

STATEMENT OF WORK

**N40192-25-2-8000**

INVASIVE UNGULATE MANAGEMENT WITHIN JOINT REGION MARIANAS AREA OF  
RESPONSIBILITY

11 MARCH 2025

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## Acronyms and Abbreviations

AAFB	Anderson Air Force Base
AHA	Activity Hazard Analysis
AOR	Area of Responsibility
APP	Accident Prevention Plan
BMP	Best Management Practices
CATR	Cooperative Agreement Technical
CFR	Code of Federal Regulations
CS	Contract Specialist
DoD	U.S. Department of Defense
DON	U.S. Department of the Navy
EV	Environmental
FTE	Full-time Employee
GIS	Geographic Information Systems
GO	Grants Officer
GPS	Global Positioning System
INRMP	Integrated Natural Resources Management
JRM	Joint Region Marianas
MCBCB	Marine Corps Base Camp Blaz
NAVFA	Naval Facilities Systems Engineering
NBG	Naval Base Guam
NLT	No Later Than
POP	Period of Performance
POAM	Plan of Action and Milestones
RSOI	Request for Statements of Interest
SOP	Standard Operating Procedures
SOW	Statement of Work
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
UXO	Unexploded Ordnance

## **A. INTRODUCTION**

In compliance with all applicable environmental laws and regulations, the U.S. Department of the Navy (DON) is committed to stewardship and management of natural resources within JRM AOR. Invasive species are a major concern for federally listed species, ecosystems, and Department of Defense (DoD) assets within the Mariana Islands. Introduced ungulates include feral pig (*Sus scrofa*), Philippine deer (*Rusa mariannus*), and Asiatic water buffalo or carabao (*Bubalus bubalis*). All have significantly impacted the native ecosystems and resulted in mission impacts, including interference with vehicle movements, aviation, utilities, and training operations. Ungulates also have adverse effects on habitats such as wetlands and native limestone forests on DoD lands. Ungulate overgrazing of vegetation and damage to soil resources creates erosion and sediment runoff within numerous watersheds and reservoirs. Sediment runoff also impacts marine ecosystems and causes siltation to coral reefs. Research, control and/or eradication of these ungulates reduce impacts to watersheds and sensitive forest habitats, and enhance populations of native species, particularly threatened and endangered species.

## **B. PURPOSE**

The purpose of this Cooperative Agreement (hereafter: Agreement) is to:

1. Prepare and implement a project Work Plan pursuant to details below for the performance of the Statement of Work (SOW) that will accomplish Technical Requirements and Agreement Tasks;
2. Conduct detection surveys for invasive species within JRM AOR lands;
3. Provide control, eradication or sterilization services for invasive species within JRM AOR lands;
4. Develop, update, and implement plans for the management of invasive species within JRM AOR lands;
5. Implement studies to determine population estimates and demographics of invasive species within JRMAOR lands; and,
6. Analyze and report on efficiency of methods and management techniques to improve invasive species management.

## **C. LOCATION**

The location for the performance of this Agreement is on DoD lands within the JRM AOR to include, but not limited to, Naval Base Guam (NBG), NBG Naval Munitions Site (NMS), Marine Corps Base Camp Blaz (MCBCB), and Andersen Air Force Base (AAFB).

## **D. DESIGNATED REPRESENTATIVES**

1. The Grants Officer is Mr. Thelman M. Fontenot, Naval Facilities Systems Engineering Command, Marianas, PSC 455, Box 195, FPO AP 96540-2937, Nimitz Hill, Guam, email address [thelman.fontenot@fe.navy.mil](mailto:thelman.fontenot@fe.navy.mil).
2. For Naval Base Guam (NBG) lands the Cooperative Agreement Technical Representatives (CATR) for this agreement is Mr. Jason Martin, Natural Resources Specialist for Naval Facilities Systems Engineering Command, Marianas, PSC 455, Box 195, FPO AP 96540-2937, Nimitz Hill, Guam, email address: [jason.s.martin44.civ@us.navy.mil](mailto:jason.s.martin44.civ@us.navy.mil)
3. For Anderson Air Force Base (AAFB) the Cooperative Agreement Technical Representatives (CATR) for this agreement is Mr. Gregorio Borja, Natural Resources Specialist for Naval Facilities Systems Engineering Command, Marianas, PSC 455, Box 195, FPO AP 96540-2937, Nimitz Hill, Guam, email address: [gregorio.borja@us.af.mil](mailto:gregorio.borja@us.af.mil).
4. For Marine Corps Base Camp Blaz (MCBCB) the Cooperative Agreement Technical Representative

(CATR) for this agreement is Adrienne Loerzel, Forest Enhancement Program Manager for Naval Facilities System Engineering Command, PSC 455, Box 195, FPO AP 96540-2937, Nimitz Hill, Guam, email address adrienne.m.loerzel.civ@us.navy.mil.

The CATRs are responsible for ensuring that all work is performed pursuant to the requirements and specifications outlined in this Agreement, and that the work performed, including all written reports and professional services are of an acceptable technical quality. For this Agreement, the CATR shall be the first and primary point of contact for the Recipient regarding any inquiries, questions, concerns, and issues related to the implementation of the requirements and specifications of this Agreement. The CATR has no authority to make any changes to this Agreement, only the GO may affect any change to this Agreement.

#### **E. PERIOD OF PERFORMANCE**

**Period of Performance:** The Government anticipates an initial Period of Performance (POP) for the Agreement to be forty-eight (48) months starting from the date of award. After completion of the initial POP, the total performance period may include up to one (1) option period of twelve (12) months each dependent upon the availability of funds and the unilateral election of the Government to exercise an option to extend the term of the Agreement.

