Engineer Research and Development Center

Environmental Laboratory

Naval Support Area (NSA) Cutler Shoreline Restoration, Coastal Resiliency, and Asset Protection

Commercial Solutions Openings (CSO)

Request for Solution Briefs

Under Solicitation Number: W912HZ26SC002

As authorized by 10 U.S.C. 3458(a)

SECTION A: INTRODUCTION:

The Engineer Research and Development Center (ERDC) is issuing a Commercial Solutions Opening (CSO) authorized by the Department of Defense (DoD) Class Deviation 2022-O0007. Under a CSO, the ERDC may competitively award proposals received in response to a general solicitation, similar to a Broad Agency Announcement (BAA), to acquire innovative commercial products, technologies, or services based on a review of solutions by scientific, technological, or other subject matter expert peers within the ERDC. “Innovative,” for CSO purposes, means any new technology, process, or method, including research and development (R&D), or any new application of an existing technology, process, or method. Under this CSO, all products, technologies, and services shall be treated as commercial items; products, technologies, and services do not have to be “commercially available” to be submitted in response to this solicitation. If the solution meets the requirements of the regulation, the solution is *treated* as commercial whereby the Contracting Officer will utilize commercial procedures to develop and execute the resultant award.

The ERDC, Environmental Laboratory (EL) seeks expert technical support and innovation to develop a new application for natural and hybrid infrastructure (NHI) technology and methodology for NHI placement in a complex landscape in the northeastern-most region of the continental US. This region has traditionally been thought of as inhospitable for the use and deployment of interventions such as NHI due to the combination of extreme weather events and extreme variability in temperature. Innovation to develop applications of NHI at this location would greatly accelerate practice and expand its utility and use beyond traditional landscapes where it is typically observed.

Background:

The site is located at Naval Support Area (NSA) Cutler in Cutler, Maine and is representative of a DoD military installation that operates in an environment that is frequently subject to extreme weather events and extreme variabilities in temperature and is located within the Gulf of Maine with a high (~ 4 meters) tidal range (Figure 1). This naval installation is responsible for relaying critical military communications in the Atlantic Ocean, Arctic Ocean, and Mediterranean Sea. However, weather-related events (e.g. coastal storms, storm surge, and high winds resulting in flooding and erosion) threaten the installation's infrastructure, and the Navy must develop innovative interventions to cost-effectively reduce risks to military readiness.

