the end of the project. Deliverables for this Step include: • Draft text detailing the verification process (Word) by 4/15/2023 • Draft-Final report text detailing the verification process (PDF)
	Step 5: Extrapolation Analysis from Sample Area to Full Study Area (5/1/2023 – 7/1/2023) Based on the information generated in Step 3 and the verification process in Step 4, the contractor will develop a method for extrapolating the analysis from the sample area (minimum of four selected localities) in Step 3 to all tidal wetlands on private landowner property in Maryland and Virginia. The contractor will meet with the project team for approval of this method and will then implement the analysis, resulting in the "mowing index" GIS data layer for the full study area. The mowing index will be used to indicate the presence of mowing occurring within all privately-owned tidal areas in MD and VA using a threshold and criteria agreed upon by the contractor and GIT Technical Lead. The contractor will develop draft report language detailing the data and methodology that were used to extrapolate the analysis from the sample area to the full study area and provide it to the Project Steering Committee and project team. The Project Steering Committee will have seven days to provide their feedback to the GIT Technical Lead, who will review all feedback and provide comments back to the contractor. The contractor will present their extrapolation method to a joint virtual meeting with the Wetland Workgroup and the Project Steering Committee. The contractor will incorporate the feedback received on the draft report and during the presentation to the Wetland Workgroup and provide draft-final language to the project team and Project Steering Committee. The draft-final language will be added to the methods section, which will be included as a chapter in the final report due at the end of the project. Deliverables for this Step include: • A zip file of the analysis including the project file, raw data, shapefiles, models, scripts, GIS layers, JPEGs, and any other data used to complete the analysis (if the file is too large to be transferred over email it can be provided on a USB) • A map showing the "mowing index" of the full study area as determined by the analysis (shapefile and PDF of map(s)) including a calculation of the area affected by mowed wetlands) • Draft text detailing the data and methodology used to project the analysis from the sample area to the full study area (Word) by 6/1/2023 • Draft-Final report text detailing the data and methodology used to project the analysis from the sample area to the full study area (PDF) • Meeting minutes and list of attendees from Project Steering Committee meeting

Project Steps and Timeline (continued)	**Step 6: Interpretation of Data to Inform Next Phase of Project (7/1/2023 – 9/1/2023)** Task 1: Using the mowing index for the full study area developed in Step 5, the contractor will create metrics to help determine the Bay-wide extent and location of wetland mowing (e.g., percentage of wetlands in the study area that are being mowed for instance by using random stratified surveys of aerial imagery to detail the area mowed vs not mowed, percentage of homeowners participating in this behavior, breakdown of data per state, etc.). The contractor will write a draft results section for the final report with this information and provide it to the Project Steering Committee and project team. They will have seven days from the date of delivery to provide their feedback to the GIT Technical Lead, who will review all feedback and provide comments back to the contractor. Task 2: The contractor will present the results of the analysis to the Project Steering Committee and project team in a virtual meeting. The contractor will provide recommendations for next steps based on these results, and the Project Steering Committee will discuss if the behavior is prevalent enough to pursue a behavior change campaign in follow-up phases (based upon the characterized severity). Recommendations from the contractor may include, but are not limited to, applications of project data to wetlands planning and decision-making (e.g.., communication and decision support tools) and opportunities for the CBP to apply information learned. The contractor will incorporate the feedback on the draft results from the GIT Technical Lead and add their recommendations for next steps to create the draft-final text of the results, which will be included as a chapter in the final report due at the end of the project. Deliverables for this Step include: • Draft results of the project including statistics that detail the extent and severity of wetland mowing (Word) by 8/1/2023 • A list of attendees and minutes from the Project Steering Committee meeting (PDF) • Draft-Final results of the project including statistics that detail the extent and severity of wetland mowing, and the list of recommendations for next steps (PDF)
	Step 7: Prepare Draft-Final Report (9/1/2023 – 11/1/2023) The contractor will draft language for the "lessons learned" chapter and the "limitations/caveats on the final deliverables." Incorporating the previously drafted sections from Steps 2 through 6, the contractor will prepare a draft-final report with the following sections: 1. Cover; 2. Executive Summary; 3. Table of contents, list of figures, list of appendices; 4. Introduction and background sections; 5. Policy review and interview summaries; 6. Discussion of the data and methods used, including the verification process chapter; 7. Results of the analysis chapter; 8. Recommendation for next steps chapter; 9. Lessons learned chapter; 10. Description of any limitations/caveats on the final deliverables chapter; and 11. All maps and tables and a sampling of high resolution photographs created throughout the project. The draft-final report will be provided to the Project Steering Committee and the project team by 11/1/2023. They will have seven days from the date of delivery to provide their feedback to the GIT Technical Lead, who will review all feedback and provide one set of consolidated comments back to the contractor. Deliverables for this Step include: • Draft-final report (Word)
	Step 8: Prepare Final Report, Create Final Project Package, and Present Final Products and Deliverables to Wetland Workgroup (11/1/2023 – 1/1/2024) The contractor will incorporate edits received from the GIT Technical Lead on the draft-final report and create a final project package. The final project package will be delivered to the GIT Technical Lead and will include Word and PDF copies of all documents. The contractor will present the final results of the project and their recommendations for next steps to the Project Steering Committee and Wetland Workgroup members at a Wetland Workgroup meeting. The GIT Technical Lead or another Project Steering Committee member will provide presentations and collaboration with other interested GITs and workgroups, as coordinated through the WWG,

