Part I: Overview	
Project Title	Real-Time Sensors for Quantifying Nutrient Loads to Freshwaters
Project Number	ERDCWERX26_OT02
Announcement Type	Request for White Paper (RFWP)
Release Date	24 April 2026
Closing Date/Time	11 May 2026, 1700 CST
Individual Awards	Multiple awards may be issued
Agreement Type	Firm Fixed Price Milestones
Anticipated Value	**Total Estimated Project Value - $825,000.00**
Period of Performance	**Total Period of Performance – 2 Years**
Questions and Submissions	**Whitepaper submissions must be made to the ERDCWERX website** All questions must be directed to the following URL: https://share.hsforms.com/1O8-vyeiATO6aIDcxk4tTog4120r

Introduction

It is important to note that this notice in a Request for White Paper (RFWP) and not a Request for Prototype Proposal (RFPP). This notice shall not be construed as a commitment by the Government to issue a RFPP or ultimately award a project, nor does it restrict the Government to a particular acquisition approach. No entitlement or payment of direct or indirect costs or charges by the Government shall arise because of offeror submission of responses or the Government's use of such information.

This RFWP is a two-step project announcement.

Step 1: This notice is being issued to solicit **white papers ONLY**. The purpose of white paper submissions is to identify potential partners that may have promising solutions relative to the project objectives herein. An offeror that describes a promising prototype solution may be asked to virtually attend a solution pitch to provide additional information to the Government project team. However, the Government reserves the right to move straight to RFPP based on whitepaper submission only. Further, an offeror's inability to accept an invitation to provide a solution pitch does not preclude them from receiving an RFPP.

Step 2: The Government may issue an RFPP to the offeror(s) with the most promising solution(s) relative to the project objectives described herein. The Government may provide feedback to each vendor on their proposed solution. The Government reserves the right to make changes to the final project announcement before issuing RFPP(s). Upon receipt, the Government will evaluate the proposal(s) through a scientific review process in accordance with the evaluation criteria to determine which proposal(s) represent the best value to the Government and should be awarded.

Part II: ANNOUNCEMENT

A. PROJECT DESCRIPTION

The U.S. Army Corps of Engineers (USACE), through its Engineer Research and Development Center (ERDC), is seeking innovative solutions to develop, test, and deploy in situ sensor technologies capable of continuous, real-time monitoring of dissolved reactive phosphorus (DRP) in freshwater systems. This effort aims to accelerate the transition of emerging technologies from concept to field-ready capability to support USACE Civil Works missions, including water quality management and harmful algal bloom (HAB) prevention, detection, and management.

B. BACKGROUND

Excess nutrient loading, particularly dissolved reactive phosphorus (DRP), poses a significant threat to the nation's water resources. DRP is a primary catalyst for eutrophication and the formation of harmful algal blooms (HABs), which degrade aquatic ecosystems, impact local economies, and can pose risks to human health. As a steward of these resources, the U.S. Army Corps of Engineers (USACE) requires advanced tools for monitoring water quality. Current monitoring protocols, which largely depend on periodic grab sampling and subsequent laboratory analysis, are insufficient. This method is not only resource-intensive but also fails to capture the high-frequency, event-driven fluctuations of DRP in waterways, creating a critical data gap. USACE requires robust, autonomous sensing solutions that provide continuous, high-frequency DRP data to enable proactive water management and rapid response.

C. OBJECTIVES/TECHNICAL REQUIREMENTS

The objective of this prototype project is to in situ sensor technologies capable of continuous, real-time monitoring of dissolved reactive phosphorus (DRP) in freshwater systems. This effort aims to accelerate the transition of emerging technologies from concept to field-ready capability to support USACE Civil Works missions, including water quality management and harmful algal bloom (HAB) prevention, detection, and management. The capability has the following requirements:

- Continuously measure DRP concentrations in situ (target: sub-hourly resolution or better)
- Operate in freshwater environments (rivers, reservoirs, tributaries)
- Provide real-time or near real-time data transmission
- Maintain accuracy and precision comparable to laboratory methods
- Function with minimal maintenance and calibration over extended deployments

The capability should also demonstrate the following:

- Resistance to biofouling, turbidity, and environmental interference
- Low power consumption suitable for remote or long-term deployment
- Compatibility with existing USACE monitoring platforms and data systems
- Scalable manufacturing potential and cost-effective deployment at multiple sites
- Ability to integrate sensors with other nutrient flux measurement technologies to enable cost-effective nutrient (DRP especially, N also of interest) flux into freshwaters both localized and very large scales.

