OFFICE OF WATER
WASHINGTON, D.C. 20460

July 10, 2024

MEMORANDUM

SUBJECT: *Bipartisan Infrastructure Law: Gulf Hypoxia Program FY 24 Guidance for State Cooperative Agreements*

FROM: Bruno Pigott, Acting Assistant Administrator

TO: EPA Regional Water Division Directors
State Hypoxia Task Force Members

1. Introduction

On November 15, 2021, President Biden signed the *Bipartisan Infrastructure Law*. The law's transformational investment in clean water includes more than $50 billion for water infrastructure and water resource protection to the U.S. Environmental Protection Agency, the single largest investment in clean water that the federal government has ever made. Through BIL, the EPA is investing in critically needed strategies to improve water quality in the Mississippi/Atchafalaya River Basin and reduce the low oxygen, or "dead," zone in the northern Gulf of Mexico. Specifically, BIL includes $12 million per year for five years ($60 million in total) for actions to support the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force's (Hypoxia Task Force or HTF) Gulf Hypoxia Action Plan through a new Gulf Hypoxia Program, or GHP.

The HTF is composed of five federal agencies,[1] 12 states[2] bordering the Mississippi and Ohio rivers and the National Tribal Water Council. The EPA and the state of Iowa serve as Co-Chairs of the HTF. Three multi-state sub-basin committees and a Land Grant University consortium ("Partners") are key participants. Through this investment, the EPA continues to build on its partnership with states, Tribes and Partners to make significant progress toward reducing nutrient loads that will improve water quality in the Gulf and throughout the MARB. The GHP will enable the states to provide tangible benefits to communities and ecosystems across the region that depend on clean water. Through improved water quality, communities across the MARB can benefit from safer drinking water, protected fisheries and a more stable economy. Over $21.5 million of GHP funds have been awarded to the HTF states to implement nearly 60 projects across the MARB. The GHP also funds eligible MARB Tribes and

[1] National Oceanic and Atmospheric Administration, U.S. Army Corps of Engineers, U.S. Department of Agriculture, U.S. Department of Interior and U.S. Environmental Protection Agency.
[2] Arkansas, Illinois, Indiana, Iowa, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Ohio, Tennessee and Wisconsin.

Partners to support the Gulf Hypoxia Action Plan. The Tribal GHP, announced in December 2022,[3] funds 15 Tribes within the MARB area of the HTF states to establish or enhance existing nutrient reduction programs. The Partners GHP, announced in May 2023,[4] consists of three sub-basin committees and one Land Grant University Consortium. Partners have begun implementing workplans to support the HTF states and Tribes, improve basin-wide communications and augment water quality monitoring across the MARB.

This implementation memorandum is a supplement to the EPA's June 9, 2022, memorandum, *Bipartisan Infrastructure Law: Gulf Hypoxia Program FY 22 Guidance for State Cooperative Agreements,* (first state implementation memorandum)[5] and applies to the remaining FY24-FY26 GHP appropriations. It provides information on GHP priorities and guidelines on how the EPA will distribute funds as cooperative agreements[6] to the HTF member states. This memorandum is organized in the following manner:

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2. GHP Requirements

Tracking of funds. GHP funds are required to be awarded and tracked separately from other EPA State and Tribal Assistance Grants or Environmental Program and Management funds, such as those from *Clean Water Act* Sections 319 or 106, Gulf of Mexico Division Farmer to Farmer grant programs, or those in a state Performance Partnership Grant. States may use GHP cooperative agreement funds to provide subawards, contracts or interagency agreements. GHP funds must be tracked separately from other federal or non-federal funds, either through a separate task or a phased approach.

Match. There are no match requirements in the BIL applicable to the GHP funds; states must justify any sub-grantee match requirements.

[3] https://www.epa.gov/system/files/documents/2022-12/Gulf%20Hypoxia%20Program%20FY%2023%20Tribal%20Implementation%20Memo.pdf
[4] https://www.epa.gov/system/files/documents/2023-05/Signed%20Memo%20BIL%20GHP%20IM%20SBC%20and%20LGU_May%202023_508.pdf
[5] https://www.epa.gov/system/files/documents/2022-06/BIL%20GHP%20State%20Guidance%20FY%2022%20-%20June2022_Final_signed.pdf
[6] GHP grants and cooperative agreements are awarded under Federal Assistance Listing 66.485.

Cooperative agreements. The EPA will award most of the BIL funding in equal amounts to states through cooperative agreements which will allow for close collaboration between the EPA and individual states to advance the Gulf Hypoxia Action Plan goals. The EPA has also made modest awards to eligible Tribes, sub-basin committees and a Land Grant University consortium. As noted in section 1, the EPA has issued separate memoranda for those awards.

Cooperative agreement timelines are to be no more than five years. The HTF states should develop workplans that consider the timeline of their first GHP cooperative agreement. The estimated project period for these cooperative agreements may begin as soon as the first quarter of 2025, with work expected to be completed by the end of the fifth year following the award of a cooperative agreement.

Non-competitive awards. The EPA will make awards on a non-competitive basis, State recipient agencies must be determined by the states; they must be a state-funded entity or state agency.

Authority. The BIL statutory language[7] is the authority for the state cooperative agreements and directs that equal funding amounts shall be provided annually to the HTF member states. Appropriations are provided for annual funding for FY22-FY26.

Funding amounts. Funding available to ensure equal GHP amounts per state is based on funds awarded through the first state implementation memorandum:

- Arkansas: $2,514,116
- Illinois: $2,514,116
- Indiana: $2,514,116
- Iowa: $2,166,569
- Kentucky: $2,514,116
- Louisiana: $2,514,116
- Minnesota: $2,514,116
- Mississippi: $2,514,116
- Missouri: $1,765,783
- Ohio: $2,514,116
- Tennessee: $2,514,116
- Wisconsin: $2,514,116

Project areas. The BIL authorizes funds to support the implementation of the Gulf Hypoxia Action Plan; therefore, project funding must be expended in the MARB[8] part of the HTF member states and Tribal lands. GHP-funded state staff must support Gulf Hypoxia Action Plan implementation. These GHP-funded staff can also work on broader state nutrient reduction projects or projects in other geographic areas, provided other funds are used to support their work in areas of the state outside of the MARB. States should note the percentage of staff time in the budget worksheet (see Appendix 1, Documents 2 and 5) that will be used to support the Gulf Hypoxia Action Plan.

***National Environmental Policy Act* & Cross-Cutting Authorities.** All GHP state cooperative agreement awards include a programmatic term and condition directing the state to comply with relevant requirements for activities that may implicate NEPA and Cross-cutting Authorities (see Appendix 2). States may not expend EPA funds on the workplan activities prior to the EPA's approval of compliance with NEPA and the Cross-cutting Authorities.

***Build America, Buy America Act*.** All GHP state cooperative agreement awards include a programmatic term and condition directing the state to comply with relevant requirements for infrastructure projects that may implicate the BABA Act (see Appendix 3).

[7] P.L. 117-58

[8] The MARB is defined as Hydrologic Unit Codes 05, 06, 07, 08, 10, and 11 (https://water.usgs.gov/GIS/huc.html).

***Davis-Bacon Act* and Related Acts Prevailing Wage Requirements.** Consistent with Executive Order 14052, *Implementation of the Infrastructure Investment and Jobs Act*, as states implement GHP workplans, they should enforce long-standing *Davis-Bacon Act* and related acts prevailing wage requirements across projects that receive GHP resources, as required under federal law; encourage pre-apprenticeship, registered apprenticeship and youth training programs that open pathways to employment; and encourage any state GHP funded subgrantees or contractors to support safe, equitable and fair labor practices, for example by considering, among other things and where applicable and consistent with state and local law, adoption of collective bargaining agreements, local hiring provisions, project labor agreements and community benefits agreements.

Investing in America Signage. For construction projects, states must place a sign at construction sites in accordance with the cooperative agreement term and condition on signage.

2.1 Prioritizing and Defining Disadvantaged Communities

The EPA encourages states to prioritize funding in areas consistent with state nutrient reduction strategies that benefit disadvantaged communities. The EPA will work with states to target at least 35 percent of state projects to reduce nutrient pollution in watersheds that will directly benefit downstream disadvantaged communities and Tribes, and, where possible, seek to build the capacity of historically underserved communities to participate in nutrient pollution reduction activities. In the EPA's listening sessions regarding equity, states and Tribes have identified the need to build capacity in disadvantaged communities as a key foundation for equitable implementation of water programs.