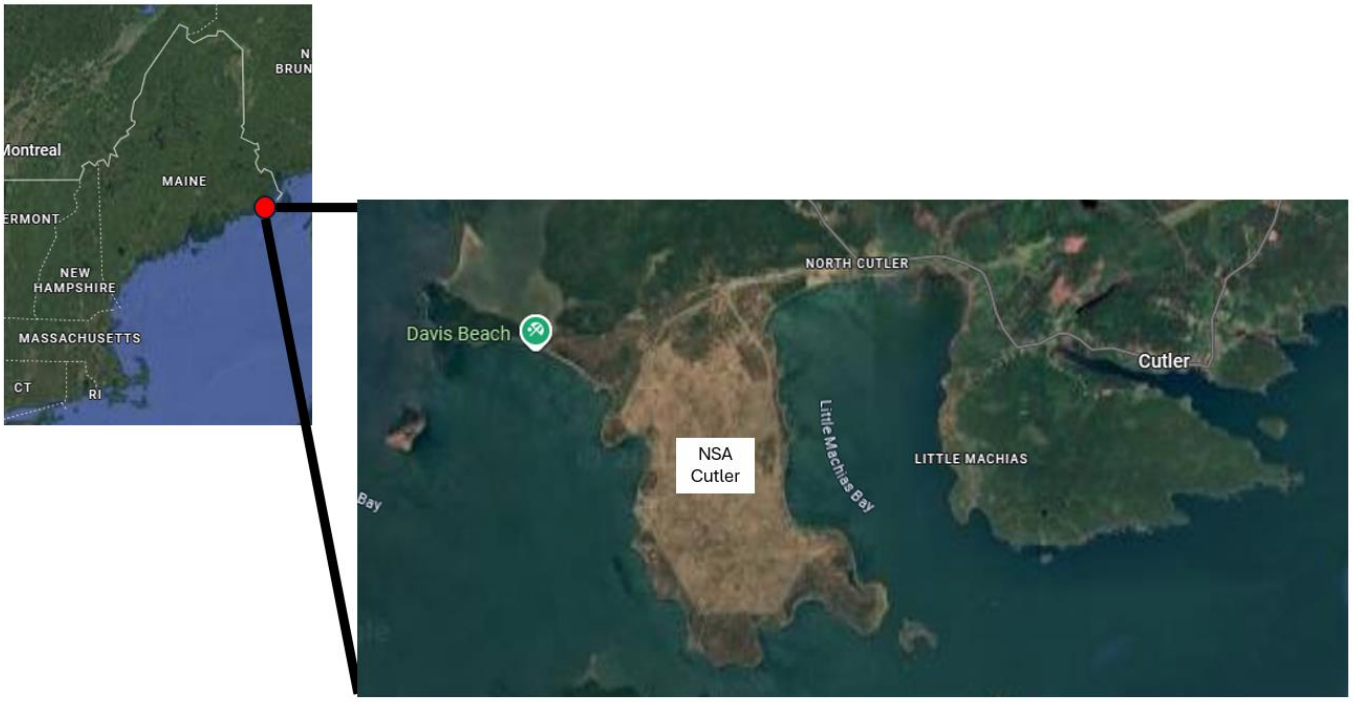

Figure 1. Location of NSA Cutler.

The mission of NSA Cutler is to provide navigational signals and maintain communications with ships, planes, and submarines in the North Atlantic Ocean, Arctic Ocean, and the Mediterranean Sea. Over the years, the installation has experienced considerable erosion and shoreline degradation along its eastern shoreline that abuts the Little Machias Bay. In many of these areas, several sections of critical infrastructure, including a perimeter road have been destroyed. Impacts are preventing security personnel from adequately conducting their patrols and performing surveillance-related activities. In addition, the mission critical Very Low Frequency (VLF) transmitter array terminal anchors along this shoreline have also been impacted due to slope failures. The existing ground grid, which connects to the large VLF towers and provides a grounding function, is also exposed in some locations and at great risk of not adequately performing.

The use of NHI, alone or in conjunction with conventional engineered structures, where appropriate, offers opportunities for reducing risks from natural hazards – strengthening installation and infrastructure through installation resilience. NHI also promotes sustained resilience by preserving operational capability under changing conditions and changing infrastructure needs while also protecting natural resources that are essential to the protection of the installation's assets. While use of NHI at installations located in temperate regions of the US (e.g., southeastern region of continental US) has gained considerable acceptance, use of NHI at installations located in extremely harsh environments (e.g., northeastern-most region of continental US) has not been pursued. Expanding applications of NHI technologies and practice, to include the extreme northeastern region of US, would be advantageous for the previously stated reasons while also diversifying and expanding the arsenal of interventions that could be applied to reduce the risks from weather-related events.

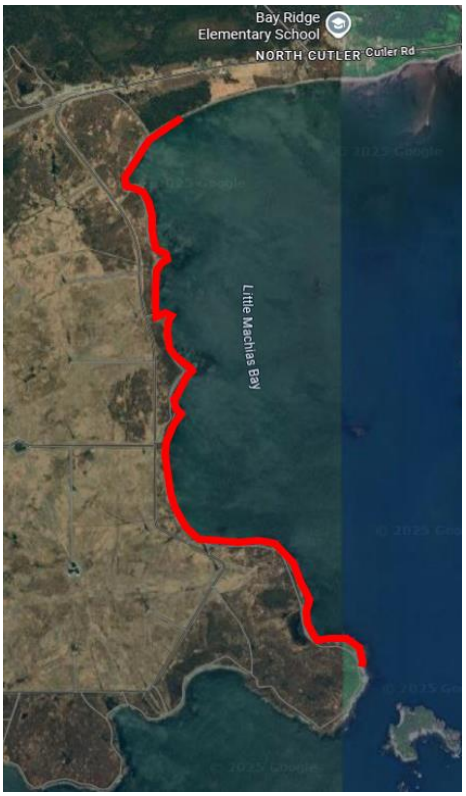

Figure 2. Coastline of proposed project site at NSA Cutler.

This Individual Program Requirement (IPR) focuses on the development of a new NHI application in conjunction with development of a new methodology for accelerating NHI placement in an extremely harsh, cold-weather environment along a section of coastline located at NSA Cutler (please see Figure 2). In addition, the NHI application(s) and other associated features would be optimized and vetted for performance under a variety of storm conditions known to this location. Development of a method for accelerating NHI placement will occur through exploration of different forms and geometries to include consultations with, and approvals from, Federal and state agencies with regulatory authorities applicable to the installation and the part of Maine's coastline where this NHI would be constructed.

