

SCOPE OF WORK
for
MUNITIONS AND EXPLOSIVES OF CONCERN SURVEY
for
ACCESS TO CULTURAL SITES, PHASE I
MAKUA MILITARY RESERVATION
ISLAND OF OAHU, HAWAII

1.0 Location. This project shall consist of Munitions and Explosives of Concern (MEC) surface and subsurface pedestrian survey for identifying, locating and GPS mapping in areas encompassing selected cultural resource sites, including access routes, located on Makua Military Reservation (MMR), Island of Oahu, Hawaii (Enclosure 1).

2.0 Authority.

2.1 Section 106 of the National Historic Preservation Act of 1966, as amended;

2.2 American Indian Religious Freedom Act (AIRFA);

2.3 Settlement Agreement and Stipulated Order, executed 4 October, 2001 (SASO).

3.0 Background and Scope of Work. The U.S Army Garrison, Hawaii (USAG-HI), is mandated to provide access to selected cultural sites on MMR to Native Hawaiians in compliance with AIRFA and SASO. The purpose of this contract is to provide surface and subsurface MEC survey to identify and locate, with GPS instruments, MEC and MEC debris along potential access routes to cultural resources designated as cultural sites at MMR. Cultural resources at MMR have been identified during previous archaeological surveys and re-location, clearing, and preliminary mapping of these sites shall also be undertaken as part of the MEC survey. The MEC survey shall include, but not limited to, the Blue Trail that currently provides access to the back of the valley, beginning at the eastern portion of the South Fire Break Road (Enclosures 2 and 3). The survey may include all or portions of the selected cultural sites and any other desirable areas external to the sites. The purpose of the survey is to furnish USAG-HI with MEC ground data that would allow the Garrison to make informed decisions on the selection of cultural sites for the purpose of cultural visits in compliance with AIRFA and SASO. The U.S. Army has used MMR as a training range from the middle of the 1940's. Consequently, presence of MEC's on the range is inescapable, posing potential hazard to life and limb and safety issues for non-DOD personnel and pedestrians at MMR. MEC survey shall be conducted to identify MEC and constituents on the surface and subsurface to a minimum depth of 12 inches (1 foot) below surface. Surface MEC and subsurface anomalies identified during the survey shall be flagged and their locations GPS mapped and identified such that each can be re-located and cleared of MEC at a later time should such actions be required. Various types of MEC have been identified previously at the back of the valley (see Enclosure 4) by USAG-HI personnel.

4.0 General. Contractor shall provide MEC site safety and work plans for the MEC survey; pedestrian MEC location, identification, and mapping; pedestrian archaeological survey; and limited vegetation clearing; as required for the performance and completion of all tasks specified under this Scope of Work. No MEC clearance, including any debris removal and disposal, shall be performed. The services may include, but are not limited to, furnishing labor, transportation including helicopter, equipment, material, supplies and supervision for archival research, site assessment, site characterization, terrestrial surface and subsurface surveys for MEC location and

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identification, archaeological survey, and GPS mapping and locating of MEC and archaeological sites and features. Overnight camping shall be required for completion of the survey at the back of the valley. The Contractor shall also be required to conduct appropriate field surveys, site visits, interviews with knowledgeable persons, and prepare required safety and health plans, work plans, and related sub-plans. Other environmental support studies, if required, will be supplied by the US Army Garrison, Hawaii (USAG-HI).

5.0 General Work Tasks.

5.1 Coordinate with the Project Manager (PM) for project information.

5.2 Prepare a Site Safety and Health Plan (including Accident Prevention Plan) for all archaeological and MEC/HTRW survey activities.

5.3 Prepare a work plan and related sub-plans for all archaeological and MEC/HTRW survey activities.

5.4 Provide services for archaeological and MEC/ HTRW locations, identification, mapping, and safety assessment of MEC and MEC constituents.

5.5 Reporting.

6.0 Detailed Work Tasks.

6.1 Coordination with Project Manager (PM). The Contractor shall coordinate with the Project Manager (PM) to gather appropriate project information and references, scheduling, points of contact, site access, resolution of technical difficulties, conferences, and project status. A Technical Manager (TM) shall be identified for this task order. The PM shall be the specific point of contact for the task order. The TM shall be responsible for quality assurance and the technical portions of the task order.