#### **F. MATERIAL AVAILABLE FOR REVIEW**

Recipient and/or his/her representative(s) will have access to the following materials through the CATR:

- a. 2020 JRM Integrated Natural Resources Management Plan (INRMP);
- b. 2013 Joint Region Marianas Ungulate Management Plan;
- c. Informal Consultation for Ungulate Control Using Air Rifle and Archery Equipment, Andersen Air Force Base, Guam
- d. NAVSEA OP-5, Chapter 2, Paragraph 2-1.6.3. Weapons.
- e. All other relevant documents and reports pertaining to ungulate management within the JRM AOR.

#### **G. GENERAL REQUIREMENTS**

1. The Recipient shall provide all labor, management, supervision, tools, materials, equipment, transportation, meals, and lodging for him/herself and his/her personnel. All Recipient equipment is subject to inspection and approval by the CATR.
2. The Recipient shall provide all equipment (unless otherwise stated) and analyses necessary to complete the work described within this Agreement. All data (raw and associated files), photographs, and equipment > \$5000 per unit in value and supplies > \$5,000 in aggregate value purchased with Agreement funds (including computer software) shall become the property of the DON at the end of the Agreement. Equipment is defined as “tangible nonexpendable personal property including exempt property charged directly to the Agreement having a useful life of more than one year.” Supplies are defined as “All personal property excluding equipment, intangible property, and debt instruments, and inventions of a contract or conceived or first actually reduced to practice in the performance of work under a funding agreement (“subject inventions”), as defined in 37 CFR part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts, and Cooperative Agreements.” (DoD Grant and Agreement Regulations, DoD 3210.6-R#)
3. The Recipient shall visit the study/project areas within the JRM AOR required to perform this Agreement as often as necessary and within the time limits stated below to accomplish the purposes of the Agreement as detailed further in this SOW. The Recipient will work with the respective CATR to acquire all required security and entrance clearances and camera passes for each employee working on this Agreement for any work on installations. The Recipient must comply with all security rules, regulations, requirements, and day-to-day operational changes thereto. Unannounced changes to day-to-day operational procedures may, at times, prohibit

the Recipient access to study/project sites. While on a JRM AOR installation, the Recipient shall abide by all applicable rules and regulations issued by the base installations located on DON property. The Recipient may be subject to inspections for contraband while on U.S. Government property.

4. The Recipient shall manage the total work effort and assure fully adequate and timely completion of services required under this Agreement. Included in this function shall be a full range of management duties including, but not limited to, planning, scheduling, inventory, analysis, quality control, and for meeting professional industry standards for conducting basic ungulate research and management.
5. Due to the complexity of work, the Recipient shall provide the following key personnel with the following minimum qualifications:
  - A. **Principle Investigator (Senior Scientist):** Throughout performance of the Agreement, the Recipient shall be able to provide the natural resources services required by this Agreement. The Principal Investigator shall have at minimum:
    - i. A doctoral degree in biology, veterinarian science, natural resources, conservation biology or similar field.
    - ii. A minimum of six (6) years of experience managing multiple concurrent projects as a senior scientist or project manager working with ungulates, biological studies or other environmental related work.
    - iii. Experience ensuring compliance with the agreement terms and conditions; review of project documents to ensure product consistency, assigning personnel consistent with agreement requirements and performing as the agreement's representative.
    - iv. Experience ensuring management of natural resources in compliance with all federal and local regulations, Department of Defense policies and orders, and other applicable or relevant and appropriate requirements.
    - v. Ability to provide technical oversight to all members of the ungulate management and depredation team.
  - B. **Project Manager:** The Recipient shall designate one (1) person as responsible for ensuring that provisions are in place for the project, personnel supervision, quality control and meeting of reporting requirements on a daily basis. The Project Manager shall have, at the minimum:
    - i. A Master's degree in biological sciences, natural resources management or similar related fields from an accredited four (4) year college or university; OR, a Bachelor's degree in biological sciences, natural resources management, or similar field from an accredited four (4) year college or university with a minimum of five (5) years of experience managing vertebrate invasive species management projects in tropical environments.
    - ii. Specific knowledge and experience with ungulates and/or natural resources management in the Pacific Islands or tropical island ecosystems, as demonstrated by at least three (3) years of previous field work or basic research experience to be well-documented and acquired under the employment of an academic institution, government agency, private company, or non-profit organization in the appropriate field.
    - iii. Prior experience in monitoring, controlling and/or developing and implementing protocols for the management of ungulates.
    - iv. Ability to be deployable to supervise Wildlife Biologists at various study/project areas located on JRM AOR lands.
  - C. **Wildlife Biologist:** The Recipient shall designate a minimum of four (4) Wildlife Biologists for implementing basic ungulate research, control and eradication, and all duties supporting the Tasks of this Agreement. Wildlife Biologists shall have, at minimum:
    - i. A bachelor's degree from an accredited four (4) year college or university in biological sciences, natural resource management, forestry, wildlife biology, zoology or similar science related field; or have a minimum of five (5) years of fieldwork experience with invasive species management.
    - ii. Two (2) years of work experience implementing ungulate or natural resources management. Experience needs to be well-documented and acquired under the employment of an academic institution,

governmental agency, private company, or non-profit organization in the appropriate field. Preference should be given to individuals with at least two (2) years of experience working in the natural resources field in the Pacific Islands or tropical island ecosystems, or with ungulate specific work.