Several efforts are underway at the EPA and across the federal government to define and identify disadvantaged communities. The EPA uses the new Climate and Economic Justice Screening Tool, or CEJST,[9] to address environmental justice as described in the *Interim Implementation Guidance for the Justice40 Initiative*.[10] The tool includes "interactive maps with indicators to assist agencies in defining and identifying disadvantaged communities." Details on what the CEJST includes and guidance on how to use it can be found in an addendum[11] to the Justice40 Interim guidance.

In addition to CEJEST, there are additional resources that may support identification of disadvantaged communities in this context:

- *Inflation Reduction Act Disadvantaged Communities Map*:[12] The EPA Inflation Reduction Act Disadvantaged Communities map combines multiple datasets that individually can be used to determine whether a community is disadvantaged for the purposes of implementing programs under the *Inflation Reduction Act*.
- The EPA's *Environmental Justice Screening and Mapping Tool*, or *EJScreen*,[13] continues to be a valuable tool for mapping a variety of environmental, social and economic factors including many that are considered disadvantaged community indicators.

[9] https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5
[10] https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf
[11] https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09_Signed_CEQ_CPO.pdf
[12] https://www.epa.gov/environmentaljustice/inflation-reduction-act-disadvantaged-communities-map
[13] https://www.epa.gov/ejscreen

Consistent with the *Bipartisan Infrastructure Law: Gulf Hypoxia Program FY 22 Guidance for State Cooperative Agreements* and the Office of Management and Budget's *Interim Implementation Guidance for the Justice40 Initiative*, this implementation memorandum offers flexibility to the HTF states in defining priorities to support disadvantaged communities. The HTF states may consider appropriate data, indices and screening tools (see examples in section 4, item 2) to determine the best uses of GHP funding to support implementation of state nutrient reduction strategies and the realization of these benefits in disadvantaged communities. An HTF state may use a definition of disadvantaged communities separate from those above that is consistent with Civil Rights Laws.

2.2 Building Resilience and Climate Mitigation into GHP Workplans

The EPA is committed to taking necessary actions to anticipate, prepare for, adapt to and recover from the impacts of climate change, while advancing the climate resilience of states, Tribes, territories and communities across the nation. States should consider how their water programs anticipate and prepare for climate-related impacts and disasters (e.g., droughts, floods, sea level rise, storm surge, changing salinity, extreme heat, wildfires); identify water quality actions that can also yield climate adaptation or mitigation co-benefits (e.g., nature-based solutions for natural hazard mitigation); and ensure that other water program investments increase resilience to climate change.

The Federal Flood Risk Management Standard, or FFRM, is unlikely to apply to ecosystem restoration, conservation systems, best management practices, etc.; however, if a workplan includes an infrastructure investment that constitutes construction (e.g., erection, alteration, or repair (including dredging, excavating, and painting) of buildings, structures, or other improvements to real property)/significant improvement, the state would need to evaluate and implement their project in accordance with the FFRMS. Appendix 2 presents the GHP Compliance Implementation Approach for *NEPA* and the Cross-cutting Authorities, and this Cross-cutting Authority is referenced on page 3 of the *Crosscutting Authorities Review Table.*

2.3 Implementation of Equity and Climate Priorities in GHP Workplans

Environmental justice and addressing climate change are key EPA priorities reflected in the *FY 2022–2026 EPA Strategic Plan*,[14] which provides the framework for the EPA to integrate environmental justice considerations into its programs, plans, and actions, and to ensure equitable and fair access to the benefits from environmental programs for all individuals in both urban and rural communities. Consistent with Executive Order 14008 Section 223, *Tackling the Climate Crisis at Home and Abroad*,[15] the Justice40 Initiative, and Office of Management and Budget's *Interim Implementation Guidance for the Justice40 Initiative*,[16] the Strategic Plan establishes goals to reduce emissions that cause climate change and to accelerate resilience and adaptation to climate change impacts; promotes environmental justice; and protects civil rights at the federal, state and local levels. As the GHP contributes to these goals, the EPA encourages GHP funding target equity and climate resilience where possible and appropriate.

[14] https://www.epa.gov/planandbudget/strategicplan
[15] https://www.federalregister.gov/documents/2021/02/01/2021-02177/tackling-the-climate-crisis-at-home-and-abroad
[16] Federal agencies are required to consider how certain investments might be made toward a goal that 40 percent of the overall benefits of such investments flow to disadvantaged communities (https://www.whitehouse.gov/briefing-room/presidential-actions/2023/04/21/executive-order-on-revitalizing-our-nations-commitment-to-environmental-justice-for-all/).

In FY22, the EPA issued the *Interim Implementation Guidelines for Clean Water Act Section 604(b) Water Quality Management Planning Grants for Fiscal Years 2022 through 2026*.[17] In the guidance, the EPA recommends that states utilize funding increases received under the BIL to complete a comprehensive assessment of how their water quality programs support disadvantaged communities and climate resilience. The HTF states may use these assessments to develop and implement a plan for supporting disadvantaged communities and climate adaptation or mitigation activities across their *Clean Water Act* grants and BIL funding. **States should identify and prioritize eligible activities in GHP workplans that will accrue benefits to disadvantaged communities and advance climate goals**.

Examples of actions that further environmental justice and climate goals and that can be integrated into BIL GHP state workplans through the strategic outcomes described in Section 3 include:

- Reducing greenhouse gas emissions and/or enhancing carbon sequestration. (Strategic outcomes 2, 3)
- Creating community resilience plans that specifically include addressing needs of disadvantaged communities. (Strategic outcome 1)
- Increasing technical assistance and community engagement with disadvantaged communities. (Strategic outcome 1)
- Increasing flood mitigation benefits (e.g., green stormwater infrastructure, floodplain and wetland restoration). (Strategic outcomes 2, 3)

3. BIL GHP Eligible Activities for State Workplans

The HTF states must submit a cooperative agreement application, including a workplan for the desired length of two to five years, to receive the remaining allotment during FY24-FY26. The EPA expects states to use BIL funds to implement the Gulf Hypoxia Action Plan by scaling up implementation of nutrient reduction strategies to advance bold, systemic actions that accelerate nutrient load reductions in the MARB and to the Gulf of Mexico. The EPA expects state workplans to prioritize actions that are most effective at reducing nutrient loads, using proven and innovative approaches.

Workplans must support the four strategic outcomes described below. Sub-bullets are examples of activities that can be included in the workplan to support these strategic outcomes. Workplans must support the strategic outcomes, but specific activities should be tailored to the needs of the applicant. Proposed workplan activities should reference the portion of an existing or updated State Nutrient Reduction Strategy that these activities support:

1. **Support staff to implement the workplan.** States should strategically deploy staff to accomplish the goals of the GHP, convene public meetings, engage with Tribes, and support state, regional and basin-wide progress tracking. Staff can undertake a range of activities including but not limited to:
    - Implement, facilitate or advance new or existing state programs that reduce nutrient pollution, address the priorities of the GHP and advance the goals of the Gulf Hypoxia Action Plan.

[17] https://www.epa.gov/system/files/documents/2022-06/Final_604%28b%29%20Water%20Quality%20Managment%20Planning%20Grants%20Interim%20Implementation%20Guidelines%20signed%206.29.2022.pdf

- Participate in non-state programs, multi-state collaborations and agriculture-sector led convenings for coordination and knowledge sharing, such as State Technical Committee meetings convened by the U.S. Department of Agriculture Natural Resource Conservation Service, agribusiness initiatives that advance water quality and efforts led by non-government organization to improve water quality.
- Convene and engage partners and stakeholders in priority MARB watersheds, including county and local governments, farmers and ranchers, and Tribes.
- Advance Gulf Hypoxia Action Plan goals in disadvantaged communities and on Tribal lands.