6.2 Prepare Site Safety and Health Plan for MEC and Archaeological Survey. The Contractor shall prepare a site safety and health plan (SSHP) that addresses field investigations and MEC survey. No fieldwork shall be implemented without the SSHP approval and acceptance by the Contracting Officer (CO), or the Contracting Officer's Representative (COR).

6.3 Prepare Work Plan for MEC Survey. The Contractor is required to prepare a work plan (WP) and related sub-plans that address the Contractor's method of accomplishing required services, including the archaeological survey. The plan(s) shall identify MEC identification survey strategies, and MEC location mapping. The WP and related sub-plans shall be prepared in accordance with the guidance provided in the Data Item Descriptions (DIDs) for MEC survey projects. No fieldwork shall be implemented without the CO or the COR acceptance of the WP. For this project, the WP shall address the elements noted below, as applicable. Those elements that are not applicable shall be so noted:

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- 6.3.1** EP 385-1-95, Basic Safety Concepts and Considerations for Munitions and Explosives of Concern (MEC) Operations dated 24 August 2005.
- 6.3.2** 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response dated 1 July 2003, shall apply to all MEC related actions that this site.
- 6.3.3** EM 385-1-1, Safety and Health Requirements Manual dated 15 November 2008.
- 6.3.4** DoD 4140.62 Management and Disposal of MPPEH dated 3 December 2004.
- 6.3.5** DoD Manual 4160.21.M Defense Demilitarization Manual.
- 6.3.6** DA PAM 385-64 Ammunition and Explosive Standards.
- 6.3.7** DoD 6055.9 Std. DOD Ammo and Explosive Safety Standards dated 5 October 2004.
- 6.3.8** TM 60A 1-1-31 EOD Surface Range Clearance General Info dated 19 December 1997.
- 6.3.9** Conventional Explosive Safety Submission for MEC Removal Action Supporting U.S. Army, Makua Military Reservation.
- 6.3.10** EP-75-1-2, Munitions and Explosives of Concern (MEC) Support during Hazardous, Toxic, and Radiological Waste (HTRW) and Construction Activities dated 1 August 2004.
- 6.3.11** EP 1110-1-18, Ordnance and Explosive Response, dated 24 Apr 00.
- 6.3.12** EM 1110-1-4009, Ordnance and Explosive Response, dated 15 Jun 07.

DID	Subject
MR 001	Work Plan
MR 005-03	Explosive Management Plan
MR 005-05	Geophysical Investigation Plan
MR 005-06	Accident Prevention Plan
MR 005-011	Quality Control Plan
MR 015.01	Accident/Incident Report
MR 030.01	Site Specific Removal Report
MR 085.01	Project Status Report
MR 080	Safety Exposure Report
OE-025.02	Personnel/Work Standards
MR 030	Site Specific Final Report
MR 100	Institutional Analysis and Institutional Control

6.4 Provide Services for MEC Survey and Archaeological Site Identification.

6.4.1 The Contractor will be expected to perform field investigations for MEC identification and location as well as of cultural and/or archaeological sites, including but not limited to, sites 4627, 4628, 4629, 5920, and 9523 (see Enclosure 3). The survey shall identify optimal paths/trails that lead from the Blue Trail to the cultural and/or archaeological sites with minimal MEC safety concern. The survey may include all or a portion of each cultural site and may even include areas outside of each site. The MEC survey shall consist of surface and subsurface detection and identification of various types of MEC including but not limited to military munitions, unexploded ordnance, and explosive wastes; geophysical surveys; placement of Siebert stakes at 5 foot intervals, or other USAG-HI approved demarcation to delineate

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cleared areas; GPS recordation and location mapping of cleared and excluded areas; and archival research to accomplish and complete the project. No disposal of MEC or MEC debris is required under this contract. Width of old and new access trails to each cultural site and/or feature is anticipated to measure no more than six (6) feet across. Width of existing road or trail such as the Blue Trail, which in some places may be overgrown with vegetation, shall also be surveyed to no more than 3 feet on either side of the road or trail. Vegetation clearing shall be required in some areas of the new and old trail and access road building. All MEC and archaeological survey activities shall be performed in accordance with MMR Range Control procedures and manual. The survey team shall comply with Department of Defense Explosive Safety Board (DDESB) requirements for MEC survey and include archaeologist(s) necessary to accompany MEC personnel to re-locate and identify the physical limits and feature(s) of the selected cultural sites. The duration of the fieldwork is anticipated to be at most 6 weeks depending on size of MEC personnel and accompanying archaeological team. Contractor shall coordinate with POH, USAG-HI Cultural Resource Manager, and MMR Range Control to ensure protection and preservation of cultural site as well as ensure personnel safety issues from carrying out these activities. All NHPA Section 106/110 consultation and protection of cultural sites affected during this project will be performed by USAG-HI.