ERDC possesses site-specific field data collected from acoustic doppler current profilers (ADCPs), cameras, gages, and other in-situ or remote sensing measurements from the project site indicative of typical semidiurnal tidal events, seasonal variations, and storm events. Additionally, ERDC has developed hydrodynamic and geomorphological models (e.g., ADCIRC, SWAN, STWAVE, XBeach, SFINCS, CSHORE and/or other compatible hydrodynamic and sediment transport models) to evaluate wave energy, inundation, erosional forces, and sediment dynamics affecting the shoreline under both current and future conditions. Model outputs include scenario-based results for a range of storm events representative of those expected in the Gulf of Maine, with particular focus on site-specific, morphodynamics, and coastal hazards within Little Machias Bay. Modeling results and outputs will be provided to the successful vendor for use with the conceptualization and identification NHI and conventional infrastructure within the project area.

In addition to the previously described modeling results outputs, ERDC and NSA Cutler will provide the following information and data associated with the project site for use with developing products and outcomes described in this request for solution briefs:

- Research-grade topographic measurements of the shoreline and intertidal zone;
- Historical shoreline change analysis;
- Locally collected wave, water level, current, thermal, and meteorological data from short-term field deployments;
- Grain size measurements from the shoreline;
- Compilation of relevant publicly available regional scale environmental, morphological, and remote sensing data products;
- NSA Cutler Integrated Natural Resource Management Plan (INRMP);
- US Army Corps of Engineers' (USACE) Jurisdictional Wetland Determination dated February 2015;
- Nearshore Surveys at NCTAMS, Atlantic Detachment, Cutler dated April 2016; and
- NSA Cutler Maine – Perimeter Security Roads Basis of Design Report dated October 2023.

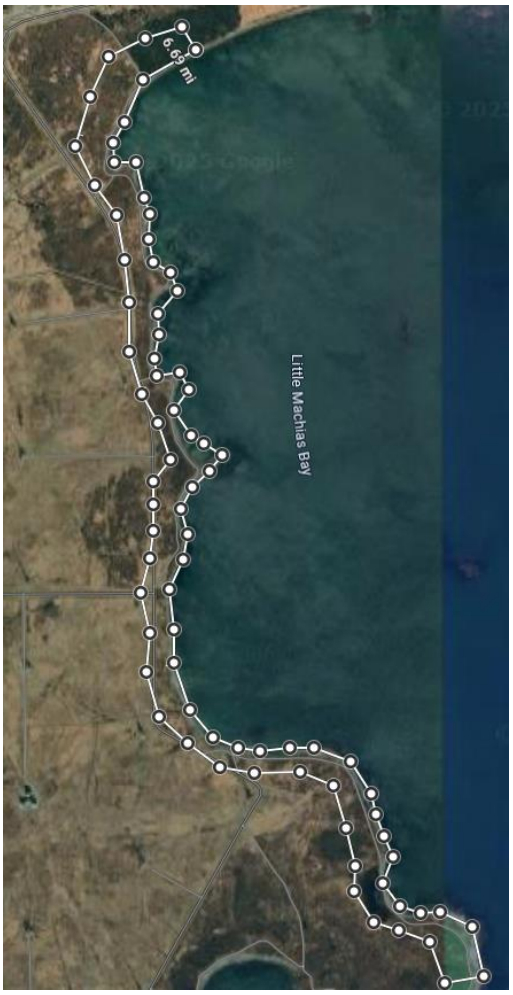

Figure 3. Approximate area of the project area.

Objectives:

The primary objectives of this request for solution briefs are:

- Develop an innovative NHI application for the NSA Cutler shoreline that will successfully reduce impacts derived from the extreme weather events that frequent this region of Maine's coastline. The coastline located within the project area is approximately 3.1 miles in length (Figure 2) and the total project area is approximately 170 acres (Figure 3). It is anticipated that 60% design concepts produced through this study would include, but would not be limited to:
    - combinations of NHI and conventional infrastructure for the purpose of fortifying and improving the entire length of the shoreline illustrated in Figure 2;
    - where applicable, innovative approaches for design and placement of culverts and/or other water conveyance features within the project area;

- where applicable, create designs for placement of repaired and/or segments of a new security road within the project area. In some instances, it's possible the preferred alternative design may illustrate the abandonment of an existing security road with implementation of a novel approach for conducting security patrols; and

- designs that include restoration of damaged terminal anchors and/or repositioning of existing terminal anchors would be expected as part of the 60% design product. At present there are approximately 6 terminal test ends and anchors that have been directly impacted because of coastline erosion experienced at the installation. In total, there are 96 terminal end/anchors within the project area that need to be evaluated for repositioning depending on the shoreline stabilization design(s) that are selected.