2. **Use state-level water quality programs and actions to advance nutrient reductions.** States should develop new or expand existing programs that measurably advance nutrient reduction goals articulated in their state strategies. States have the flexibility to invest in programs that may include but are not limited to the following objectives:
    - Accelerate technology adoption via strategic pay-for-success/outcome approaches and/or incentives.
    - Procure agricultural equipment (e.g., cover crop seeders) that can be shareable across thousands of acres.
    - Work with the agricultural sector to deploy farmer-led or supported efforts to document conservation advances through private investments.
    - Engage in innovative agriculture-water sector collaborations that implement projects to improve water quality.
    - Enable partner-led trainings, support farmer-led education and demonstrations, and employ new outreach approaches to increase participation of absentee landowners.
    - Conduct discrete and continuous real-time water quality monitoring, including in the ways described in Appendix 4.
    - Use the *Clean Water Act* assessment and listing process more fully and prioritize and implement Total Maximum Daily Loads and existing watershed plans for reducing nutrient pollution.
    - Further reduce nutrient loads from point sources.
    - Reduce nutrient loads from decentralized wastewater treatment systems, including straight pipes in disadvantaged communities, where a watershed plan developed under the *Clean Water Act* Section 319 grant program or another program indicates that they are critical sources. States may also develop new or amend existing watershed plans to identify additional critical source areas as appropriate. Work under these cooperative agreements should support coordinating with and leveraging the Clean Water State Revolving Fund and other funding sources.

3. **Implement projects in prioritized watersheds with the greatest opportunities for nutrient reductions.** States should focus project implementation in those high-impact watersheds and critical source areas where the greatest nutrient reductions can be achieved. State workplans and actions should support measures for documenting, validating and verifying conservation practice systems to quantify expected nutrient reduction, including practices with climate resilience benefits, such as carbon sequestration and flood and drought mitigation. For example, states can:

- Assess, prioritize and implement nutrient reduction actions that maximize benefits to disadvantaged communities and Tribes and strengthen the adaptive capacity of communities and ecosystems to climate change.
- Leverage watershed plans and other projects primed to begin implementation, such as engaging with initiatives including the *Clean Water Act* Section 319 grant program, Regional Conservation Partnership Programs, the Mississippi River Basin Healthy Watersheds Initiative, or the National Water Quality Initiative. In some cases, this may involve working with stakeholders outside of a larger program, like a non-government organization that is carrying out a specific project.
- Identify watersheds with a high level of stakeholder willingness to implement nutrient conservation and reduction practices and implement actions in those watersheds.

4. **Collaborate across state boundaries with the HTF partners.** States should leverage GHP funds to engage with the HTF members, partners and stakeholders to assess, track, report and communicate progress to the HTF member states and the public at state, regional and MARB scales. In addition to ongoing involvement with the HTF, engage and collaborate with the HTF Tribes and Partners (sub-basin committees and a Land Grant University Consortium) to grow partnerships and develop public communications at the basin-wide and sub-basin scales. States should coordinate, consolidate and improve access to data collected by state, Tribal, and federal agencies, and present basin-wide and sub-basin progress toward Gulf Hypoxia Action Plan goals. Examples of activities include but are not limited to the following:
    - Explore nutrient reduction opportunities in shared priority watersheds and coordinate information sharing, water quality monitoring activities and nutrient reduction or other nonpoint source projects with Tribes that share natural resource and water quality interests with a state.
    - Develop networks and methods with other HTF states to share, address and overcome common challenges, such as NEPA compliance, annual grant reporting, and public communications, among other shared efforts.
    - In addition to HTF Partner initiatives to enhance sub-basin and basin-wide coordination and communication, share data and strategy implementation outcomes with Partners, coordinate water quality monitoring, and participate in development and use of basin-wide communications strategies.
    - Adopt or adapt successful programs to reduce nutrient loading from other HTF states and establish channels to collaborate on and improve similar programs.

Workplans must reflect strategic outcomes 1-4 described above in addition to any further outcomes that are most suitable and beneficial to each state. The EPA will evaluate other potentially eligible activities on a case-by-case basis.

4. BIL GHP Documentation and Reporting

The HTF state workplans are the primary vehicles for documenting activities undertaken with GHP funds. The state workplans will provide transparency and communicate the intended outputs and outcomes of GHP funded actions on advancing the Gulf Hypoxia Action Plan, including equity and climate priorities. The EPA has developed a GHP module in the existing Nonpoint Source Program Grants Reporting and Tracking System[18] that will be used to house data related to GHP funded projects. States will report water quality monitoring data into the Water Quality Exchange, which will be marked with "GHP" as the Project ID to easily identify data created with BIL GHP funds. This data reporting is a programmatic requirement that is supplemental to the required annual progress reports, which are submitted to regional Project Officers. The following information will be reported for each project in the Grants Reporting and Tracking System:

1. Number of full-time employees funded by the GHP cooperative agreement
2. State definition of Disadvantaged Communities, including the resources used to create that definition (e.g., United States census data on educational attainment and unemployment, the U.S. Department of Treasury annual household low-income threshold, state agency environmental justice screening tools or official state agency definitions)
3. Acknowledgment of workplan's compliance with Title VI of the *Civil Rights Act*
4. Project Title
5. Project Description
6. Anticipated project outputs and outcomes, as they relate to the strategic outcomes in section 3
7. Anticipated project outputs and outcomes, as they relate to the goals of the Gulf Hypoxia Action Plan
8. Anticipated project co-benefits related to climate adaption or mitigation, including the actions that provide those anticipated co-benefits
9. Anticipated project co-benefits related to disadvantaged communities, including the actions that provide those anticipated co-benefits
10. Project utilizes incentives to implement conservation practices and systems (Yes/No)
11. Project will/did result in pollutant load reductions (Yes/No)
12. Project budget, including funding sources
13. Source(s) of pollution
14. Sub-recipient information, including organization type and any funds contributed
15. Watershed plans
16. Project schedule
17. Waterbody Information, including the waterbody name, type and size
18. Pollutants to be addressed, including load reduction goals and actual load reductions
19. Drainage area(s) associated with the project
20. Conservation practices implemented
21. Key stakeholder engagement, including stakeholder name, affiliation and type of engagement

The EPA may include additional reporting requirements and, if so, will provide them to the states.

[18] https://www.epa.gov/nps/grants-reporting-and-tracking-system-grts

5. BIL GHP Regional Oversight and EPA Staff Support

In accordance with 40 C.F.R. 35.115, the EPA Regions will oversee performance of state GHP funded assistance agreements. Oversight entails evaluating progress towards completing the outputs identified in approved workplans; providing findings/feedback to each recipient; including findings in the cooperative agreement file; and in cases where deficiencies are noted, developing an action plan to address performance problems. Regions should specifically evaluate draft workplan documentation of efforts to advance equity and climate priorities with GHP funds and provide technical assistance, as appropriate, to states to support them in meeting the aims of this guidance.

The EPA regional staff will serve as project and technical officers for state cooperative agreements; the EPA headquarters staff will review the state workplans. The EPA headquarters and regional staff will provide direct technical support to states tailored to each state's specific needs and their projects. For example, the EPA can help identify opportunities for states to leverage federal and/or private foundation programs in support of their projects; provide expert technical and policy support in implementing *Clean Water Act* programs; help states overcome programmatic barriers to progress by engaging other federal agencies; adaptively manage and assess progress toward reaching the Gulf Hypoxia Action Plan goals; assist with data compilation and reporting; and promote innovative research at the EPA and other agencies in support of state needs. The EPA regional offices shall transmit all final GHP state workplans (and any future updated workplans) to the EPA headquarters for program record keeping.

6. EPA Contacts

For more information or for general questions, please reach out to Katie Flahive (flahive.katie@epa.gov, 202-566-1206) or Jake Greif (greif.jacob@epa.gov, 202-564-2250).

Appendix 1: Content of Application Submission

The application will remain open through May 1, 2025, with two deadlines for separate review periods. The cooperative agreement application materials must be submitted through Grants.gov (https://grants.gov/search-results-detail/340988?showPackages=1) by **11:59pm ET on Friday, November 1, 2024** to receive the award in early 2025, or by **11:59pm ET on Thursday, May 1, 2025**. The application package must include the following application forms and attachments:

1. **Application for Federal Assistance Standard Form (SF) 424:** The electronic submission of the application must be made by an Authorized Official Representative of the state who is registered with Grants.gov and is authorized to sign applications for federal assistance. Applicants need to ensure that the Authorized Official Representative who submits the application through Grants.gov and whose Unique Entity Identifier (UEI) is listed on the application is an Authorized Official Representative for the applicant listed on the application. Applicants must ensure that the UEI listed in Block 8.c. is assigned to the applicant organization in Block 8.a.
2. **SF-424A, Budget Information:** Applicants are to characterize costs for construction contractors as "Construction" and costs for architectural and engineering services as "Contractual."
3. **EPA Form 4700-4, Pre-Award Compliance Review Report.** Collects information that enables the EPA to determine whether applicants are developing projects, programs and activities on a non-discriminatory basis.
4. **EPA Key Contacts Form 5700-54:** A minimum of two contacts should be identified. Please be sure the contacts on this form are consistent with the other forms. The Authorized Official Representative on this form must be the signatory on the other forms. If additional pages are needed, attach these additional pages to the electronic application package by using the "Other Attachments Form" in the "Optional Documents" box.
5. **Project Narrative Attachment Form:** Includes Project Approach, Environmental Results, Milestone Schedule, Detailed Budget Narrative, Quality Assurance. Prepare as described below. Use this form to submit the **Summary Information Page and Project Workplan.**

Application Preparation and Submission Instructions (see Grants.gov instructions at the end of this Appendix 1):

Documents 1 through 5 listed under Application Materials above should appear in the "Mandatory Documents" box on the Grants.gov Grant Application Package page.