6.4.2 Contractor's Responsibilities. The Contractor shall use qualified personnel with appropriate expertise/discipline to conduct the MEC survey as efficiently and economically as possible. Unless otherwise specified, the Contractor shall provide his/her transportation, lodging, and meals while conducting activities under this task order.

6.5 Reporting. The Contractor shall prepare 2 sets of reports, one for the MEC clearance and the other for the archaeological portion of the field survey, to meet the following conditions and requirements. Reports shall be delivered in the quantity and by the date indicated in paragraphs 8.1 and 8.2. All reports and drafts shall be submitted to the COR at the U.S. Army Corps of Engineers, Honolulu District, Hawaii, (ATTN: CEPOH-PP-E), Building 230, Fort Shafter, Hawaii 96858-5440. Contractor shall submit written progress reports beginning 7 calendar days from the date of start of fieldwork, and submitted every week thereafter at the end of a work week. These reports shall follow 2 streams, one for MEC and the other for archaeological sites, and may be in a standardized format designed specifically for such reporting. These reports shall include, at a minimum:

6.5.1 Description of the work performed and quantitative statement of overall progress, including types of MEC/archaeological features or sites, and numbers identified, safety issues/concerns regarding the MEC/ archaeological features or sites, and percentage of work accomplished on each task.

6.5.2 Description of current problems that may impede performance and suggested corrective action.

6.5.3 A final report shall be submitted at the end of the project. The final report shall document the total number of MEC identified and brief descriptions, as appropriate, of the archaeological and cultural sites identified and located. The report shall also include all information and data, issues and concerns, and all details and recommendations that will assist

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the Army in formulating management plans for MEC and cultural sites and access thereof, including removal and disposal of MEC in future MEC clearance projects on MMR. As warranted, the report shall also document any other potential MEC problems and/or hazards and human safety issues likely to occur, may still exist or likely to be present at a later time in the future and contributing factors, whether potential or otherwise, within the areas investigated for this project (e.g., subsurface MEC exposed through erosion and stream bank flooding, down stream transportation of MEC, etc.) and make recommendations, e.g., appropriate long term monitoring actions, on how these potential hazards may be mitigated or minimized should these cultural sites be made open for cultural visits to non-military personnel.

7.0 Equipment. Unless otherwise specified, all equipment, materials, transportation, lodging, meals, and supplies shall be provided by the Contractor. Any non-perishable items purchased for the performance of this contract shall become the property of the U.S. Government.

8.0 Report Format.

8.1 Draft Documents. Ten (10) copies shall be submitted to USACE to allow for review of format, content, and compliance with applicable contract provisions. Draft report comments will be returned to the Contractor for report finalization. Photographs included in the draft report need only be good quality photocopies.

8.2 Final Documents. Ten (10) bound, hard copies plus two (2) unbound hard copies, and five (5) digital copies of the final document (in .doc and .pdf format) shall be submitted to USACE. The final reports shall be in 8-1/2" x 11" page size. Stapling of the report will not be acceptable. Text and line drawing shall be clean, clear, and easily reproducible. All maps shall contain a north directional arrow and scale in feet and meters. One unbound copy shall include original photographs. Laser or color reproduction of photographs is permissible. Two sets of all photos taken will be submitted on CD and two copies of the photolog will be submitted in hard copy. Two copies each of all archaeological field notes and of site forms will be submitted digitally and in hard copy (total of four submissions). The final reports will be rejected if the report does not conform to specifications, or if there are editorial or typographical errors, production flaws, format discrepancies or any other problem that cause them to be less than a professional manuscript. Any additional costs to review the report or bring it to acceptable quality will be at the Contractor's expense.

9.0 Meeting and Coordination. Conferences shall be held, as necessary, between the Contractor and the CO and COR to resolve contractual difficulties, and to brief the CO and COR of significant hazardous problems.