- iii. Experience conducting fieldwork, and accurately recording, entering, and proofing data.
  - iv. Experience maintaining scientific records of their observations in the form of field reports.
  - v. Good physical condition, and capable of walking several consecutive miles while carrying gear and performing manual labor in a hot tropical environment on uneven terrain for multiple hours.
  - vi. Ability to take photographs and collect samples of animals for identification.
  - vii. Ability to safely deploy a variety of traps for the capture of wildlife.
  - viii. Ability to safely administer immobilization or lethal removal techniques of target wildlife.
  - ix. Ability to safely use firearms for implementation of project goals.
  - x. Ability to use compass, maps, data tablets, and GPS.
  - xi. A valid driver's license.
  - xii. Ability to obtain any and all local and federal permits required to conduct services, as required for each required task under the Agreement.
  - xiii. Ability to be deployable to study/project areas within JRM AOR lands.
- D. Ungulate Detection Canine Handler: The Recipient shall designate a minimum of one (1) Ungulate Detection Dog Handler for supporting activities pertaining to ungulate eradication or monitoring within the Tasks of this Agreement. Ungulate Detection Dog Handlers shall have, at minimum:
- i. Five (5) years or five thousand (5000) hours of work experience using canines to detect and remove ungulates for natural resource management purposes. Experience needs to be well documented and acquired under the employment of an academic institution, governmental agency, private company, or non-profit organization in the appropriate field. Preference should be given to individuals with at least two (2) years of experience working on ungulate management in the Pacific Islands or tropical island ecosystems.
  - ii. Individual will possess canines capable of detecting both deer and pig species with preference given to canines with experience detecting *Rusa* species.
  - iii. Individual will possess canines trained in the techniques of indicating/pointing and bailing. Preference will be given to individuals with canines capable of both techniques by command.
  - iv. Individual will possess canines trained to conduct low visibility (no trail barking) removal operations in populated environments.
  - v. Individual will have extensive experience utilizing current canine tracking/control collar technology to ensure accurate monitoring of canine location and if necessary control during all operations.
  - vi. Individual will possess canines with the necessary health standards to qualify for successful importation to Guam.
  - vii. Experience conducting fieldwork, and accurately recording, entering, and proofing data.
  - viii. Good physical condition and capable of walking several consecutive miles while carrying gear and performing manual labor in a hot, tropical environment on uneven terrain for multiple hours.
  - ix. Ability to safely administer immobilization or lethal removal techniques on target wildlife.
  - x. Ability to safely use firearms for implementation of project goals.
  - xi. Ability to use compass, maps, data tablets and GPS.
  - xii. A valid driver's license
  - xiii. Ability to obtain any and all local and federal permits required to conduct services as required for eradication specific activities under the required Tasks for this Agreement.
  - i. Ability to be deployable to study/project areas within JRM AOR lands.
- E. Vegetation Management Field Lead:

- i. At least 2 years of landscape management experience including: vegetation trimming, weed management, invasive plant control and herbicide application.
  - ii. Recipient shall provide contact information for three references familiar with the key personnel's landscape management experience for the above requirement.
  - iii. DoD or Government of Guam pesticide applicator's certification
6. The Recipient must have prior experience conducting basic ungulate research and management on military installations. The Recipient must have prior experience coordinating and working with military installation requirements while implementing work described in this SOW.
7. The Recipient shall provide the CAA (via the CATRs) the names of persons, their position on the project, and copies of their resumes being considered for work under this Agreement. Resumes shall demonstrate the ability of each person to meet the minimum requirements of the position on the team. The Recipient shall not replace or substitute any staff member without prior written approval by the CAA.
8. Key Personnel will be evaluated as part of the Task Order evaluation process. Substitution of Key Personnel shall be approved by the Contracting Officer prior to the substitution. Substitutions shall have qualifications that are equal to or better than the Key Personnel evaluated as part of the Task Order Evaluation process.
9. The appropriate CATR shall be notified immediately and work stopped if any activities may adversely affect any threatened or endangered species. The Recipient shall work closely with the appropriate CATR in planning and carrying out all field activities.
10. Photography is restricted on certain JRM facilities. The Recipient and all of their representatives are required to obtain camera passes issued by the installation prior to taking any photographs on the premises. Only photographs of Agreement-related activities will be permitted.
11. Smoking is not allowed in non-developed areas while individuals are working on JRM AOR lands.
12. The Recipient may request to review pertinent files at JRM AOR and past basic research conducted at applicable JRM facilities.
13. At no additional cost to the Government, the Recipient shall be in possession of all necessary permits or certifications necessary to conduct the activities stipulated in this Agreement.
14. All parties involved in this Agreement agree to comply with all applicable laws and regulations pertaining to the provision of safe and respectful workplace and to provide a work environment free of harassment and intimidation for such party's own employees and third parties.
15. All work conducted in support of this Agreement shall comply with all federal laws, regulations, and requirements applicable to JRM including, but not limited to, the Endangered Species Act, the Clean Water Act and the Migratory Bird Treaty Act.
16. Vehicle operators may not use cell phones unless the vehicle is safely stopped or the cell phone employs a "hands free" device and must comply with all applicable laws, regulations, and installation policies.
17. All field notes, field data forms, electronic storage of field data, photographs, etc. collected and produced as part of this Agreement are the property of the DON. Legible copies of the field notes, data forms and other information shall be provided to the CATR upon request.

