Virus isolation and molecular RNA analysis services for U.S. Geological Survey (USGS), Upper Midwest Water Science Center

THIS IS A SOURCES SOUGHT NOTICE ONLY FOR MARKET RESEARCH PURPOSES.

THIS IS NOT A REQUEST FOR PROPOSAL (RFP), REQUEST FOR QUOTATIONS (RFQ) OR INVITATION FOR BID (IFB).

NO FORMAL SOLICITATION IS BEING REQUESTED UNDER THIS NOTICE.

This Sources Sought Notice is for market research purposes to identify parties having an interest in and resources to support this requirement for an experienced laboratory to provide virus isolation and molecular RNA analysis for U.S. Geological Survey (USGS), Upper Midwest Water Science Center.

The result of this market research will contribute to determining the method of procurement, including whether establishing a single-award BPA is appropriate.

The Government will review the information requested in this announcement based on the responses to this sources sought notice/market research, this requirement may be set-aside for small businesses or procured through full and open competition.

The North American Industry Classification System (NAICS) code is 541380 (Testing Laboratories and Services) and the size standard is $19.0 million.

The following is a brief description of services that are required to be performed but not limited to:

A. Introduction:

U.S. Geological Survey (USGS), Upper Midwest Water Science Center has a requirement for an experienced laboratory to provide virus isolation and molecular RNA analysis.

B. Background:

Avian influenza virus (AIV) continues to circulate in North America, causing the largest epizootic in U.S. history, with record number of highly pathogenic avian influenza (HPAI) cases in wild birds, livestock, and mammals, including humans (USDA, 2025). Wild birds, particularly waterfowl, are the primary reservoirs for AIV and can shed large amounts of AIV in feces (Webster et al., 1978). Fecal shedding of the virus into waterbodies can lead to transmission to other bird and wildlife via fecal-oral route (Zhang et al., 2022). The USGS works to understand how water quality, infectious wildlife diseases (such as HPAI), and environmental exposure to bacterial and viral pathogens influence human, livestock, and wildlife health. For the past decade, the USGS has partnered with Federal and State agencies, poultry producers, and local farmers to monitor environmental water resources for AIV, including HPAI. USGS scientists have optimized a method to recover infectious avian influenza virus from surface water. USGS is collaborating with State and Federal agencies to determine the presence and transport of avian influenza virus in environmental matrices and pathways influencing agricultural and urban

environments. USGS is working to develop, optimize, and validate field and laboratory methods for the detection of infectious AIV from additional environmental matrices, including manure, sediment, and groundwater. As part of this effort, the USGS requires confirmation of recovery, viability (infectivity), and viral typing via virus isolation, quantitative reverse transcription polymerase chain reaction (PCR), and sequencing.

C. Scope:

Samples require egg inoculation, extraction, and PCR analysis. Once samples have been analyzed and data has been reported, the Contractor shall participate in interpretation of results and writing a manuscript for publication.

D. Technical Requirements:

The Contactor shall:

1. Ensure that facility meets and maintains laboratory biocontainment practices (defined by Biosafety Level), safety protocols, and appropriate permits required for all aspects associated with receiving, analyzing, storage, and disposal of 1) viral elute concentrated from environmental samples with unknown pathogen load and 2) virus isolation of pathogens such as AIV, including HPAI and LPAI.

2. Ensure that the laboratory facility is equipped with calibrated and certified equipment to safely and securely process, analyze, store, and dispose of samples.

3. Certify that all work with [potential] infectious agents will be completed following appropriate laboratory biocontainment practices including the use of certified biosafety cabinets.

4. Provide laboratory facility with required equipment to complete processing, analysis, storage, and disposal. Required equipment includes, but is not limited to biosafety cabinets, incubators, thermocyclers, pipettes, centrifuges, autoclaves, and ultralow temperature freezers. All freezers must be equipped with temperature loggers, alarm notification systems, and back-up cooling systems, ensuring that samples are maintained at a consistent, required temperature to ensure storage requirements.

5. Ensure that laboratory personnel are trained to complete processing and analysis adhering to protocols outlined below and provided by the USGS Technical Liaison.

6. Provide 33T antibiotic cocktail from the National Veterinary Services Laboratory (NVSL) or alternative antibiotic cocktail as deemed appropriate for use by the USGS Technical Liaison. Antibiotic cocktail must be readily available to add to received viral elute upon arrival.

7. Provide 9- to 11-day old specific pathogen-free embryonated chicken eggs (ECE) for virus isolation.

8. Using provided viral elute amended with antibiotic cocktail perform virus isolation in ECE as described in 'Virus Isolation and Propagation in Chicken Embryos' (Methods in Molecular Biology, Vol. 436: Avian Influenza Virus) or alternate method per project requirements determined by analyzing laboratory and USGS Technical Liaison.