For Documents 1 through 4, click on the appropriate form and then click "Open Form" below the box. The fields that must be completed will be highlighted in yellow. Optional fields and completed fields will be displayed in white. If an invalid response or incomplete information is entered in a field, an error message will display. When finished filling out each form, click "Save." Return to the electronic Grant Application Package page, click on the completed form, and then click on the box that says, "Move Form to Submission List." This action will move the document over to the box that says, "Mandatory Completed Documents for Submission."

For Document 5, attach electronic files. Prepare the narrative workplan as described in the box below and save the documents as a PDF file. To attach the workplan to the application package, click on "Project Narrative Attachment Form," and open the form. Click "Add Mandatory Project Narrative File," and then attach the PDF file workplan using the browser window that appears. Click "View Mandatory Project Narrative File" to view it. Enter a brief descriptive title of the project in the space

beside “Mandatory Project Narrative File Filename;” the filename should be no more than 40 characters long. If there are other attachments to submit to accompany the workplan, click “Add Optional Project Narrative File” and proceed as before. When finished attaching the necessary documents, click “Close Form.” Return to the “Grant Application Package” page, select the “Project Narrative Attachment Form,” and click “Move Form to Submission List.” The form should now appear in the box that says, “Mandatory Completed Documents for Submission.”

Describe each workplan item in sufficient detail for the EPA to determine cost-effectiveness, reasonableness and allowability of costs. Cost-effectiveness will consider the organizational overhead (indirect costs), direct costs and ability to control costs versus anticipated results of services.

Do not include confidential business information in the workplan. States should be aware that under Public Law No. 105-277, data produced under an award, and any information provided to the EPA, is subject to the Freedom of Information Act.

Template for Document 5 Summary Information Page and Project Workplan
Summary Information Page (Should not exceed two pages) **Project Title:** Please limit to 60 characters. The EPA reserves the right to change the project title for its administrative convenience. **Organization Information:** Include organization name, address, contact person, phone number, e-mail address. Do not include private information. **Proposed Funding Request.** Total dollar amount requested from the EPA. **Brief Project Description.** Summarize the workplan for implementing the Gulf Hypoxia Action Plan in a clear and succinct manner using **plain language** and in 100 words or less. Do not use acronyms. This description may be posted to the EPA website, published in the EPA’s press releases and the HTF Newsletter. Include programmatic links to the state’s programmatic website(s). The EPA reserves the right to make unilateral changes to conform to posting requirements. **Environmental Results:** Please describe major environmental results anticipated from this project. (Details will be included in the workplan, this is a high-level summary.) **Place of Performance:** Ensure the boundary is within the HTF Member states and in the MARB. Identify the place of performance, defined as the geographic extent of where work will occur, of the cooperative agreement. **Project Period:** Provide anticipated project start date and anticipated project completion date.

Project Workplan (No page limit)

Project Approach: Describe the approach and include any maps, charts, and/or figures.

Include a sentence briefly stating how the project supports the EPA Strategic Plan Goal 5: Ensure Clean and Safe Water for All Communities, Objective 5.2: Protect and Restore Waterbodies and Watersheds.

Workplans should reflect the required four strategic outcomes described in Section 3 and any further outcomes that are most suitable and beneficial to the state. States should identify in their workplan the activity categories for each project with respect to NEPA (see Appendix 2).

An option for consideration is to include in state workplans a table or other information summarizing how each project relates to each strategic outcome, other GHP priorities and NEPA, for example:

	Strategic Outcome				GHP Priorities		NEPA Activity Category		
Project	#1	#2	#3	#4	Climate Change Co-Benefits	Benefits to Disadvantaged Communities	#1	#2	#3
A			X		X				X
B	X			X		X	X		
C		X		X	X	X		X	

Include information about how the state will manage and monitor subawards for successful completion of projects, and ensure sub-awardees comply with quality assurance, financial and reporting requirements.

Include proposed public meeting dates, locations and outreach strategies.

Include a discussion of how state activities will advance Gulf Hypoxia Action Plan goals in disadvantaged communities.

Include the definition that the state will use to define disadvantaged communities.

States should identify and prioritize eligible activities in their GHP workplans that will advance environmental justice and climate goals. States should ensure that the development and implementation of their Nutrient Reduction Strategies and projects proposed for the GHP cooperative agreements are in compliance with the requirements of Title VI.

Budget resources necessary for completing a Quality Management Plan or Quality Assurance Project Plan, if applicable, sharing project information broadly, and reporting progress, should be included.

Environmental Results: Include the following:

- Describe anticipated outputs and outcomes for strategic outcomes 1–4 defined in Section 3 of this memorandum (qualitative and quantitative, include social indicator(s)).
- Describe the anticipated products/results which are expected to be achieved from accomplishment of the project.
- Describe how the state will qualitatively and quantitatively measure and track the environmental results and pollutant load reductions (nitrogen, phosphorus, and co-benefits) from subaward projects and report those results (outputs and outcomes) to the EPA.

Milestone Schedule: Provide a milestone schedule that covers each year of the total project period requested (up to five years for the cooperative agreement) and provide a breakout of the project activities into phases with associated tasks and a timeframe for completion of tasks. The milestone schedule should show timeframes and major milestones to complete significant project tasks. Include an approach to ensure that (1) any subawards are completed in sufficient time to allow the state to aggregate results and lessons learned and to ensure sub-awardees have been reimbursed for eligible incurred costs and (2) awarded funds will be expended in a timely and efficient manner. The schedule must include a detailed table.

Transferability of Results and Dissemination to Public: Describe the plan to transfer results to similar projects and disseminate to the public, including:

- Gather and share information and lessons learned from the project(s) to include a written summary to be shared with the public at HTF meetings, materials to share on the EPA's GHP website, blurbs to send to the EPA for publication in the Hypoxia Task Force Newsletter, any targeted materials to share with state stakeholders and partners, and any other plans to share results from the proposed projects.
- Efforts to support state, regional and basin-wide progress tracking.

Technical Support: Describe how the state will provide technical support to sub-awardees. Technical support should include a description of how the state will ensure Quality Assurance Project Plans submitted by sub-awardees meet the EPA requirements but could also include other forms of technical expertise.

Detailed Budget Narrative: Provide a detailed budget narrative referencing each category identified in the SF-424A (Document 2) and estimated funding amounts for each workplan component/task not easily understandable or that require additional information. Describe each item in sufficient detail for the EPA to determine cost-effectiveness, reasonableness and allowability of costs. Common examples where this is necessary are:

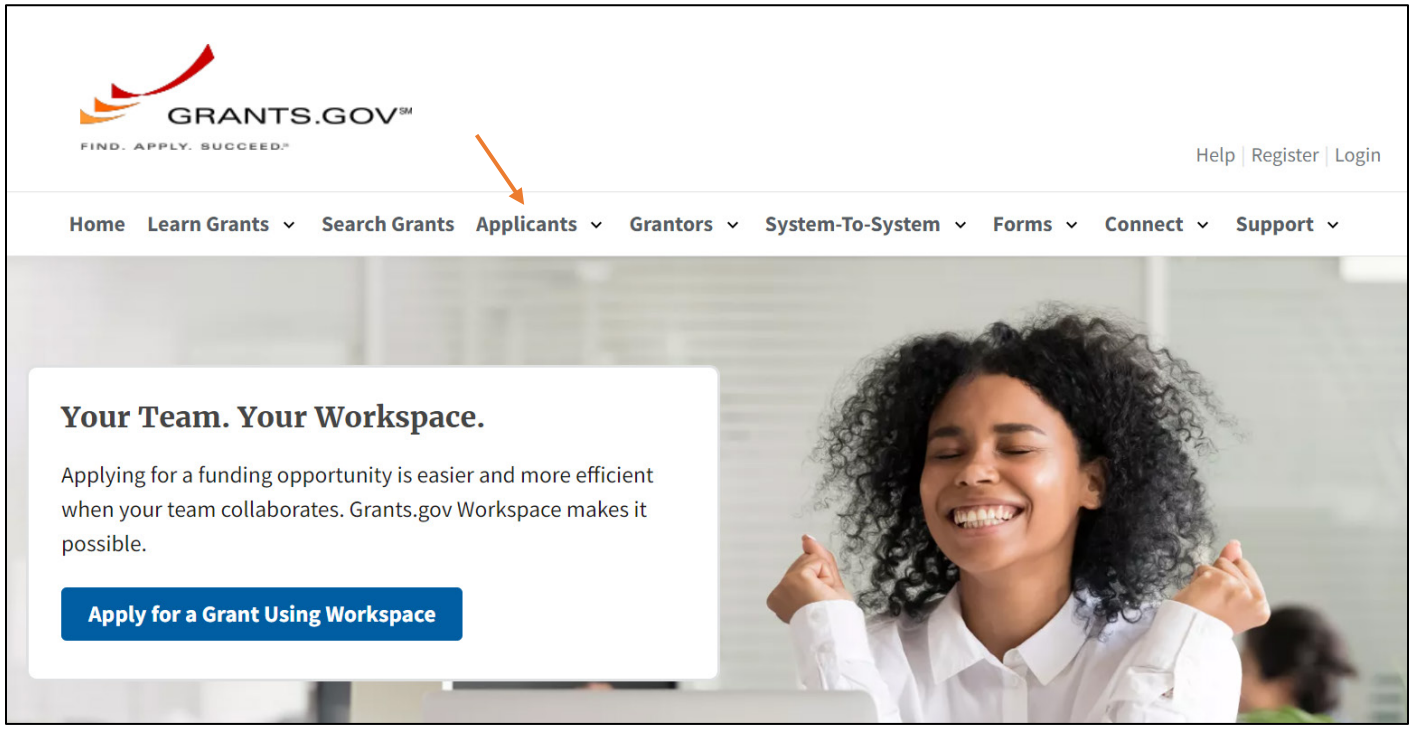
- Description of the roles and responsibilities of personnel.
- Description of what supplies will be used for.
- Description of why the purchase of equipment is preferable to rental of equipment.
- Contract details such as whether it will be sole source or competed and why that choice was made.
- Description of activities of a subawardee, etc.
- All subaward funding should be located under the "other" cost category.

For further information, states may refer to the General Budget Development Guidance for Applicants and Recipients of EPA Financial Assistance webpage (https://www.epa.gov/grants/rain-2019-g02).

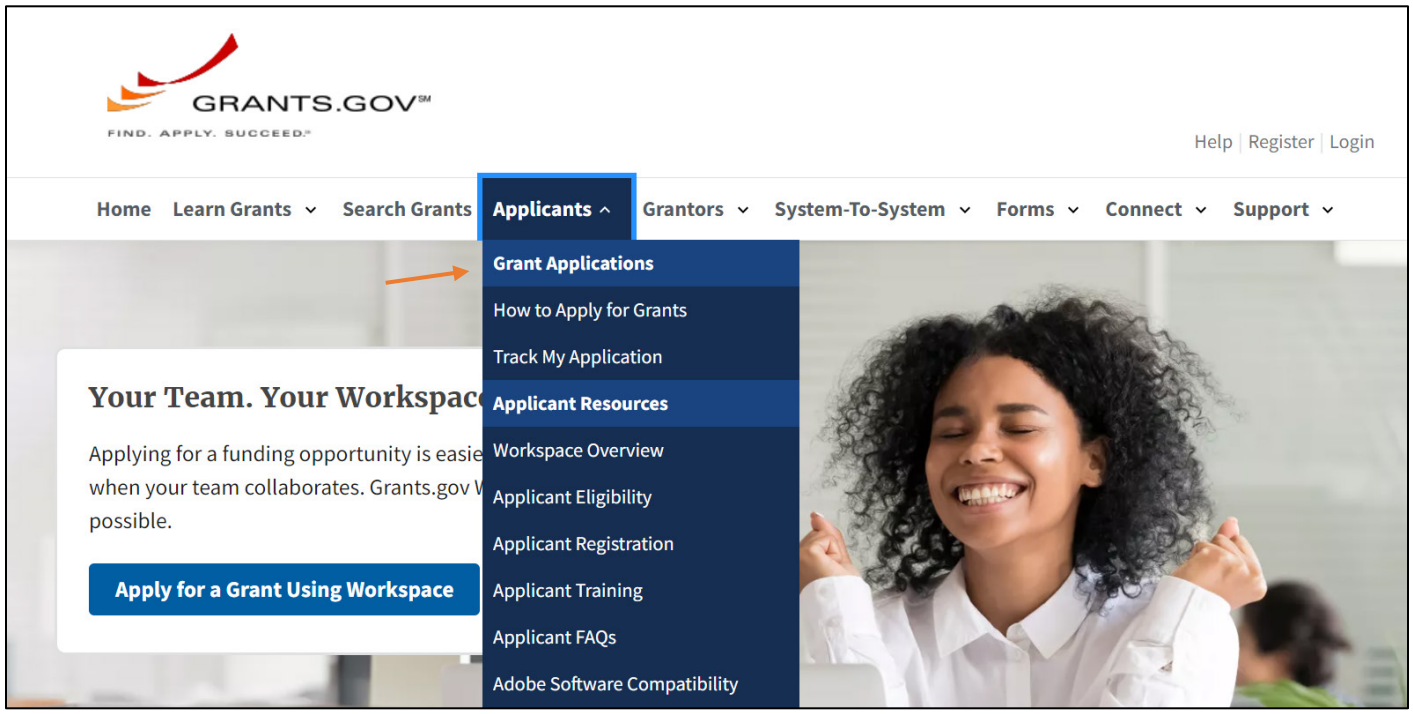
Quality Assurance: If the state or a sub-awardee plan to collect or use environmental data or information, explain how the state will comply with quality assurance requirements.

Grants.gov instructions

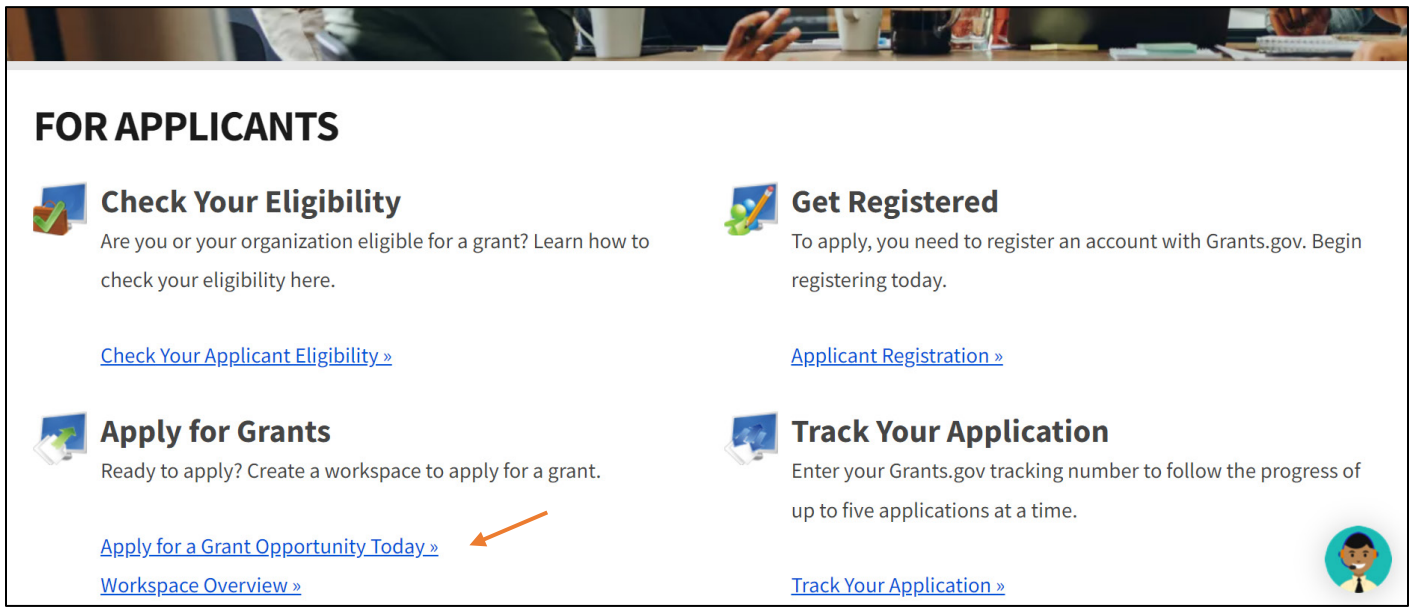
1. Go to Grants.gov - https://www.grants.gov
2. Click on the Applicants tab