18. The data obtained during this Agreement shall be scientifically defensible and suitable for publication. All methods of data collection and analyses shall be standardized with previous studies under past Agreements for this type of work, or when appropriate, analyzed using acceptable new or improved methods as determined in current scientific literature(s). If changes in analyses make results unfit for comparison with previously collected data, the Recipient shall reanalyze all appropriate data sets for comparison. The Government shall approve (via the CATR[s]) in advance any changes to previously used experimental designs, methods of data collection and/or analyses, which shall be provided in the Recipient's required Work Plan. The CATRs, at their discretion, may subject draft work plans, draft reports or draft manuscripts to external peer review.
19. To avoid impacts to federally listed, rare, or endemic plants, the Recipient must coordinate all vegetation and ground disturbing activities with the CATR. Under no circumstances are any federally protected plants to be disturbed and/or destroyed when completing the work required in this Agreement.
20. Work areas within the JRM AOR may have Unexploded Ordnance (UXO) or other munitions and explosives of concern (MEC). Recipient field personnel will be required to attend the NAVFAC Marianas UXO Awareness Training prior to conducting any fieldwork and attend a NAVFAC-approved MEC/UXO awareness training annually. No ground disturbing activities are to take place unless authorized by the CATR.
21. Under no circumstances shall the Recipient violate the Archeological Resources Protection Act. If any objects are found that appear to be cultural or archeological resources, contact the CATR who will coordinate with the respective installation's Cultural Resources Program Manager. If the Recipient accidentally disturbs an archeological and/or cultural resources site, the Recipient shall leave the site immediately (as intact as possible) and contact the CATR and NBG Cultural Resources Program Manager.
22. No buildings will be modified or altered without permission from the CATR and designated base personnel. The Recipient shall not violate the National Historic Preservation Act.
23. The Recipient shall adhere to the most current version of the JRM Munitions Response Explosive Safety Submission (MRESS). The Recipient shall coordinate closely with the appropriate installation CATR, installation Explosive Safety Officer, MEC Program Manager, or other cognizant authority, and safety offices, as appropriate, to determine the requirements for work on the installation.
24. The Recipient must comply with the JRM Hazardous Waste Management Plan. The Recipient shall manage generated hazardous material, hazardous waste, and hazardous waste residues in accordance with Federal, State, and local regulations. Transport and dispose of hazardous waste (i.e., batteries) in accordance with Federal, State, local and applicable JRM requirements.
25. The Recipient shall inform the appropriate Base Security and CATR via phone and e-mail of any unusual activity observed while conducting surveys in the field (e.g. trespassers or persons in unauthorized areas). Information should include (a) location, (b) date, (c) time, and (d) any detailed facts regarding the activity.
26. Throughout the term of this Agreement the CATR shall be afforded the opportunity by the Recipient to periodically observe the Recipient's field activities, to review computer or paper files of raw data, prepared data (such as data analyses, summaries, maps, figures, tables, etc.), or any record deemed appropriate by the GO in establishing the Recipient's performance in fulfilling the requirements of this Agreement.
27. The DON, via the CS, may request updated data, including GIS data, presented on maps, figures and/or tables whenever the DON's need to obtain this information is before the next report required under Section J of this Agreement. The Recipient shall forward the requested data electronically within ten (10) days from the date of request. If the requested data cannot be provided within this time frame, the Recipient shall forward



electronically the most updated raw data to the CS, via the CATR. The DON understands that facilitating the most updated requested data may reduce the amount of work that would normally be accomplished during the period of time required to complete the request. The Recipient shall document the amount of efforts and its translated cost estimate that would have been incurred by the Recipient to complete the request for updated data. This document shall be electronically forwarded to the CS (via CATR) to review so that the DON will have a firm understanding on the amount of work displaced that would have normally been accomplished during the period of time required to complete the request.

## **H. SPECIFIC REQUIREMENTS**

The SOW for this Agreement requires the Recipient to develop and implement six (6) technical requirements and seven (7) Tasks during the performance period, as follows:

1. Prepare and implement a project Work Plan pursuant to requirements for the performance of the SOW that will accomplish Technical Requirements and Agreement Tasks;
2. Update and implement plans for the management of ungulates within JRM AOR lands;
3. Conduct detection surveys for ungulates within JRM AOR lands;
4. Provide comprehensive ungulate management services within JRM AOR lands;
5. Implement studies to determine population estimates and demographics of ungulates within JRM AOR lands, and,
6. Analyze and report on efficiency of methods and management techniques to improve invasive species management.

### Tasks:

#### Task 1 – Project Planning and Management for NBG, AAFB, and MCBCB:

The Recipient shall participate in a kick-off meeting prior to the start of work to become acquainted with all aspects of the project; discuss the statement of the proposed work including scheduling and coordination; define channels of communication and points of contact; and review safety expectations.

The Recipient will be responsible for presenting their Plan of Action and Milestones (POAM) detailing a schedule for timely completion of the project.

1. The Recipient will develop a Work Plan detailing how Agreement Tasks will be accomplished.
2. The Recipient will develop an Accident Prevention Plan (APP) and Activity Hazardous Analysis (AHA).
3. The Recipient shall ask any questions related to the successful completion of the work.
4. The Recipient shall prepare a brief to provide JRM AOR Commands as to the main approach, communication chains, and timelines for project execution.
5. The Recipient shall be responsible for documenting all discussions (meeting minutes). Meeting minutes shall be provided to the CATR within 5 days of all meetings.

The Recipient shall provide project status and schedule updates, and coordinate mobilization and field work throughout the duration of the Agreement. The Recipient shall coordinate closely with the CATR for the continued development (i.e., updates) and awareness of methodologies used during the implementation of the project. Protocols previously provided to the Government may require updating and refinement as new information and methodologies are deemed efficient and effective, or to address unique challenges during the project.

It is expected that the Recipient provide a flexible work team to perform multiple tasks simultaneously or switch task activities as demanded by field logistics and JRM mission requirements. As an example, the Recipient may be required to stop conducting trail camera studies if ungulate fence breach occurs (requiring eradication, etc.). These situations will be managed cooperatively with the CATR as identified using adaptive management.

The number of locations where work is conducted will be dependent on DON requirements and priorities among tasks within the POP. The Project Manager will work closely with the CATRs in prioritizing work locations within JRM AOR lands.

#### Task 2 – Ungulate Control, Eradication and Monitoring on NBG:

The Recipient shall conduct detection surveys (i.e., trail camera studies, roadside surveys, and track-station surveys), control and/or eradication of ungulates within NBG as determined by the NBG CATR. Eradication will be accomplished by using appropriate, approved tools (snares, air rifles, archery equipment, traps, bait stations, etc.), lethal removal with firearms, and work with trained dogs. Methods include active and passive efforts to achieve identified performance criteria within managed work unit. Work units may include fenced and unfenced areas where maintenance of working corridors is required. Fenced areas include ungulate exclusion plots, where fencing was installed to provide habitat protection to an enclosed area.