9. Perform multiple viral isolation passages, if required due to egg death and/or unclear results via the first passage.

10. Perform titrations on concentrated viral elute (provided by USGS) upon request. Elute will be inoculated into 9- to 11-day old specific pathogen-free embryonated chicken eggs (ECE) as described in Spackman et al., 2019 or alternate method per project requirements determined by analyzing laboratory and USGS Technical Liaison.

11. Extract viral RNA from ECE virus isolation following the NAHLN standard operating procedure (NVSL- SOP-0068 (specific for avian influenza (AI) viruses and avian paramyxoviruses, such as Newcastle disease (ND)) or alternate method per project requirements determined by analyzing laboratory and USGS Technical Liaison.

12. Extract viral RNA from all concentrated viral elute (provided by the USGS) following the National Animal Health Laboratory Network (NAHLN) protocol (NVSL- SOP-0068 (specific for AI/ND)) or alternate method per project requirements determined by analyzing laboratory and USGS Technical Liaison.

13. Perform molecular detection of the influenza A virus (IAV) matrix protein gene by real-time reverse transcription PCR (RT-PCR) will be carried out following the NAHLN protocol (NVSL- SOP-0068) or alternate method per project requirements determined by analyzing laboratory and USGS Technical Liaison. Include internal (positive and negative) controls for extraction and amplification in every run. Identify and address inhibition when necessary, using inhibition controls. Controls will be included in PCR analysis and values will be provided upon request

14. If IAV matrix gene is detected, perform H5, H7 RT-PCR following NAHLN document (NVSL-WI-0053) or alternate method per project requirements determined by analyzing laboratory and USGS Technical Liaison. Any H5 or H7 isolates that yield a cycle threshold value <40 cycles in these subtype specific

assays will be submitted immediately to NVSL for confirmation of pathogenicity. Samples will be subjected to a second passage only as needed (based on detectable Ct value or upon special request), and procedures for PCR followed, as above, as needed.

15. Upon detection, ship any samples suspect positive for H5 to USDA NVSL. Once confirmed, follow proper procedures to dispose any viral elute or any isolated virus. Inform USGS technical liaison of any positive H5 results.

16. Store isolated virus and extracted RNA in an ultra-low -80C freezer. Provide freezer temperature logs upon request to USGS Technical Liasion.

17. Provide cultured LPAI (not to exceed 5 mL per year) to the USGS (Michigan Bacteriological Research Laboratory or equivalent) laboratory to use as positive control material. Contractor must be able to provide concentration (titration) and sequencing information regarding origin and strain. Positive control will be used for research purposes informing method development, optimization, and validation.

18. Archive samples at -80°C until results have been published, or disposal is requested by USGS technical liaison.

19. Upon request, ship any remaining concentrated environmental samples to the USGS (Michigan Bacteriological Research Laboratory or equivalent) laboratory.

20. Provide a written document describing the methods used for all processes including sample receipt, sample processing and storage upon receipt, virus isolation, molecular confirmation, and sequencing, as applicable. Information should include citations as appropriate and equipment details. This document is to be provided with data no later than 45 days following receipt of samples for virus isolation.

21. Deliver data to USGS technical liaison within 45 days of sample receipt.

22. Notify USGS technical liaison of any method deviations or issues with sample receipt and condition.

23. *Optional* – Perform targeted or whole genome sequencing analysis of isolated AIV viral RNA from ECE. Provide sequencing results and accompanying bioinformatics analysis.

(End of brief description of Services)

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If your organization has the potential ability to meet this requirement, please provide the following information to the Contracting Officer:

1. Tailored capability statement addressing the particulars of this effort, with appropriate documentation describing detailed information in providing the services described above.

2. The firm shall specify that they are either:

2.1 An **Indian Small Business Economic Enterprise (ISBEE),** small business, 8(a), HUBZone, SDVOSB, etc. and Or

2.2 **Other than small business** under the NAICS Code listed in the announcement.

2.3 The firm shall provide a point of contact name and e-mail information, and SAM.gov (Unique Entity ID (UEI) and must be registered and active in System for Award Management (SAM).

All information submitted in response to this announcement is voluntary – the Government will not pay for information requested nor will it compensate any respondent for any cost incurred in developing information provided to the Government. Materials submitted to the Government for review will not be returned. Respondents will not be notified of the results of the evaluation. **This is NOT a Request for Proposal (RFP), Request for Quotations (RFQ) or Invitation for Bid (IFB).** The Government does not intend to award a contract based on responses received under this announcement.

The government will evaluate market information to ascertain potential market capacity to provide services consistent in scope and scale with those described in this notice and otherwise anticipated.

In order to be responsive to this Notice, a firm shall provide the appropriate documentation for consideration by August 17, 2026 at 2:30 p.m. Mountain Daylight Time (MDT). Responses that do not comply with these procedures will not be considered.

Telephone inquiries will not be accepted or acknowledged, and no feedback or evaluations will be provided to companies regarding their submissions.

Inquiries will only be accepted by e-mail to Lisa Williams at lisa_williams@ios.doi.gov.