All sensor formats are of interest for this prototype project. Innovative approaches may include (but are not limited to):

- Wet-chemistry automated analyzers
- Optical or spectroscopic sensing
- Lab-on-a-chip or microfluidic systems
- Electrochemical detection methods
- Hybrid sensor platforms with AI/ML-enabled calibration or correct

D. ESTIMATED PROTOTYPE PERIOD OF PERFORMANCE

The full prototype design and demonstration is anticipated to take two years: design (1st year), demonstration (1st and 2nd year), and performance analysis and documentation (1st and 2nd year).

E. DATA RIGHTS

To be determined.

G. ESTIMATED TRAVEL and PURPOSE

To be determined.

H. PROTOTYPE DELIVERABLES

Deliverables will be further defined after RFPP issuance dependent upon the offerors proposed solution.

Part III. AWARD INFORMATION:

1. FUNDING: The government anticipates fully funding the prototype project upon award.

2. FOLLOW ON ACTIVITES/ PRODUCTION: The USACE, ERDC is using competitive procedures to select participants in a prototype transaction under 33 U.S.C 2313. If the prototype is determined successful, agencies may exercise authority under 33 USC 2313(c)(2) to provide for, and award, a follow- on production transaction or FAR based contract without additional competitive procedures.

Part IV. ELIGIBILITY INFORMATION:

To qualify for award, an offeror must satisfy at least one of the following:

1) The prototype project includes significant participation by at least one nonprofit research institution or non-traditional defense contractor (NDC),
2) All significant participants in the transaction other than the Federal Government are small business concerns, or
3) At least one-third of the total cost of the prototype project is to be paid out of funds provided by parties other than the Federal Government

An NDC is defined as an entity that is not currently performing and has not performed, for at least the one-year period preceding the solicitation of sources by DoD for the procurement or transaction, any contract or subcontract for the DoD that is subject to full coverage under the

cost accounting standards prescribed pursuant to section 1502 of title 41 and the regulations implementing such section (see 10 U.S.C. 2302(9)).

Additionally, prior to award, an offeror must be registered at www.sam.gov. Please note, project timelines may not allow for registration after whitepaper selection, therefore, offerors are highly encouraged to register as soon as possible.

Part VI. WHITE PAPER REQUIREMENTS AND REVIEW

DO NOT INCLUDE PROPRIETARY INFORMATION

White papers shall be submitted through ERDCWERX no later than 11 May 2026, 1700 CST.

1. **GENERAL FORMATTING REQUIREMENTS:** White papers shall be submitted electronically. All submissions must be clear, legible, and conform to the following general formatting guidelines:
   - Paper: Pages shall be 8.5 x 11 inches, single sided, with each page numbered "X of Y pages."
   - Margins: Minimum of 1 inch on all sides.
   - Type Font: 12-point Times New Roman, single spaced.
   - Acronyms: Spell out all acronyms the first time they are used. One page of the proposal body is allocated to spell out acronyms, abbreviations and symbols. This does not count towards white paper page limits.
   - Language: English.
   - Electronic file format: PDF, compatible with current Adobe Acrobat Reader. File size less than 20 MB.
2. **CONTENT:** White papers consist of a detailed solution brief that is up to three pages and a pitch deck up to five pages. The complete white paper shall be no longer than eight pages. The solution brief and pitch deck will be reviewed holistically. It is recommended (but not required) that more detailed information be included in the solution brief and higher-level information be included in the pitch deck.
   a. **Technical Requirements.**
      - Background and benefits of proposed solution
      - General technical approach to stated objectives
      - Experience with physical model design and assembly
      - Potential Delivery schedule
      - Anticipated Data Rights Assertions, if applicable.
   b. **Rough Order of Magnitude:** Estimated price for design and optional assembly.