10.0 Special Conditions.

10.1 Professional Personnel. The Contractor shall employ, either directly or through subcontract, personnel adequate in numbers, skill, and qualifications to accomplish the work required in conformance with this SOW and schedule. Any changes to the personnel listed in the proposal shall be submitted in writing for approval by the CO and/or COR. The Contractor shall provide documents & certification validating the Contractor's personnel qualifications.

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10.1.1 Principal Investigator/Project Manager/SUX0S. The professional aspects of the entire program shall be under the direct control of an MEC Principal Investigator/and/or Project Manager (PI/PM) and an archaeological PI/PM. The MEC Senior UXO Supervisor (SUXSO) shall have at least ten years experience in conducting surveys on ordnance contaminated property and shall have graduated from, at a minimum, the Surface Explosive Ordnance Disposal School in Indian Head, Maryland or the U.S. Army Bomb Disposal School at Aberdeen Proving Ground, Maryland. The archaeological PI/PM shall comply with Secretary of the Interior's standards for an archaeological PI. The MEC PM or SUXSO and the archaeological PI/Field Director shall be responsible for all data, studies, analyses, and reports undertaken in their respective areas of expertise.

10.1.2 Key Personnel. The key personnel shall include the Project Manager, PI, any subcontractors, supervisors, consultants, and staff. It will assume that the key personnel be continuously responsible for the conduct of and for close involvement with the technical efforts identified in this SOW. The key technical personnel identified in the technical proposal are considered essential to the successful completion of the work being performed by the Contractor under this contract. If, during the performance of this contract, the Contractor must utilize key personnel or specialized personnel other than those named in the technical proposal, such substitution shall not be made without prior written approval of the CO or COR.

10.1.3 Technical and Support Personnel. The Contractor shall ensure that adequate technical and support personnel are available and that all technical and support personnel are competent and experienced in the work proposed. The Contractor shall provide a list of key personnel for approval.

10.2 Supervision. During the course of the contract, the following situations shall require prior written approval by the CO or COR.

10.2.1 Any key personnel changes.

10.2.2 Reduction, at any time average over a monthly span, in the PI's ability to devote a minimum of 25 percent of his/her time to the project.

10.3 Subcontract. The Contractor shall not subcontract any portion of this contract to a party other than those identified in proposals submitted for this task order without written authorization from the CO or COR.

10.4 Safety.

10.4.1 The Contractor shall at all times conduct operations in a safe manner and in accordance with the Corps of Engineers Safety and Health Requirements Manual (EM 385-1-1, latest Revision date of 15 November 2008). In addition, the Contractor shall follow the Standard Operating Procedures for ordnance safety as established by the U.S. Army Corps of Engineers, Huntsville Engineering and Support Center. Copies of both will be provided to the Contractor upon request at time of contract award.

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10.4.2 Contractor shall also ensure that all personal protective equipment (PPE) for all portions of the field work is in compliance with Army and DoD rules and regulations for military training ranges. PPE for this project may include flak jacket for upper body protection and kevlar helmet, in compliance with Schofield Barracks Range Control policy.

10.4.3 Contractor shall submit, at the end of each month, to POH PM project work hours on POD Form 37-R in compliance with EM 385-1-1 (15 Nov 2008) Paragraph 01.D.05c. Work hours include all hours on the project where an employee is in an on-duty pay status.

10.5 Other Requirements.

10.5.1 During the progress of the work, the Contractor may be called upon by the Government to produce preliminary study data and information that is deemed necessary to satisfy Government needs. The Contractor shall provide data from this project to the extent that such requests do not detract from the contractual objectives of the study.

10.5.2 The Contractor shall be prepared to support and participate in various public forums as specified by the Government. This may include but not be limited to, assistance in compiling presentation data and expert technical testimony during public information meetings, Restoration Advisory Board meetings, inter-agency coordination, and other activities as defined by the Government.

10.5.3 The Contractor shall be responsible for accuracy and validity of the data. In the event of controversy or court challenge of the reports(s), the PI(s) may be placed under contract by the Government to testify on behalf of the Government in support of report(s) findings.

10.5.4 The Contractor shall be expected to properly, appropriately, adequately, safely, and thoroughly investigate all areas and sources of information pertinent to the objective analysis of the work tasks specified in this and each task order SOW. The report and execution of investigation shall be done in an objective and dispassionate manner delineating fact and opinion. Interpretations shall be presented as arguments clearly identifying assumptions, premises, biases, and logic. Hypotheses shall be identified as such. All technical terms used in the report shall be defined. Concise, but complete description detailing the data, methods, conclusions, and recommendations shall be based on professional judgments of recognized experts in their field of research.