#### **Ungulate Management Locations:**

1. Naval Base Guam Ungulate Exclusion Plots
  - a. Alifan Conservation Fence #1
  - b. Naval Munitions Site Conservation Fence #2
  - c. Alifan South Conservation Fence #3 (Completed 2024)
  - d. Parsons Road South Conservation Fence #4 (Completed 2023)
  - e. Ungulate Fence #5
  - f. Other conservation fences as identified the Government.
2. Naval Base Guam lands as determined by the Government.

Within ungulate exclusion plots, work is intended to achieve eradication of all ungulates. Pre- and post-work monitoring efforts shall demonstrate to the Government the performance criteria is achieved. Such documentation includes, but is not limited to presence/absence, population estimates, frequency, density (abundance/area) and/or demographics of ungulates within work areas, as determined by NBG CATR.

Control operations outside of ungulate exclusion plots will be accomplished by using appropriate, approved tools (snares, traps, bait stations, etc.) and lethal removal with firearms if appropriate.

#### Task 3 – Carabao Sterilization on NBG

The Recipient will observe, capture and surgically sterilize carabao located on NBG lands. The intention of the effort is to ensure all male carabao lack the ability to impregnate cows. It is understood that cows may conceive if impregnation occurred prior to this Agreement; however, during the course of the Agreement, all males will be sterilized. Pre- and post-work monitoring efforts will be able to demonstrate to the Government that performance criteria is achieved. The Recipient will fit all carabao with numerical livestock ear tags or other physical markers, if no such indicator exists, for long-term monitoring of the herd.

#### Task 4 –Ungulate Control, Eradication and Monitoring on AAFB:

The Recipient shall conduct detection surveys (i.e., trail camera studies, roadside surveys, and track-station surveys), control and/or eradication of ungulates within Andersen Air Force Base lands as determined by AAFB CATR. Eradication will be accomplished by using appropriate, approved tools (snares, air rifles, archery equipment, traps, bait stations, etc.), lethal removal with firearms, and work with trained dogs. Methods include active and passive efforts to achieve identified performance criteria within managed work unit. Work units may include fenced and unfenced areas where maintenance of working corridors is required. Fenced areas include ungulate exclusion plots, where fencing was installed to provide habitat protection to an enclosed area.

#### **Ungulate Management Locations:**

1. Andersen Air Force Base Exclusion Plot locations:

- a. Tarague Triangle Conservation Fence.
  - b. Tarague II Conservation Fence.
  - c. Tarague III Conservation Fence.
  - d. Other conservation fences as identified by the Government.
2. Andersen Air Force Base lands as determined by the Government.

Within ungulate exclusion plots, work is intended to achieve eradication of all ungulates. Pre- and post-work monitoring efforts shall demonstrate to the Government the performance criteria is achieved. Such documentation includes, but is not limited to: presence/absence, population estimates, frequency, density (abundance/area) and/or demographics of ungulates within work areas, as determined by the AAFB CATR.

Control operations, outside of ungulate exclusion plots, will be accomplished by using appropriate, approved tools (snares, traps, bait stations, etc.) and lethal removal with noise suppressed air pellet rifles or archery equipment as described in the Informal Consultation for Ungulate Control Using Air Rifle and Archery Equipment, Andersen Air Force Base, 2020. Methods include active and passive efforts to achieve identified performance criteria within managed work unit. Philippine deer and feral pig control work units include areas of Northwest Field (NWF), Main A and Tarague Basin on AAFB.

Task 5 – Ungulate monitoring, control, and eradication on MCBCB:

The Recipient shall conduct detection surveys (i.e., trail camera studies, roadside surveys, and track-station surveys), rapid response, control and/or eradication of ungulates within MCBCB lands, including training areas, as determined by MCBCB CATR. Eradication will be accomplished by using appropriate, approved tools (snares, air rifles, archery equipment, traps, bait stations, etc.), lethal removal with firearms, and work with trained dogs. Methods include active and passive efforts to achieve identified performance criteria within managed work unit. Work units may include fenced and unfenced areas where maintenance of working corridors is required. Fenced areas include ungulate exclusion plots, where fencing was installed to provide habitat protection to an enclosed area.

**Ungulate Management locations:**

1. Marine Corps Base Camp Blaz ungulate exclusion plots:
  - a. Caignat Forest Enhancement Site Phase 1
  - b. Caignat Forest Enhancement Site Phase 2
  - c. South Taguac Forest Enhancement Site
  - d. North Taguac Forest Enhancement Site
  - e. Other conservation fences as identified by the Government.
2. MCBCB lands as determined by the Government
  - a. Mason Live Fire Training Range Complex
  - b. Skaggs Urban Training Complex (former Andersen South area)
  - c. Marine Corps Base Camp Blaz main cantonment and surrounding areas

Within ungulate exclusion plots, work is intended to achieve eradication of all ungulates. Pre- and post-work monitoring efforts shall demonstrate to the Government the performance criteria is achieved. Such documentation includes, but is not limited to: presence/absence, population estimates, frequency, density (abundance/area) and/or demographics of ungulates within work areas, as determined by CATR.

The Recipient shall provide rapid response services to detect and remove ungulates re-entering the Mason Live Fire Training Range Complex as a result of Guam Defense System pre-construction and construction activities (approximately 48 months).

Control operations outside of ungulate exclusion plots will be accomplished by using appropriate, approved tools (snares, traps, bait stations, etc.) and lethal removal with firearms if appropriate.