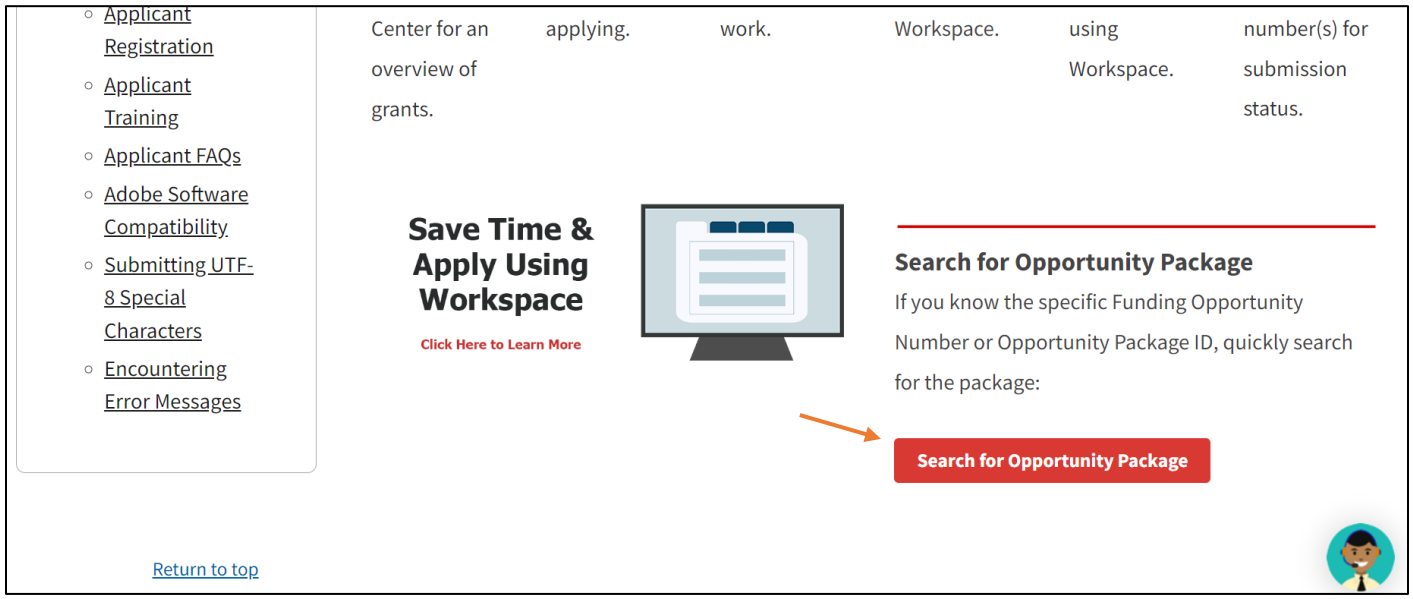
3. Click on the Grant Applications button



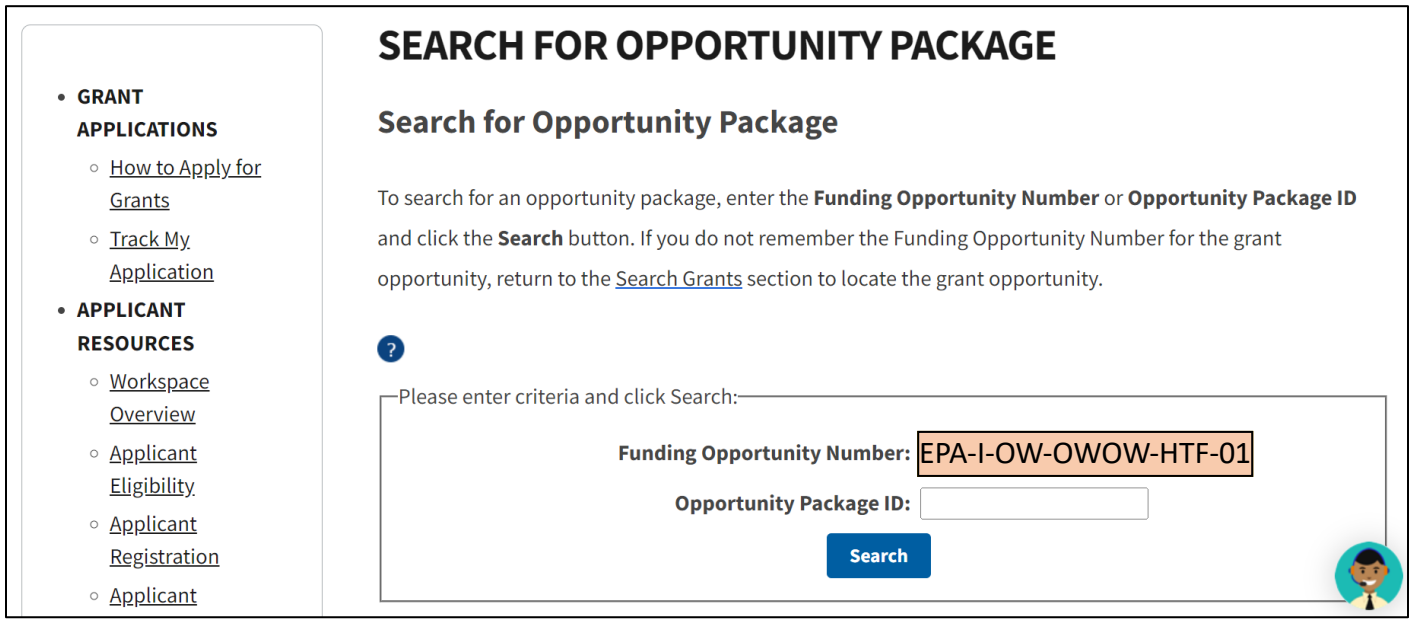
4. Scroll down and click on “Apply for a Grant Opportunity Today” under the Apply for Grants section



5. Scroll down and click on “Search for Opportunity Package” at bottom right side.



6. Type in the Funding Opportunity Number in the Funding Opportunity Field – (EPA-I-OW-OWOW-HTF-01)



7. Clicking on Search will open the View Opportunity page.
8. Click on preview to view the application forms.
9. Applicants that need technical assistance with submission using Grants.gov should visit the Grants.gov Support Center (https://grants.gov/support/).

Appendix 2: NEPA and the Cross-cutting Authorities

All GHP state cooperative agreement awards include a programmatic Term and Condition directing the grantee to comply with relevant requirements for activities that may implicate NEPA and the Cross-cutting Authorities.

The approach for compliance with NEPA and the Cross-cutting Authorities described in this appendix is intended to inform all involved parties of how the EPA, the states, and cooperative agreement partners will fulfill their compliance responsibilities as states undertake the activities in their GHP cooperative agreement workplan.

Documentation required for satisfying the NEPA and Cross-cutting Authority Compliance Approach are found in the Finding of No Significant Impact and Adoption for the BIL Gulf Hypoxia Program.