- Develop innovative method and expedited path for pursuing construction of the proposed NHI through the exploration and identification of a variety of NHI geometries and forms that a) achieve Navy-approved, risk reduction thresholds and b) incorporate input from representatives of Federal and state agencies with purview over regulatory authorities applicable to NSA Cutler and the part of Maine's coastline and waters where this NHI would be constructed (Figure 1).

- Generate estimated construction and maintenance cost for the proposed NHI and conventional infrastructure project based on 60% designs for preferred alternative.

- Complete draft permit applications for the proposed NHI and conventional infrastructure project with applicable state and Federal agencies in order to facilitate future construction of the project (construction is not included in this IPR).

- While a final decision on the preferred alternative plan and design concept(s) will ultimately be determined based on several factors including, but not limited to: a) resource agency input, b) project cost, c) estimation of NHI performance, and d) projected NHI maintenance requirements, it is anticipated that the overall project design will consist of approximately 40 - 60% NHI.

Requirements:

ERDC invites the submission of briefs that must meet the following eligibility and other requirements:

- The applicant team shall comprise a range of competencies required for development of NHI and conventional infrastructure along with expertise to evaluate anticipated performance of the proposed intervention. Example team representatives include, but are not limited to: field practitioners with experience applying large scale NHI interventions in a diverse number of coastal landscapes and settings; scientists and engineers with experience quantifying engineering performance of NHI and conventional infrastructure; and personnel with expertise developing state and Federal permit applications (and all supporting permit application exhibits) for NHI projects to

include conversations, presentations, and negotiations with respective agency representatives.

- Applicants are encouraged to submit evidence of previously successful efforts that include, but are not limited to: 1) development of NHI project concepts and designs, 2) successful acquisition of Federal and state permits in association with NHI, and 3) successful construction of NHI projects.

- Applicant team should be knowledgeable about Federal and state regulatory permitting that governs the placement of NHI and conventional infrastructure in Maine's coastal landscapes. Knowledge and experience with procuring environmental permits for work conducted at military installations is also required.

- Development of the NHI and conventional infrastructure intervention(s) must consider existing and future conditions of Little Machias Bay and the landscape that comprises and surrounds the NSA Cutler installation.

- Applicants should submit evidence that highlight previous work pursuing innovative NHI strategies in cold regions and/or other extreme weather environments (e.g., Arctic and sub-Arctic environments).

- Applicants are responsible for conducting work under applicable laws and regulations and obtaining all necessary federal, state, and local permits for any proposed sampling or testing needed to better understand the dynamics of the Little Machias Bay and coastline at NSA Cutler. Applicants are also responsible for coordination with ERDC, responsible USACE Districts, NSA Cutler, and State of Maine agencies, and other local and Federal agencies, as required, for an assessment of environmental effects of any proposed action at the installation.

<u>Not required, but highly desired:</u>

- Applicants are encouraged to describe any additional field work or data collection activities that would be pursued in support of achieving outcomes described in the section titled, 'Desired End-state'. Please see section titled, "Background" for a listing of information and data that will be provided to the successful vendor(s).

- Applicants are encouraged to describe how the proposed activities leverage existing Federal and state data and/or any ongoing programs and activities of Federal and State agencies.

- Applicants are encouraged to identify quantitative and qualitative success criteria for each project task and objective; identification of go/no-go decision points over the proposed project timeline are also desirable.

Estimated Government Funding Profile:

- The maximum total funding available for all awards under this announcement is $2,100,000.
- The Government may elect to award up to 3 awards.
- Multi-year proposals may be submitted.
- The Government may elect to award all years for selected projects or only the first year(s) of selected projects, depending on proposals received.

Estimated Period of Performance:

- 30 months maximum for multi-year awards.