Task 6 –Maintenance of ungulate fences on JRM AOR lands:

1. Ungulate fences adjacent to roads shall be inspected twice per month, for a minimum of 24 inspections per 12-month period. Ungulate fences requiring walking inspections shall be inspected once per month, for a minimum of 12 inspections per 12-month period. During inspections, any damage shall be reported immediately to the Government. The Recipient shall immediately repair minor damage, such as tears or cuts in deer mesh or breaches under the base of the fence. Branches/trunks less than 6 inches in diameter along the fence shall be removed immediately.
2. In the event of a high wind event (sustained winds of 50 mph or greater), fences shall be inspected within 48 hours of the event. Should this type of inspection be required, the Recipient may count this inspection toward the minimum number of inspections required in item (1) and may adjust the inspection schedule accordingly.
3. Vegetation removal: any vines, weeds, or non-native trees with trunks less than 4 inches in diameter on the fence or within 3 feet of the fence shall be removed quarterly. For native trees within the 3-foot buffer on either side of the fence, the Recipient shall coordinate with the respective CATR to determine if the tree should be removed. The Recipient shall coordinate closely with the respective CATR to ensure no damage to any federally listed threatened or endangered species within 3 meters of the fenceline. The Recipient may use mechanical and/or chemical methods provided that (1) all herbicide use is applied by DOD or Government of Guam certified applicators, (2) herbicide is applied in a targeted manner to avoid impacts to native vegetation, and (3) use is reported through the DOD NOPRS system.
4. Green waste resulting from removal and maintenance efforts may be left on site, providing the green waste does not impede vehicle or walking access and does not damage native vegetation.
5. Cliffline portions of ungulate fences shall be inspected quarterly. During inspections, any damage shall be reported immediately to the Government and minor damage shall be repaired by the Recipient during the inspection. Vegetation along and/or on these sections of the cliffline portion of ungulate fences will be removed via mechanical and/or chemical means a minimum of 4 times per year.

**Ungulate Fence Management Locations:**

1. Naval Base Guam Ungulate Exclusion Plots:
  - a. Alifan Conservation Fence #1
  - b. Naval Munitions Site Conservation Fence #2
  - c. Alifan South Conservation Fence #3 (Completed 2024)
  - d. Parsons Road South Conservation Fence #4 (Completed 2023)
  - e. Ungulate Fence #5
  - f. Other conservation fences as identified the Government.
2. Andersen Air Force Base Ungulate Exclusion Plot locations:
  - a. Tarague Triangle Conservation Fence.
  - b. Tarague II Conservation Fence.
  - c. Tarague III Conservation Fence (Tentative completion; end of CY 2025)
3. Marine Corps Base Camp Blaz Ungulate Exclusion Plot Locations:
  - a. Caguat Forest Enhancement Site
  - b. South Taguac Forest Enhancement Site
  - c. Haputo Ecological Reserve Area
  - d. Mason Live Fire Training Range Complex Ungulate fence (Mason security fence requires inspection only, while ungulate fence requires inspection and vegetation removal)
4. Other JRM AOR lands as determined by the Government.

**Task 7- Reporting for NBG, AAFB, and MCBCB**

The Recipient shall provide all deliverables and reports on the findings from Task work during the POP. Reporting shall include but is not limited to: summary of work effort, methods, and recommendations, disease surveillance, data by location, GPS coordinates, track-logs or distance/area surveyed, trail camera locations and photos captured, polygons of surveyed or managed areas, ungulate demographics, population estimates, and summary statistics. Reporting shall be completed per Installation, as detailed in Submittals and Schedules Section

and in coordination with the CATRs. The Recipient shall provide monthly progress reports to include GIS data for work performed during the month (including fence line inspection data, herbicide application information, locations and fixes of fence breaks, etc.) and a cumulative final report including GIS data, results of eradication activities, and recommendations for improvement of ungulate management.

### **I. MEETING COORDINATION**

1. The Recipient or his/her designee will attend (either on site or via telephone) a kick-off meeting with the CATR and/or other necessary parties to ensure coordination of activities. The CATR shall arrange the meeting.
2. The Recipient shall attend bi-weekly coordination meetings with the CATR and other environmental staff, or as required.

### **J. SUBMITTALS AND SCHEDULES**

1. Electronic copies of all submittals/schedules/deliverables (examples include, but are not limited to, draft/interim/final reports, progress reports/monthly reports) will be provided to the CATR for retention in the official Agreement file.
2. Submittals

The Recipient shall submit the following:

- a. Monthly progress reports documenting the efforts to be provided electronically via email to the COR by the 10<sup>th</sup> calendar day of each reporting month, except in months where no major deliverables are due or no work has occurred. The report period shall cover the first through the last day of each month. The reports shall include the project name, contract and CTO number, report date, period covered (first day of month through last day of month), personnel involved, work completed during the reporting period, data collected, areas managed, problems encountered and resolutions/action items, GIS tracks for fence inspections, location of probable fence damage and its cause (i.e. poacher cut, branch, animal damage, etc.), location and description of vegetation removed, photo documentation of any threatened and endangered species and work planned for the following month. All datasheets developed during the Agreement may be requested for submittal to CATR, unless otherwise discussed.
- b. A draft report summarizing the compiled data shall be submitted to CATR for comment NLT thirty (30) days after completion of ungulate management tasks. CATR will review and return to the Recipient NLT thirty (30) days after receipt of draft report.

The Draft Project Report shall address the following:

- i. Title page showing title, date, contact information
- ii. Sub-title page showing title, prepared by listing, prepared for listing, date and recommended citation
- iii. Table of contents
- iv. Introduction (including background information)
- v. Methodology
- vi. Results and discussion
- vii. Conclusion (recommendations for future projects or changes to methodology and document any problems encountered)
- viii. Provide records, map, and photos of the fence damage, repairs, and vegetation treatment activities and GPS coordinates of the areas treated. Refer to section 3.6.e GIS Standards for GIS deliverable

ix. Draft Project Report shall be submitted to the Government appointed POC's for review. Recipient shall revise draft project report based on Government comment and re-submit Final Project Report two (2) weeks after receiving Government comment.