Project Steps and Timeline (continued)	for input and feedback on project activity and output relative to other outcomes. Finally, the contractor will create a factsheet summarizing the project. Deliverables for this Step include: • The final project package, which includes the following: o Final (signed) QAPP (PDF) o Final report, with all components identified in Step 7 (Word and PDF) o Editable electronic copy of the final presentation to the Wetland Workgroup will be submitted to the GIT Technical Lead at the time of the presentation (PowerPoint) o Factsheet summarizing project (Word)
Stakeholders/ Participants	Stakeholders include but are not limited to: • Project Steering Committee • Wetland Workgroup • Habitat Goal Team • Fish GIT • Water Quality GIT • Regulatory agency interviewees
Deliverables	1. Draft and Final (signed) QAPP (Step 1) 2. List of contacts Interviewed and summary of Interviews 3. Final Report 4. Zip file of the analysis including the project file, raw data, shapefiles, models, scripts, GIS layers, JPEGs, and any other data used to complete the analysis (if the file is too large to be transferred over email it can be provided on a USB) 5. Meeting minutes and list of attendees from all Project Steering Committee meetings 6. PowerPoint presentations from all Project Steering Committee and Wetland Workgroup meetings 7. Factsheet summarizing project
QAPP Requirement	Yes, a QAPP is required.
Qualifications of Bidder	Required Qualifications: • Extensive and proven knowledge of tidal wetlands and mowed tidal wetland conditions in the Chesapeake Bay watershed • Expertise in geospatial analysis, particularly with wetland and land-use data and remote sensing and aerial photo interpretation Preferred Qualifications: • The Project Team includes one certified professional wetland scientist and one professional geospatial analyst and; • A diverse project team, which is defined as incorporating a HBCU and/or an MBE/DBE/WBE/SBE-certified firm as either the applicant or as the subcontractor(s). Expertise for all bullets above, including subcontracting steps of the project to present a collaborative approach for completing the project

Scope 12: Data Review and Development of Multi-Metric Stream Health Indicators

GIT	Habitat Goal Implementation Team (GIT 2)
Maximum Bid Amount	$75,000
Purpose and Outcomes	The Stream Health Workgroup's (SHWG) 2019 Work Plan includes action items to identify additional parameters or metrics to describe and quantify stream health to complement existing biological indicators (as described in **Action #1.3** and **#4.1** of the Logic and Action Plan:

Purpose and Outcomes (continued)	https://www.chesapeakebay.net/documents/22039/2021.10.28_-_shwg_-_2022-2024_logic__action_plan_final_draft_to_srs.pdf). To complete these action items, the SHWG developed three Phases (1, 2, and 3) in collaboration with the United States Geological Survey (USGS) to better understand the drivers and stressors affecting stream health throughout the Chesapeake Bay watershed. **Phase 1** was completed by USGS and identified the most significant stressors to stream health in the Bay. **Phase 2** was initiated in 2020 and examined research to quantify the effects of selected water quality Best Management Practices (BMPs) on these stressors, linking how stressors are impacted by BMPs, and will help guide jurisdictions in the selection of BMPs to improve stream health beyond nutrient and sediment reductions, Phase 2 will be completed in mid-2022. Preliminary results from Phase 1 and Phase 2 indicate that multiple stressors that are impacting stream health (either singularly or in combination) – *are not accounted for* in the Bay's current Total Maximum Daily Load (TMDL) allocations of nitrogen, phosphorus, and sediment and are not necessarily reduced by BMPs designed to meet these TMDLs. These preliminary results find that priority stressors include salinity ions, toxic contaminants, and geomorphological characteristics, but the importance of each of these stressors differs for urban and agricultural watersheds. Furthermore, BMPs vary in their ability to address stressors impacting local stream health. The final key findings from Phase 1 and Phase 2 will help to identify BMPs and/or modify BMP designs to best address stressors impacting stream health. This project is part one (A) of the final phase (Phase 3), of the three-phase Action Item targets in Stream Health Workgroup's 2019 Work Plan mentioned in the above paragraph. ***This project (Phase 3A) will begin to address the question outlined in the SHWG's Logic and Action Plan: "Following the implementation of management efforts, how is stream health changing, and how can we better characterize the response through non-biological metrics?"*** Millions of dollars are invested in management actions annually to address the Bay's TMDL, yet studies often find limited biological or ecological lift in local streams. Many BMPs currently being implemented throughout the watershed may not improve in-stream health. For example, stormwater BMPs and other projects intended to reduce nutrient and sediment loads into local streams are generally designed to regulate runoff during and after precipitation events, but don't necessarily improve in-stream habitat. Stream restoration BMPs can improve in-stream habitat but may not improve water quality stressors such as toxic contaminants or high salinity. More needs to be done to understand and communicate how streams respond to management actions once priority stressors are mitigated or removed. This remains a significant science and management need. Currently, the Chesapeake Basin-wide Indicator of Biological Integrity (Chessie BIBI) is the sole indicator of stream health utilized by the Stream Health Workgroup. While it is an excellent indicator of the overall biotic community, it does not necessarily reflect BMP-driven improvements in hydraulics, geomorphology, and physicochemical qualities which are also components of stream health. The main outcome of the full **Phase 3** plan is the identification of additional non-biological metrics that may complement the Chessie BIBI. These additional metrics will help us better understand the trajectory of stream health (e.g., improving or declining) by expanding the SHWG assessment of stream health to include factors beyond the biological stream community throughout the Chesapeake Bay watershed. *The focus of this project (Phase 3A) is to create a matrix of many stream health metrics that may be used as additional indicators for the SHWG outcome. This project will only include those metrics within two of the lower levels of the stream function pyramid: geomorphology and hydraulics.* (Harman, W., et al. A Function-Based Framework for Stream Assessment and Restoration Projects. 2012. EPA 843-K-12-006. https://www.epa.gov/ sites/default/files/2015-08/documents/a_function_based_framework_for_stream_assessment_3.pdf). Limiting this project's scope to these lower tiers will allow us to explore the associated metrics in more detail. Information for each identified metric will include but is not limited to the availability of data,