3. **ENTITY QUALIFICATIONS:** Each offeror must complete Attachment 1 – Entity Qualifications. This does not count towards white paper page limits.

4. **REVIEWS:** White papers will be reviewed based on an integrated assessment of the following:

   - The degree to which the solution meets the requirements of the desired objectives.
   - The degree to which the potential delivery schedule meets the governments stated period of performance.
   - The review of potential impacts of the data rights assertions.
   - The review of whether the white paper sufficiently demonstrates 1) significant participation by NDCs or significant participation by non-profit research institutions, 2) all significant participants in the transaction other than the Federal Government are small businesses, or 3) at least one-third of the total cost of the prototype project is to be paid out of funds provided by parties other than the Federal Government.
   - Technology Readiness Level
   - Accuracy, reliability, and robustness
   - Deployment practicality and lifecycle cost
   - Alignment with USACE mission needs
   - Team qualifications and execution plan

5. **REQUEST FOR PROTOTYPE PROPOSAL:** The government reserves the right to request a prototype proposal based upon white paper submission only or, if further information is necessary, request a solution pitch. Offerors will not be scored or ranked. The solution pitch is an extension of the white paper submission, therefore will be evaluated within the same criteria listed above. Offerors determined to be the most advantageous to the government will receive an RFPP.

Part VII. PROTOTYPE PROPOSAL REQUIREMENTS AND EVALUATION

Once a solution is selected by the government, an RFPP will be issued to the offeror(s), including submission requirements. Once the RFPP is issued, the offeror and the Government will collaborate to develop the scope of work to be submitted as part of the offeror's proposal.

1. **CONTENT**

   a. **Cover Page**

      - Prototype Project Title
      - Name of Primary Business submitting proposal. Including Commercial and Government Entity code (CAGE) and Unique Entity Identifier (UEI).
      - Date proposal was submitted

   b. **Statement of Work Requirements:** The Offeror shall submit a statement of work that formally captures and defines the work activities, deliverables, and timeline, for the prime contractor and any subcontractors, necessary to execute development of the prototype. Include the following:

- Detailed Technical Requirements
- Define successful completion
- Reporting and Delivery Requirements
- Period and Place of Performance
- Government Furnished Property/Equipment/Materials/Data
- Access to any Government Sites or Systems, if necessary

c. **Milestone Payment Schedule:** The Milestone Payment Schedule shall include the firm fixed price payable events for the design effort. Each event shall include a description, target timeframe for completion, and proposed price.

d. **Pricing:** The Offeror shall provide sufficient detail to substantiate that the overall proposed price is realistic, reasonable, and complete for the work proposed. The Offeror shall also include a narrative explanation of the proposed prices. The Agreement Officer may request additional information to determine pricing is fair and reasonable.
   - Price proposals shall be submitted on a firm fixed price basis.
   - The depth and breadth of the price proposal shall be determined based on
   - the complexity of the requirement. At a minimum, include:
     - Labor Rates. Provide bases for which the estimated total labor hours were calculated.
     - Material/Equipment. Provide a list of the materials/equipment required to meet the technical solution proposed.
     - Indirect Costs. Provide estimate of the total indirect costs and supporting data on how this estimated was calculated (i.e. overhead, G&A, etc.)

   a. **Security Requirements.** Although not to be evaluated, the Offeror shall identify existing or describe capability of obtaining personnel/facilities security clearances if necessary. DoD security management and handling requirements outlined in regulations such as DoD 5200.1-R and DoD 5400.07 apply to prototype other transactions.

   b. **Data Rights -** All agreements that require data to be produced, furnished, acquired, or used in meeting performance requirements, must contain terms that delineate the respective rights and obligations of the Government and the contractor regarding the use, reproduction and disclosure of that data. The offeror shall identify any data rights assertions.

   c. **Key personnel qualifications.** The proposal shall include resumes of the Program Manager and other Key Personnel who will be assigned to and work on the proposed project. If the Offeror does not presently employ personnel in the positions identified as Key, the Offeror must present a description of the terms of the commitment(s). The Offeror shall describe the proposed labor hours and labor categories relating to the performance of the SOW of Key Personnel.