Desired End-state:

- Development of coastal shoreline intervention(s) consisting of a combination of NHI and conventional infrastructure that can be placed along the shoreline at NSA Cutler. Design of the intervention should take into consideration parameters such as sediment transport, wave energy, inundation, erosional forces, and sediment dynamics affecting the shoreline under both current and future conditions.

- Delivery of 60% design drawings for a combination of NHI and conventional infrastructure that depict project baseline conditions, proposed design details (i.e. layout, dimensions, material selection, etc.), plan views and cross sections, and draft project specifications, and a preliminary engineering cost estimate (for project implementation planning purposes). Throughout the process, designs will be informed and updated based on reviews and inputs provided by Federal and state resource agency representatives, US Navy representatives, and ERDC representatives.

- Completion of permit applications that will be required by applicable state and Federal agencies in order to construct the project at some point in the future. Regulatory agency (pre-permit application) meetings will be scheduled in coordination with US Navy to introduce the project to regulators and obtain early feedback on proposed NHI concepts. Following that, permit applications will be developed for US Navy review and updated based on incorporation of any review comments. Compliance documentation and associated studies pertaining to such activities as environmental assessments (EAs), environmental impact statement (EIS) or national environmental policy act (NEPA)-related analysis are not required as part of this effort.

- Information concerning estimated construction and maintenance cost for the preferred designs for the NHI and conventional infrastructure that would be placed along the shoreline at NSA Cutler. Cost estimates will be based on 60% designs for the preferred alternative(s) that created and depicted in permit applications.

- Final project report documenting the steps and approach taken to identify proposed NHI and conventional infrastructure design(s).

This request for solution briefs is a two-step project announcement:

Step 1: This announcement is being issued to solicit solution briefs ONLY. The purpose of the solution brief submissions is to identify potential partners that may have promising solutions relative to fulfilling the requirements herein. An offeror that describes a promising solution may be asked questions regarding their solution via email or requested to virtually attend a solution pitch with the Government project team. The Government reserves the right to move straight to Request for Proposal (RFP) based on solution brief only. Further, an offeror's inability to accept an invitation to provide a solution pitch does not preclude them from receiving an RFP.

Step 2: If a solution is selected and funding is available, the Government will issue an RFP. If a solution is selected and funding is not available, the Government may request that the solution be maintained in the electronic library for consideration and subsequent funding availability up to three years after submission. If a solution is not selected, the offeror will be notified generally within 30 days of submission.

SECTION B: SOLUTION BRIEF PREPARATION AND SUBMISSION

NOTE: The Government reserves the right to not select a solution if it omits any of the required information below.

DO NOT INCLUDE CLASSIFIED

1. **GENERAL FORMATTING REQUIREMENTS:** Solution briefs shall be **no more than five pages** and 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.
   - Language: English.
   - Electronic file format: PDF, compatible with current Adobe Acrobat Reader. File size less than 20 MB.

2. **TECHNICAL REQUIREMENTS**:
   - Per information described in previous sections of this CSO, describe the proposed innovative solution and approach to accomplish the resilience needs at NSA Cutler. The proposed solution shall not simply repeat the objectives and requirements described in this document, but rather, provide convincing evidence that the proposed solution and potential shoreline interventions capability fulfill a Government requirement,

close capability gaps, or provide technological advancements. The following examples of convincing evidence are strongly encouraged.

- Authentic company URL or web address. Note: The Government may elect to use the information provided as part of its continuous market research. However, the government is not obligated to use the URL or web address as part of its evaluation process to determine the Selectee or Awardee.
- If applicable, summary of product commercialization currently used in the open market.
- Pictures, diagrams, models, or figures to depict the essence of the proposed solution(s).

- Describe how the proposed solution is "innovative" and the feasibility of the proposed solution(s) solving an agency challenge, including examples demonstrating possible application of the proposed innovation(s) or existing use of the solution in the commercial marketplace.
    - "Innovative" is defined as any technology, process, or method, including research and development, that is new as of the date of submission of a proposal, or any application that is new as of the date of submission of a proposal of a technology, process, or method existing as of such date.

3. **ROUGH ORDER MAGNITUDE (ROM)** – Estimated price ONLY. Further details will be requested for full proposal if selected.

4. **SUBMISSION**

SAM Registration: It is critical that offerors are registered in the System for Award Management (SAM), https://sam.gov/ ; offerors will not be eligible for an award if not registered in SAM at the time of submission. Additionally, entities are required to be registered to receive contracts (not just grants) and the address from the solution must match the registration information in SAM.