Purpose and Outcomes (continued)	collection timeframe, regional coverage, type of data (measured vs modeled), and data sources/contacts. This matrix will be created to appeal to the broadest audience possible, to be available for use by other work groups and jurisdictions throughout the watershed. To that extent, this matrix should be filterable by parameters such as physiographic region, land use or other, higher order landscape variables. This project will include a final report and presentation detailing the applicability and broad recommendations for the identified metrics, as well as recommended next steps for additional work.To develop the matrix, the contractor will mine existing data resources to identify practical, measurable, and repeatable data that may be used to develop additional metrics to enhance the characterization of stream health. This includes a review of the Healthy Watersheds Assessment Tool to evaluate its applicability to stream health (https://www.chesapeakebay.net/channel_files/26540/chesapeake_healthy_watersheds_assessment_report.pdf) In addition, data mining of existing data resources such as expert reports and databases – like those maintained by the Interstate Commission on the Potomac River Basin (ICPRB) and Chesapeake Bay Program (CBP) – will be included. The contractor will complete exploratory statistical analyses of the data given the potential metrics. The specific type of analysis will depend on the type of information available (e.g., nominal, interval, ratio) that will provide preliminary information regarding the suitability of additional metrics to evaluate stream health. As part of this review process, each metric will be evaluated for its potential for how it accounts for climate change. These two steps will create a matrix of metrics and include information regarding their use as a Bay-wide indicator. Future work not included in this project will further refine the matrix developed in **Phase 3A**. **Phase 3B** will extend analyses to include additional non-biological metrics such as physiochemical parameters, and further narrow down the recommended metric(s). Following **Phase 3B, Phase 3C** will complete the plan with a more in-depth analysis to select metrics and develop communication tools. Ultimately the completed Phase 3 project (**Phases 3A** through **3C**) will provide a readily communicative and more robust means to characterize local stream health and understand the response of a stream's ecosystem functions to stressors and/or management actions to remove them. Additional outcomes of the overarching plan include increasing the knowledge of stream health indicator metrics to inform future management actions to better measure stream health outcome performance. At the completion of the full Phase 3 plan (**Phases 3A**, **3B,** and **3C**), the SHWG will make recommendations to the CBP Management Board to adopt these additional metrics to evaluate stream health as part of the Bay-wide report card. The SHWG will work with the Chesapeake Bay Program Office (CBPO) Communications Team to publicize the use of these recommended metrics for jurisdictions with Municipal Separate Storm Sewer Systems (MS4s) and other communities to apply in their evaluation of local stream health.
Project Steps and Timeline	**Step 1: 5/1/2022 – 8/31/2022** The contractor will meet with the GIT Technical Lead at project initiation for a kick-off meeting to discuss the project goals, deliverables, timeline, data sources, and analytical approach. During the kick-off meeting, a Technical Advisory Group (TAG) for this project will be formed. The TAG will include the SHWG Co-Chairs and staffer, and invitations for participation will be sent to selected personnel at USGS, ICPRB and other members of SHWG, Healthy Watersheds GIT, Toxic Contaminants Workgroup and Urban Stormwater Workgroup. Other interested parties may be identified and included by the TAG and project partners. The contractor will be responsible for drafting and distributing the agenda and meeting minutes from this kick-off meeting. The meeting minutes document will contain information discussed during the meeting, as well as a list of the identified TAG Members and their contact information. A Quality Assurance Project Plan (QAPP) will be required for this project and the contents of the draft QAPP should be discussed during the kick-off meeting. General guidance on QAPP's can be found on the EPA QAPP website: https:// www.epa.gov/osa/elements-quality-assurance-

Project Steps and Timeline (continued)	project-plan-qapp-collecting-identifying-and-evaluating-existing. All data-related tasks being carried out as a part of this project are covered by the EPA Region 3 Quality Management Plan (QMP). The contractor will receive comments from the EPA within 45 days and must resubmit a final QAPP with necessary signatures in place to the EPA and receive approved QAPP. Assume two weeks for revisions and two weeks for the EPA to give final approval. This must be done before data collection and analysis can occur. Deliverables for this Step include: • Meeting agenda and minutes from the kick-off meeting (Word) • List of TAG Members (Excel) • Draft QAPP/QMP (Word) • Final (signed) QAPP (PDF)
	Step 2: 9/1/2022 - 10/31/2022 The contractor will meet with the Healthy Watersheds GIT to get an understanding of the GIT and to determine if the Healthy Watersheds Assessment can be used to extract metrics. If the contractor is unable to use the Healthy Watersheds Assessment, they will work with the Healthy Watersheds GIT to determine why and identify alternative sources. During this time, the contractor will also meet with ICPRB and CBP personnel to review and identify non-tidal stream databases relevant to identifying parameters for metric development. The contractor will also identify other existing databases and tools as appropriate. The contractor will develop a Draft Framework and list of data sources/databases to be used to identify practical, measurable, and repeatable data that may be developed into additional indication metrics. The framework will include sections such as identified parameters, databases, and potential methods for analysis. Deliverables for this Step include: • Meeting agenda and minutes (Word) • Draft Framework (Word) • Draft list of data sources and databases identified (Excel)
	Step 3: 11/1/2022 - 11/31/2022 The contractor will present (likely virtual) the Draft Framework and identified data sources/databases to the TAG and the SHWG in a joint meeting and will facilitate feedback on these documents. In addition to the presentation, the contractor will also be responsible for drafting and distributing the agenda and meeting minutes, which will be submitted to TAG and the SHWG. Following the meeting, the contractor will incorporate feedback and revise these documents for final submission to the TAG. Deliverables for this Step include: • Presentation to TAG and SHWG (PowerPoint) • Meeting agenda and minutes (Word) • Final (Revised) Framework (Word) • Final list of data sources/databases (Excel)
	Step 4: 12/1/2022 – 3/31/2023 The contractor will perform data mining based on the results of Step 3 for the purpose of identifying a preliminary suite of hydraulic or geomorphology variables that could be used as metrics to measure stream health. The contractor will create a data inventory matrix that includes identified variables and information relevant to the use of each variable as an indicator. Additionally, the contractor will perform exploratory analyses to narrow down the list of variables/indicators and rank as high, medium, or low potential as a hydraulic and geomorphic indicator based on data quality, availability, and scale (local or watershed-wide), and other factors as deemed relevant. Following this step, the contractor will provide written recommendations on the indicators that best meet the identified criteria and recommendations for further evaluation and their development Bay-wide. The Data Inventory Matrix and written indicator recommendations will be submitted to the TAG. Deliverables for this Step include: • Data inventory matrix (Excel) • Recommendations for further indicator evaluation (Word)