GHP Compliance Implementation Approach for NEPA and the Cross-cutting Authorities

The EPA will implement the GHP NEPA compliance in a similar manner to the U.S. Department of Agriculture, Natural Resources Conservation Service Environmental Quality Incentives Program (EQIP) Programmatic Environmental Assessment, or PEA, and the EPA *Water Infrastructure Finance and Innovation Act* PEA. The EPA adopted the May 2020, final EQIP PEA and the April 27, 2018, WIFIA PEA with a preliminary Finding of No Significant Impact. The EPA's approach is as follows:

1. As part of undertaking conservation and green infrastructure practices under the GHP, individual environmental reviews called environmental evaluations, or EEs, will be completed by the states and reviewed by the EPA to inform the conservation and green infrastructure practices and assist the agency's compliance with NEPA. The EEs are a concurrent part of the planning process in which the potential long- and short-term impacts of an action are briefly evaluated to determine if the action falls within the scope of the conservation or green infrastructure practices adopted for the GHP. To satisfy the EE, states will provide a copy of either a completed *Environmental Evaluation Questionnaire and Supporting Document Checklist* or *USDA NRCS-CPA-52 form;* and *Crosscutting Authorities Review Table* to the EPA Regional Project Officer.
2. States will identify the categories of each project proposed in their cooperative agreement workplan with respect to NEPA and the Cross-cutting Authorities (See the State Workplan Activity Categories for NEPA Compliance section below). While applicants do not need to submit these documents to Grants.gov as part of the application package, no funding can be spent on the workplan activities prior to EPA approval of compliance with NEPA and the Cross-cutting Authorities.
3. For Category 1 and 2 activities conducted by the states, no EE associated with NEPA will be necessary.
4. For Category 3 activities, an EE will be conducted where environmental impacts may be reasonably expected to occur with implementation of the conservation and green infrastructure practice activities under the GHP. The EPA has determined that the analysis of impacts in the adopted PEAs and underlying assumptions remain valid and do not need to be updated. The EE can be completed with the *Environmental Evaluation Questionnaire and Supporting Document Checklist* prepared as part of the GHP or applicants familiar with the NRCS conservation practices under EQIP may choose to complete the EE with the *USDA NRCS-CPA-52 form*.

5. For all activities, states are to complete the *Crosscutting Authorities Review Table* to determine the applicability of any of the Cross-cutting requirements and proceed with relevant compliance actions as appropriate. To complete *Crosscutting Authorities Review Table*, states may use their existing procedures for documenting compliance with cross-cutting laws, which can include, among other procedures:
   - Use of the EPA Regulatory and Guidance Information by Topic: Cross-Cutting Issues, which contains information on the laws and links to relevant compliance actions for those state activities that may trigger a cross-cutting law.
   - Existing state processes for conducting evaluation and assessments to satisfy *Endangered Species Act* Section 10 consultation requirements (or use of an existing Section 7 Biological Opinion or approved consultation).
   - Existing state processes for conducting assessments and ensuring compliance with *Clean Water Act* Sections 401 and 404, where applicable.
   - Existing state processes for conducting assessments and other compliance activities under the *Archaeological and Paleontological Resources Protection Act*, and the *National Historical Preservation Act* and/or *Native American Graves Protection and Repatriation Act*.
   - Existing state processes to determine if any other Cross-cutting Authorities apply.
6. The EPA Responsible Official[19] will review and provide documentation to the Project Officer to approve the initiation of project work. The EPA's documentation will include the following files for the record:
   a. Environmental Assessment Adequacy Memorandum
   b. Completed EE via *Environmental Evaluation Questionnaire and Supporting Document Checklist* or *USDA NRCS-CPA-52 form*
   c. Cross-cutting Authorities Review Memorandum with the completed *Crosscutting Authorities Review Table*
   d. Supporting documentation
7. Documentation of NEPA and the Cross-cutting Authorities compliance will be retained by the EPA and the states. The EPA will compile and maintain, collectively at the EPA headquarters and with the cooperative agreement files, the EEs and Cross-cutting Authorities Review and update this file on an annual basis.

State Workplan Activity Categories for NEPA Compliance

State cooperative agreement activities generally fall into three categories with respect to NEPA.

Category 1

For programmatic activities that do not result in environmental impacts, such as hiring staff, outreach, and planning, states will not need to take any further action under NEPA.

This category includes outreach, education, watershed assessments, data analyses, stakeholder meetings and basic, conventional water quality monitoring (e.g., collection of water samples from rivers or lakes for analyses of chemical parameters or water-column biota, such as chlorophyll *a* levels or diatoms). States that propose to conduct biological monitoring such as electroshocking or in-stream collection of benthic (stream bottom) organisms will need to follow the procedures in Category 3 below.

[19] The EPA Responsible Official is an EPA Regional Official who can sign, and can be no lower than the EPA Branch Chief level or equivalent.

Category 2

For programmatic activities that provide supplemental support for existing state programs that provide funding, supplies (e.g., seed) or other incentives to farmers to plant cover crops or implement no-till farming practices on *existing* agricultural fields, states will likely not take any further action under NEPA.

These outreach practices generally fall under the EPA Categorical Exclusion (2)(ii)[20] and do not generally require further NEPA compliance. In addition, at the time of cooperative agreement award, the EPA will not know the specific locations where these voluntary incentive programs will be utilized, nor will the state grantee, but the state will indicate that these programs can be utilized on *existing* agricultural fields. See Table 1 below for specific examples.

Category 3

For programmatic activities that include implementing soil-disturbing conservation practices on *existing* farm fields, green infrastructure practices (on developed or redeveloped land) to manage stormwater in urban areas, soil-disturbing or drainage system conservation practices in areas adjacent to existing farm fields, within riparian buffer areas, wetlands, or within ditches/channels/other waters, or in undeveloped or undisturbed locations in urban areas, states will conduct an EE and the EPA will review and approve the EE before the activity is implemented. No activity can be completed, and no funding can be spent on the activity prior to the EPA's approval.

Relevant practices in this category include cover crops, reduced tillage, no-till practices, terracing, contour buffer strips, filter strips, nutrient management plans, heavy use area protection, in-field sediment basins and other practices on or within existing agricultural fields and livestock areas. Stormwater management and/or green infrastructure practices in this category are those implemented on developed or redeveloped land (i.e., not on undeveloped land, within stream corridors, or other undisturbed or natural lands). They may include bioretention, bioswales and permeable pavements. These systems use vegetation, soil media or permeable surfaces to capture, infiltrate or evapotranspirate stormwater.

Activities that likely require further NEPA compliance include practices covered in the EQIP and/or WIFIA PEAs, such as:

- Two-stage ditches: open channels with established benches that provide a low-flow channel and a higher vegetated bench that is flooded during higher flows (USDA NRCS Conservation Practice 582).
- Saturated buffers: a subsurface, perforated distribution pipe used to distribute drainage system discharge beneath a vegetated buffer along its length and discharge channel (USDA NRCS CP 604).
- Bioreactors: subsurface structures built into a field that use a carbon source (e.g., wood chips) to reduce the concentration of nitrate in subsurface agricultural drainage flow (USDA NRCS CP 605).

[20] 40 C.F.R. Section 6.204(a)(2) ("Certain actions eligible for categorical exclusion do not require the Responsible Official to document a determination that a categorical exclusion applies. These categorical exclusions are listed in paragraphs (a)(2)(i) through (a)(2)(x) of this section. . . . (ii) Acquisition actions (compliant with applicable procedures for sustainable or 'green' procurement) and contracting actions necessary to support the normal conduct of EPA business.")

- Multipurpose oxbow: the return of a wetland and its functions to a close approximation of its original condition as it existed prior to disturbance on a former or degraded wetland site, along with the augmentation of wetland functions beyond the original natural conditions on a former, degraded or naturally functioning wetland site; sometimes at the expense of other functions. (USDA NRCS CPs 657, 659).
- Bank protection, stabilization or erosion control along waters of the United States.
- Water quality wetlands: Wetland created on a site location that was historically not a wetland that reduces nutrient losses and may provide wildlife habit and other co-benefits (USDA NRCS CPs 657, 658, 659).
- Cascading waterways: shaped or graded channel with suitable vegetation to convey surface water at a nonerosive velocity using a broad and shallow cross section to a stable outlet, with a series of earthen embankments or a combination ridge and channel constructed across the slope of the grassed waterway (USDA NRCS CPs 412, 638).
- Urban stormwater practices in undeveloped or otherwise undisturbed areas, such as bioretention, bioswales and permeable pavements. These systems use vegetation, soil media or permeable surfaces to capture, infiltrate or evapotranspirate stormwater. Additionally, these practices are intended to reduce erosive peak flows and enhance water quality. These practices are generally used in highly modified urban environments and can help restore a more natural stream hydrography and reduce nutrients and excess sedimentation in streams. Green infrastructure applicability, sitting, and design considerations are provided in EPA fact sheets. (WIFIA)

To complete the EE, states may conduct a desktop and field level review for conservation and green infrastructure practice activities and complete the *Environmental Evaluation Questionnaire and Supporting Document Checklist* or applicants familiar with the NRCS conservation practices under EQIP may choose to complete the EE with the *USDA NRCS-CPA-52 form*.