2. **PROPOSAL EVALUATION:** ERDC will conduct an evaluation of the submitted proposal in response to the RFPP to determine if the SOW reflects the requirements developed during the collaboration period between the Government and offeror and the price is fair and reasonable. If both factors are met and the Government's price is available, an award of the proposal may be made. The Government reserves the right to select all, part, or none of the proposal(s) received. The Government reserves the right to hold on to proposals that are not selected for award for potential future award.

3. **AWARD:** The Government intends to award one or more other transaction(s) from this project announcement.

Attachment 1

Entity Qualifications Under
33 U.S.C 2313 USC
Other Transaction Agreement

For the purposes of assessing an organization's nontraditional status under the Other Transaction Authority, the definition of a nontraditional defense contractor below only applies if the organization is acting as the prime contractor.

1. Nontraditional Defense Contractor (NDC) Defined:

An entity that is not currently performing and has not performed, for at least the one-year period preceding the solicitation of sources by DoD for the procurement or transaction, any contract or subcontract for the DoD that is subject to full coverage under the cost accounting standards prescribed pursuant to section 1502 of title 41 and the regulations implementing such section (see 10 U.S.C. 2302(9)).

Note: Per the statutory definition, NDCs are all entities that have not performed under a narrowly defined set of circumstances within one year of solicitation of the current OT opportunity. In order for an entity to not qualify for NDC status, it would need to meet all elements of the prescribed definition within that time period. This includes performance of a DoD contract or subcontract subject to full cost accounting standards (CAS) coverage within one year prior to solicitation of the Prototype OT opportunity. The effect of this narrow definition, is that a large number of entities will fall into the NDC category, including nearly all small business concerns, and even those firms that work exclusively with DoD. This is in part due to the exemptions to CAS coverage under 41 U.S.C. § 1502 and FAR Part 30, which exempt commercial contracts, Firm Fixed Price contracts based on adequate price competition, and any contract or subcontract with a small business concern, amongst other exemptions. Further, even where an entity is not outright exempt from CAS coverage, the entity may not have been subject to "full" CAS coverage. This is because full CAS coverage only applies to firms that receive a single CAS-covered contract award of $50 million or more; or received $50 million or more in net CAS-covered awards during its preceding cost accounting period.

2. Offerors Certification:

Company Name:

CAGE:

Based on the foregoing definition of a nontraditional defense contractor, I hereby certify that Eaton is a (Check one)

nontraditional defense contractor or

traditional defense contractor**

Signature/Printed Name/Position Date

** If the prime offeror is a traditional defense contractor, see page 2**

3. Significant Participation

If the prime offeror is a traditional defense contractor, to qualify for a prototype Other Transaction Agreement award in accordance with 10 U.S.C. 4022, there must be at least one NDC or non-profit research institution participating to a significant extent in the prototype project.

Note: Non-traditional Defense Contractors can be at the prime level, team members, subcontractors, lower- tier vendors, or "intra-company" business units; provided the business is participating to a significant extent (i.e., is a key participant). Examples of what might be considered significant may include, but are not limited to, supplying a new key technology or product(s), accomplishing a significant amount of the effort, or in some other way causing a material reduction in the cost or schedule or increase in performance. Significance is determined by the AO with input from technical advisors for each prototype project.

The following NDC(s) and/or nonprofit research institution(s) will be participating in this prototype project to a significant extent:

a. Company Name:

CAGE:

Specifically address the ‘significant participation’ this partner will provide:

b. Company Name:

CAGE:

Specifically address the ‘significant participation’ this partner will provide:

c. Company Name:

CAGE:

Specifically address the ‘significant participation’ this partner will provide:

Based on the foregoing definition of a nontraditional defense contractor, I hereby certify that the above mentioned companies are NDCs participating to a significant extent.

Signature/Printed Name/Position Date