Project Steps and Timeline (continued)	**Step 5: 4/1/2023 – 4/30/2023** The contractor will present (likely virtually) preliminary results from Step 4 at a joint TAG and SHWG meeting. In addition to this presentation, the contractor will be responsible for drafting and distributing the agenda and meeting minutes, which will be submitted to the TAG and SHWG. Deliverables for this Step include: • Presentation to TAG and SHWG (PowerPoint) • Meeting agenda and minutes (Word)
	Step 6: 5/1/2023 – 6/30/2023 During this time, the contractor will prepare a draft report, which will be submitted to the TAG and the SHWG by 6/01/2023, therefore allowing one month for review and comments, prior to Step 7. This report will build off the Final (Revised) Framework developed above in Step 3 and will include an executive summary, purpose of the analysis and selection of indicators, description of methods and information sources, data inventory matrix, summary of data analyses, key findings and recommendations for potential indicators, and next steps for further analysis and refinement. Deliverables for this Step include: • Draft Project Report (Word)
	Step 7: 7/1/2023 – 8/31/2023 Following the submission of the draft report in Step 6, the contractor will address comments and edits submitted by the TAG and SHWG and revise the draft Project Report accordingly. The contractor will submit the Final Project Report to the TAG and SHWG by 7/31/2023. This document will contain the initial information described in Step 6 updated to reflect the comments/edits received in Step 7. The completed and Final Project Report will identify a preliminary suite of hydraulics or geomorphology variables that could be used as indicator metrics, and broad recommendations for moving forward based on data quality, availability, and scale (local or watershed-wide). The contractor will also deliver the information contained in this report via a (most likely virtual) presentation at a combined TAG/SHWG meeting. In addition to the presentation, the contractor will be responsible for drafting and distributing the agenda and meeting minutes for this meeting, which they will submit to TAG and the SHWG. Finally, the contractor will create a Factsheet summarizing the project (two pages). Deliverables for this Step include: • Final Project Report (Word) • Presentation to TAG and SHWG (PowerPoint) • Meeting agenda and minutes (Word) • Factsheet summarizing project (Word)
Stakeholders/ Participants	• Healthy Watersheds GIT, Chesapeake Bay Program • Habitat GIT, Chesapeake Bay Program • Toxic Contaminants Workgroup, Chesapeake Bay Program • Urban Stormwater Workgroup, Chesapeake Bay Program
Deliverables	1. Meeting Materials for meetings held throughout the project 2. Draft and Final (signed) QAPP 3. Draft and Final Framework 4. Draft and Final list of identified data sources and databases 5. Presentations to TAG and SHWG held throughout the project 6. Data Inventory Matrix 7. Written recommendations for further indicator evaluation 8. Draft and Final Project Report 9. Factsheet summarizing project
QAPP Requirement	Yes, a QAPP is required.

Qualifications of Bidder	• Experience in riverine science and knowledge of the Chesapeake Bay Program partnership • Experience with data analytics and business intelligence tools like Tableau and RShiny • Competency in secondary data analyses and statistical expertise • Experience collecting, assembling, quality assuring, analyzing, and disseminating data from disparate sources • Experience facilitating discussions amongst wide-ranging groups; developing strategic plans to achieve objectives; estimating costs of completing data collection, analysis, tool development; developing data visualization and decision-support tools • Ability to translate scientific data into relevant management recommendations • Experience developing comprehensive metadata and metadata standards • Experience developing data reports and incorporating edits from multiple reviewers • Relevant experience completing projects of similar size and scope; *Bidder must list three examples of similar projects completed in the past five years.*