Solution Submission: For a solution to be evaluated for possible selection, it must be submitted via the electronic form at erdcwerx.org from the Naval Support Area Cutler Shoreline Restoration, Coastal Resiliency, and Asset Protection CSO Submit Solution link; submissions will be accepted through 10:00 AM, CST January 9, 2026. A hardcopy will not be accepted. Offerors may submit solution amendments any time prior to the deadline.

When a submission is made, a confirmation email will be sent by the ERDCWERX portal to the email address supplied in the submission form.

Please ensure that the email address listed in your proposal is current and accurate. Please contact us by emailing info@erdcwerx.org to share details of changed email address and/or company points of contact after proposal submission.

Due to the large amount of expected interest in this CSO, and to maintain a written record of questions, the ERDC will be accepting individual questions through the ERDCWERX portal by using their Question Submission Form. Interested parties may submit questions

using the Question Submission Form until December 14, 2025. The questions and answers will be published and regularly updated on the ERDCWERX Frequently Asked Questions (FAQ) page.

5. SELECTION

Solutions received in response to this announcement will be selected based upon an initial review of how innovative and feasible the solution is at solving the agency challenge, the potential to achieve the objectives described in CSO, and funding availability.

If a solution is selected and funding is available, an RFP will be issued by the Contracting Officer, which shall include a request for further details or documents prior to award (i.e., contractor self-developed Performance Work Statement (PWS) or Scope of Work (SOW), delivery details… etc.). A PWS is similar to a Service Level Agreement (SLA) used in the commercial marketplace. The PWS shall detail the proposed work to be completed during the period of performance, deliverables, etc. As many solutions will likely be performed/provided at military installations, the Government will provide the applicable security requirements to be included in any award. As appropriate, the Government may engage in a collaborative process to develop the PWS/SOW, deliverables, data rights, and necessary terms and conditions for the award.

Issuance of a RFP does not guarantee award. Award will be made once a proposal is accepted based on the proposal evaluation criteria in SECTION C.

The government reserves the right to select none of the submissions.

SECTION C: PROPOSAL EVALUATION

Proposals received in response to an RFP will be evaluated in accordance with the following evaluation criteria by scientific, technological, and/or other subject matter experts:

- Technical Merit
    - Feasibility of offeror's described approach to achieve requirements and objectives detailed in this IPR.
    - Offeror's previous experience with 1) development of NHI project concepts and designs, 2) successful acquisition of Federal and state permits in association with NHI, and 3) successful construction of NHI projects.
    - Offeror's previous experience pursuing innovative NHI strategies in cold regions and/or other extreme weather environments (e.g., Arctic and sub-Arctic environments).
    - Importance to agency programs
        - Will assess the solution's potential to enhance the mission effectiveness of the agency.

- Funds availability
    - Will assess the availability of funding to procure the solution.

Price Reasonableness Determination: Price shall be considered to the extent appropriate, but at a minimum, the Contracting Officer will use market research as the primary method to determine that the price is fair and reasonable. The Government may elect to use external market research in the evaluation of the proposal. The ERDC must determine the price fair and reasonable prior to award using the procedures at DFARS subpart 212.209. In some circumstances, the Contracting Officer may request information from the offeror regarding recent purchase prices paid by the Government and/or commercial customers for the same or similar commercial items.

SECTION D: AWARD

All resultant contracts will be firm-fixed price. All items, technologies, and services (including research and development) procured via this CSO are treated as commercial. Applicants from universities and/or non-profit organizations should be aware that commercial clauses will be integrated into the award and should coordinate proposals with associated legal counsel prior to submission.

ERDC is conducting this CSO on a full and open basis and intends to award contracts in accordance with FAR part 12 and the FAR part that is deemed most appropriate for the solution proposed (i.e., FAR part 13, 15, and/or 35).

FAR / DFAR clauses will be integrated into contracts on a case-by-case basis based on proposed scope.

Additional terms and conditions may be required as circumstances necessitate; examples of such would be data rights, security, R&D, educational institutions, etc.

The government does not plan to engage in the debrief process outlined in FAR part 15 but will provide feedback to unsuccessful offerors as appropriate and at its discretion.

Award may be made using any appropriate FAR-based contracts in accordance with applicable authorities that are effective at the time of the award.