10.6 Coordination. Contractor shall have to coordinate closely with MMR Range Control to establish times to conduct field investigations.

11.0 Contractor Release. The Contractor is required to submit his/her written and signed "Release of Claims" form to the Contracting Officer with his/her final bill for service rendered under the terms of this contract.

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12.0 Contract Execution and Reports. The Contractor is expected to develop an objective final product for fulfillment of the terms of the contract. The Government expects that the Contractor shall properly, appropriately, and adequately include and thoroughly investigate all areas and sources of information pertinent to the objective analyses of the areas specified in the SOW.

13.0 Period of Contract and Schedule. The contract shall be for a period of 365 days from award. The following schedule and project milestones will apply.

Project Coordination Milestone	Calendar Days After Award	Est. % Work Completed	Action
Submittal of SSHP and WP	30	5	Plan/Letter to POH
Start of Fieldwork	60	15	Phone / E-mail
End of Fieldwork	240	75	Letter
Submit Draft Report	330	85	Report & Letter
Submit Final Report	365	100	Report & Letter

14.0 Release of Information. The information developed, gathered, and assembled in fulfillment of the contract required as defined in or related to the SOW shall not be released by the Contractor, his/her consultants, his/her subcontractors or their associates without prior coordination and approval by the Contracting Officer or his/her designee.

15.0 Use of Information. The information developed, gathered, and assembled in fulfillment of the contract requirements as defined or related to the SOW will become the complete property of the Government and shall, therefore, not be used by the Contractor for other purposes at any time without the written consent of the Contracting Officer or his/her designee.

16.0 GPS and GIS Requirements. This contract calls for the GPS recordation of areas cleared of MEC, and sections that could not be cleared due to anticipated impacts to cultural sites. Following are the requirements for geospatial data collection:

16.1 GPS (Global Positioning System)

16.1.1 All geospatial data will have GPS points taken with sub-meter accuracy.

16.1.2 The GPS points will be differentially corrected, and contain attribute detail on time and date of collection, as well as Positional Dilution of Precision (PDOP).

16.2 GIS (Geographic Information System)

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16.2.1 All GIS project files (.mxd) will be viewable in ESRI software. Deliverables in MicroStation, MapInfo, GeoMedia, AutoCAD, or any other geospatial software format will not be accepted.

16.2.2 All GIS data will be delivered and viewable in ESRI format.

16.2.2.1 Interim data may be delivered in either shapefile (.shp) or personal geodatabase (Version 9) feature class format (.mdb).

16.2.2.2 Final data will be delivered in personal geodatabase (Version 9) feature class format (.mdb).

16.3 All final GIS data will be compliant with the most current Spatial Data Standards per the Interim Policy established by the U.S Army Assistant Chief of Staff for Installation Management dated 16 October 2001. If needed, the Spatial Data Standards (SDS) are available through the U.S. Army Corps of Engineers, Honolulu District.

16.4 All interim and final GIS data will include Federal Geographic Data Committee (FGDC) compliant metadata per Executive Order 12906 (April, 1994), as amended by Executive Order 13286 (March, 2003).

16.4.1 FGDC-compliant metadata will be created and stored in either .xml or .met format.

16.4.2 Although not a FGDC requirement, the final metadata will include GPS base station and receiver parameters (base station location and frequency of signal, base station and receiver type used and antenna height).

16.4.3 GPS base station and receiver parameters will be stored in the FGDC-compliant metadata file under "Process Description."

16.5 Interim and final GIS data will be delivered in Universal Transverse Mercator (UTM) projection (in meters): Zone 4N. The datum will be North American Datum of 1983 (NAD83).

16.6 Final GIS Deliverables:

16.6.1 The Contractor shall provide two (2) final copies of all GIS data.

16.6.2 All geospatial deliverables (personal geodatabase feature classes) will be presented in digital format via Compact Disc (CD) medium.

GOVERNMENT ESTIMATE for Preliminary MEC and Archaeological Survey for Cultural Sites Access Back of Valley at U.S. Army Makua Military Reservation, Oahu Island, Hawaii

Estimated Total: \$325,100.00