No activity can be completed, and no funding can be spent on the activity prior to the EPA's approval.

Appendix 3: *Build America, Buy America Act* Summary for *Clean Water Act* Section 319 Grant Funded Projects

All GHP state cooperative agreement awards include a programmatic term and condition directing the state to comply with relevant requirements for infrastructure projects that may implicate the *Build America, Buy America Act*. States may review the information in this appendix that provides further information regarding BABA compliance for *Clean Water Act* Section 319 projects.

Determination if BABA is implicated

What is the definition of a project? BABA applies specifically to infrastructure projects. In determining whether BABA is implicated, please use the definition of infrastructure project provided in 2 C.F.R. 184.3.

1. 2 C.F.R. 184.3: *Infrastructure project* is defined as any activity related to the construction, alteration, maintenance or repair of infrastructure in the United States regardless of whether infrastructure is the primary purpose of the project. See also paragraphs (c) and (d) of Section 184.4.
2. The small project general applicability waiver applies to small projects **where assistance agreements or subawards under assistant agreements are less than $250,000.**[21]
3. The EPA defines "project" as "any activity related to the construction, alteration, maintenance, or repair of infrastructure in the United States." For purposes of *Clean Water Act* Section 319(h) grants, each individual subgrant awarded by a state (such as, through a competitive RFA process) is considered a "project," even if multiple, separate best management practices, or BMPs, are implemented under the subgrant. If a subgrant award is above $250,000, it is not eligible for the small project waiver. **If a state does not distribute Section 319 funds to subrecipients, the state's annual Section 319 allocation is considered the "project."**

Typical Nonpoint Source activities within a project. The next step is to consider the types of 1) activities, 2) the materials used, and 3) the public use of where the activities are occurring (private or public land). State NPS programs are encouraged to coordinate with the EPA as questions arise for specific projects.

1. Activities
   - If all the activities in a project support agricultural or conservation BMPs, BABA may not be implicated. The EPA Headquarters programs are examining whether agricultural conservation practices would reasonably be considered "infrastructure."
2. Materials
   - Whether the products covered under 2 C.F.R. 184.3 are permanently incorporated into the project site. Non-permanent, temporary items used and removed during construction, and other materials or equipment that may be removed from the site are not covered under BABA (e.g., temporary scaffolding).
   - If BABA applies, the *De Minimis* waiver is an important implementation tool. The *De Minimis* waiver allows the use of products of non-domestic or unknown origin up to 5 percent of the total project cost.

[21] The $250,000 threshold applies to the federal portion of project funding.

3. Public use
    - Project activities solely for the purchase, construction, maintenance or improvement of a private property solely for non-public use may not implicate BABA. For example, installing fencing to restrict private livestock from access on private land (see question 8.3[22]).
    - Another example is an acid mine drainage project, if the work occurs on private land solely for personal use (with no public access), it likely will not constitute an infrastructure project and BABA may not be implicated. However, if the property includes public access or use, BABA may be implicated.
    - Public access or public use may implicate BABA. Projects that include activities in populated areas may implicate BABA if they are implemented outside privately owned land. In municipal-owned lands, if practices use iron or steel products, manufactured products or construction materials as defined in 2 C.F.R. 184.3 (i.e., manufactured bioinfiltration system, raingardens using piping and plastic materials, etc.), BABA maybe implicated.
    - One example of BABA potentially being implicated on private property is when attaching a home to a sewer system (lateral line connection). This activity is a connection to a treatment works and will most likely implicate BABA as the public function extends beyond private property.

Recordkeeping

If BABA applies: The recipient is responsible for assuring projects meet BABA requirements in compliance with the terms and conditions of the grant. Often, the first step for recipients is bidding on a contract that clearly identifies the domestic preference requirements. If BABA is implicated for a project, contract and compliance documents (principally developed by a contractor) should be retained by the state for the appropriate record retention period for the grant (minimum of 3 years from the date of submission of the final Federal Financial Report, consistent with 2 C.F.R. 200.334, unless the state requirements exceed this timeframe).

- The *De Minimis* waiver allows the use of products of non-domestic or unknown origin up to 5 percent of the total project cost. Recordkeeping for *De Minimis* is simple, as many recipients keep a simple tabular list of items and their costs to track the *De Minimis* waiver use.

If BABA does not apply or is waived at the project level: The state NPS program should ensure that the following information is noted in the project file:

- The total cost of the award or subaward to ensure BABA compliance under the Small Projects Waiver;
- Evaluation of the materials used to implement the practices funded with the award or assistance agreement; and
- Whether the project is implemented on private property and not for public use.

References:

OMB Guidance: M-24-02 and https://www.ecfr.gov/current/title-2/subtitle-A/chapter-I/part-184
EPA Websites: www.epa.gov/cwsrf/build-america-buy-america-baba
EPA Email Inbox: BABA-OW@epa.gov
Made in America Office Email Inbox: MBX.OMB.MadeInAmerica@omb.eop.gov

[22] Supplemental Questions and Answers for Build America, Buy America Act Implementation Procedures for Office of Water Federal Financial Assistance Programs memo

Appendix 4: BIL GHP Water Quality Monitoring Strategies

State workplans can support discrete and continuous real-time water quality monitoring, including:

- Continued funding support for existing monitoring systems/locations.
- Funding new monitoring locations to help measure loads and/or establish water quality trends.
- Supporting better, more cost-effective technology for water quality monitoring.

Workplans must comment on the planned water quality monitoring objective, parameters and frequency of the water quality monitoring that will be conducted, reflecting the following:

Priority Parameters for Monitoring
Parameters are tiered based on the planned water quality monitoring objective: Tier one: Total nitrogen, total dissolved nitrogen, nitrate, total phosphorus, dissolved total phosphorus and/or orthophosphate, total suspended solids and/or suspended sediment concentration. Tier two: Flow data from a nearby continuous stream gage, turbidity, dissolved oxygen vertical profile*, dissolved organic carbon, chlorophyll *a*, temperature, algal toxin concentrations with observed bloom events at same time as chlorophyll *a*, and maximum lake depth**. Tier three: Zooplankton and phytoplankton biomass. *Consider dissolved oxygen profiles especially if lake hypoxia is a concern for cold and cool water fish survival. ** Indicates a onetime measurement specific only to lakes.

If the GHP Water Quality Monitoring Objective is to conduct discrete and continuous real-time water quality monitoring to assess trends:

Parameters: At a minimum, monitor for tier one parameters. Additionally, when possible, monitor for tier two parameters.

If monitoring:

- Lakes and Reservoirs, at minimum monitor monthly.
- Streams and Rivers, at minimum monitor monthly. Samples should occur across a range of stream flow conditions.
- Edge of Field, at minimum monitor monthly. However, more frequent sampling is suggested.

Considerations:

- It is sufficient to only monitor for biological parameters during the growing season.
- More frequent samples can help more clearly detect and quantify water quality trends.
- Consider deploying sensors that can measure parameters continuously such as dissolved oxygen, temperature and/or nitrate and orthophosphate. This can be especially useful in targeted areas with a goal of assessing the effectiveness of BMPs or tracking nutrient reduction.

- Consider prioritizing chlorophyll *a* sampling, especially in lakes and reservoirs, along with tier one parameters.
- Because data over long periods of time are essential to track trends, consider supplementing sample collection in water bodies with existing historical records.
- However, also consider ramping up monitoring in areas with a lack of data.
- If situated along the coast, consider extending monitoring sites to include estuary and near shore locations.

If the GHP Water Quality Monitoring Objective is to collect data that can be used to develop numeric nutrient criteria:

Parameters: At a minimum, monitor for tier one and tier two parameters and when possible nutrient response parameters in tier three.

If monitoring:

- Lakes and Reservoirs, at minimum collect one sample per year to characterize a range of lake characteristics across the state (broad spatial coverage) or more frequent sampling on a smaller number of lakes to understand temporal variability in different parameters (at minimum monthly samples).
- Streams and Rivers, at minimum monitor monthly. Samples should occur across a range of stream flow conditions.

Refer to https://www.epa.gov/nutrient-policy-data/ambient-water-quality-criteria-address-nutrient-pollution-lakes-and-reservoirs for information on numeric nutrient criteria for lakes.