- c. The final report shall follow guidelines outlined in Attachment B, incorporating any comments, and shall be delivered to CATR NLT fifteen (15) days after receipt of comments on draft report, and shall include:
- (1) background information identifying the study area, previous relevant studies, and other appropriate information.
  - (2) recommendations for summary of preventative methods (including control protocols);
  - (3) results (including results from fieldsurveys and fence maintenance);
  - (4) discussion summarizing findings from the project; and
  - (5) spatial representation of work completed (e.g. tracks of eradication effort, locations of animals removed, etc.).
- d. A total of six (6) final reports will be delivered in electronic format.
- e. All GIS data (delineation of habitats and any other spatial data) will be delivered on DVD-ROM media.
- f. All GIS data will contain populated metadata, be SDSFIE compliant, and projected in UTM Zone 55 North, WGS84 and meet NavFacMarianas requirements for GIS data (see Attachment D).

### 3. Related Requirements and Information

The Recipient for the work under this Agreement will provide all study design, labor, transportation, equipment, material, tools, supplies, supervision, and administration services needed to complete the requirements in reference to the RSOI [Request for Statements of Interest] and SOW.

- a. The Recipient will coordinate and hold a project kickoff meeting with CATR to discuss work expectations NLT two (2) weeks after award.
- b. Recipient will submit draft Work Plan, draft POAM, draft Accident Prevention Plan (APP), and draft Activity Hazardous Analysis (AHA) seven (7) working days prior to the kickoff meeting.
- c. The Recipient will email monthly status reports (update on the results from surveys) in electronic format 10 days after completion of the month.
- d. If unforeseen conditions warrant any deviations from these methods, the Recipient must consult with the respective CATR.
- e. Work will be conducted according to the schedule agreed upon during the kick-off meeting. The Recipient shall notify the Agreement Administrator within two (2) business days of any problems that occur to prevent the scheduled field work. It is recognized that weather conditions, equipment failures and site conditions can interfere with fieldwork and create unforeseen unsafe working conditions. The Recipient will also immediately report any problems or concerns encountered at the field sites.

### 4. Performance Standard

The Recipient shall submit the final report according to the following performance standard:

- a. The Final Report adhered to the outline provided (See Section J [5] below and Attachment B).
- b. Conclusions in the Final Report were substantiated with available data and the relevant scientific literature, planning, and regulatory documents.
- c. All Government comments on the Draft Report were provided and addressed in comment matrix.
- d. All Government comments on the Draft Report were integrated. The Recipient shall submit the following deliverables:

<u>Task Deliverables</u>	<u>Copies</u>	<u>Submittal Date/Timing</u>
Draft POAM, draft Work Plan, draft APP, and draft AHA	Electronic-pdf format (email)	Seven (7) working days before kickoff meeting
Final POAM, final Work Plan, final APP, and final AHA	Electronic-pdf format (email)	Five (5) working days after receipt of GOVT
Kickoff meeting minutes	Electronic-pdf format (email)	Five (5) days after kickoff meeting
Monthly Reports	Electronic-pdf format (email)	Monthly
Draft Report	Electronic-pdf format (email)	No later than thirty (30) days after completion of ungulate management tasks.
Final Report	Electronic-pdf format (email)	No later than fifteen (15) days after receipt of Government comments.

5. Format for Deliverables

a. GIS Deliverables

Geographic Information System (GIS) layers (including but not limited to survey area polygons, species locations (e.g., of fence line, gate, tree out planting, and pre-existing native trees found within plots and along the originally proposed fence line, etc.) shall be submitted as part of all georeferenced data deliverables specified in this Agreement award. GIS-based color maps shall be included in the Draft and Final Reports. Data shall be projected in UTM Zone 55 North WGS84, delivered in a geodatabase compatible with ArcGIS 9.0 or greater utilizing the most recent SDSFIE format (currently version 3.1) to populate feature classes and metadata accordance with these standards and spatial data shall be usable upon delivery. Data deliverables shall also be compliant with the NAVFAC EV GIS Data Model, which can be provided upon request. A draft electronic copy of all GIS data created during the surveys shall be included with the Draft Report. All GIS products will comply with NAVFAC policy detailed in Attachment D.

b. Electronic Deliverables of Records

The data management may include a handheld field device for collecting field data and a web-based electronic media site, including a web GIS. The field handheld device will be used to record all field data including: MEC identification, man-hours for completing various Tasks, geophysical data, and other required spatial data per this Agreement. The joint use of this system is to facilitate electronic exchange of information, key processes, and overall management of the Agreement. The electronic version/file of the preliminary/internal draft, draft, and final after comments are addressed shall be submitted in both: A) the native format, which Navy prefers be a Microsoft product, and B) Adobe Acrobat PDF (or compatible) format. The PDF version of all final deliverables (other than raw analytical and databases) must be a complete, mirror image of the hardcopy, and include appendices, maps, signature pages, etc. At completion of the project with the Final Report submittals, the Recipient will provide an electronic deliverable with a copy of all reports, meeting minutes, point papers, maps and map databases, and briefings. All electronic submittals will be certified "virus free" and include the statement "virus free" on the disk or transmittal message. The Recipient shall verify, with the CATR, the appropriate data management requirements and electronic data deliverables.

c. CD-ROM Requirements

PDF files of final documents shall be provided in the following formats:

The entire document shall be provided as one .pdf file. The .pdf file shall have bookmarks for each item identified in the document's table of contents. The bookmark shall use the same description as provided in the table of contents. If the bookmark is lengthy, abbreviate as needed. Bookmark to the second level (i.e., 1.1, 1.2, 1.3, etc.). Do not bookmark signature page, list of acronyms, individual tables, photos, or figures. Each appendix, regardless of size, shall be provided as an individual pdf file. All maps, figures, and pictures shall be provided at a useable resolution. All color maps, figures, and pictures shall be provided in color PDF format.

All files associated with the document, shall be provided in native file format (e.g. Word, Access, CADD) via Outlook, DOD Safe, or on deliverable CD copies by request. If requested, the CDs shall include raw data and be labelled according to the following specifications.

The CD jewel case cover (outside front) and CD label shall use the current approved layout and include:

- NAVFAC Marianas logo
- Agreement Number Report Title
- Site
- Location
- Date Report finalized
- The word "UNCLAS"

Standard CD jewel cases shall be used. The jewel case spine shall identify the report title, site, and location. In the event multiple reports are requested on one CD, the jewel case cover (inside) shall include a list of all reports with the date and file name. The jewel case spine shall use "Various Reports" as the report title and also identify the site and location.

d. Photographs

The Recipient will document and record pertinent aspects of the work using color digital imagery. The Recipient will provide camera and all necessary equipment. Photographs of activities documented shall be included as an appendix on CD ROM. All photographs shall become DON Property and shall be submitted with the draft and final report. All original photographs shall be appropriately labeled with information to include:

- Date
- Location (specific place and Installation)subject/activity
- Identification of any people in the picture photographed

6. Submittal/Deliverable Standards

All submittals/deliverables are expected to be of the highest professional quality and may be rejected if any of the following exists:

- There are typographical errors, spelling, or grammar mistakes; Results and discussion are not tied directly and continually to natural resource management concerns of the installation;
- The document is not organized in a manner that flows well;
- The document does not provide appropriate context, background, literature review, and comparison to other relevant studies, locations, and similar species; or
- The appropriate style guide is not adhered to (in most cases this is the JWM or CSE).

## **K. DATA AND PUBLICATION**



1. This Agreement is subject to, and Recipient shall comply with, 2 CFR 200.314 concerning “Intangible Property,” which includes use of basic research data. Any information or data protected by Federal law will be identified by the Government prior to being provided to Recipient and the Government will notify the Recipient in advance of applicable limitations on such information. Except as to information so identified and limited, there are no restrictions on reporting or publishing reports based on the fundamental basic research that is the subject of this Agreement.

The Federal Government has the right to obtain, reproduce, publish or otherwise use the data first produced under this Agreement and authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes. The DON acknowledges and agrees that the Recipient’s fundamental consideration in performing the basic research under this Agreement shall be Recipient’s right to publish the results of such basic research for academic and scientific purposes. The Recipient shall submit, for review and comment, any proposed professional, scientific or non- scientific report, paper, or note published or unpublished or be part of any technical or non-technical presentation or be provided to anyone not a party to this Agreement to the DON thirty (30) days prior to the submission of the work mentioned above.

2. The acknowledgements for any paper or presentation resulting from this work shall include the following statement: “This basic research was funded by the Department of the Navy on behalf of Joint Region Marianas, Guam.” Any publications resulting from this work shall be provided at no cost to the Department of the Navy in quantities jointly determined by the Department of the Navy representative and the Recipient at the time of publication.
3. The Recipient shall be responsible for ensuring all personnel participating in activities under this Agreement have read and acknowledge the Data and Publication provisions of this Agreement.

#### **L. RELEASE OF INFORMATION**

The Recipient shall not respond to any inquiries about this Agreement from the news media or non-governmental organizations or other persons during the term of this Agreement unless it has first consulted with the Government and a determination appropriately made by the cognizant Government representative concerning release of information pursuant to the authority (Federal or State) cited by the requester. All inquiries shall be directed to the JRM Public Affairs Officer at the Region and Public Affairs Officer at NAVFAC Marianas through the CATR.

#### **M. SAFETY**

The Recipient shall develop and submit an Accident Prevention Plan (APP), including an Activity Hazardous Analysis (AHA) as an appendix. The APP with AHA shall be developed in the format provided in Appendix A of the EM 385-1-1, 30 Nov 2014, or latest edition with updates, US Army Corps of Engineers’ Safety and Health Requirements Manual and shall address each of the elements and sub elements in the outline.

The APP shall provide a safe and healthful environment for all of the Recipient’s personnel and others that may be exposed to potentially hazardous conditions at the project site. If the project is limited in scope, an abbreviated APP can be created, in the format provided in Appendix A of the EM385-1-1, 30 Nov 2014 or latest edition with updates, in the section “Abbreviated APP for Limited-Scope Service, Supply and R&D Contracts”. Recipient shall address the minimum requirements and other areas of the EM 385-1-1 that are pertinent to the Agreement. The Recipient shall certify to the CATR that the final APP has been reviewed with each Recipient’s and any subcontractor’s employees prior to mobilization and start of fieldwork activities.

A draft and final APP shall be submitted according to the schedule in the Task Deliverable Table (Section J). The APP shall be accessible to all site employees at all times during the project and a copy shall be mounted on or placed adjacent next to the Recipient’s safety and health bulletin board in an area commonly accessed by workers. If a bulletin board is not practical to have at the site, make the APP available in a vehicle or designated

spot utilized for work under this Agreement.

The draft APP with AHA must be submitted to the CATR for review and acceptance. The Recipient will work directly with the CATR to coordinate review, respond to comments, and obtain final acceptance of the APP. The Recipient shall forward a copy (with all corrections) of the final APP to the CATR prior to start of the work.

Recipient shall immediately inform CATR of any injuries or deaths that occur resulting from execution of this Agreement.

## **N. HOLD HARMLESS**

1. The Government shall not be responsible for the loss of or damage to property of the Recipient and/or his/her representatives, or for personal injuries to the Recipient and/or his/her representatives arising from or incident to the use of government facilities or equipment. Recipient shall indemnify, hold harmless, defend and save Government harmless and shall pay all costs, expenses, and reasonable attorney's fees for all trial and appellate levels and post-judgment proceedings in connection with any fines, suits, actions, damages, liability and causes of action of every nature whatsoever arising or growing out of, or in any manner connected with, the Agreement and attendant occupation or use of Government Premises including but not limited to JRM AOR, by Recipient, its employees, servants, agents, guests, invitees, and contractors. This includes, but is not limited to, any fines, claims, demands and causes of action of every nature whatsoever that may be made upon, sustained or incurred by the Government by reason of any breach, violation, omission or non-performance of any term, covenant or condition hereof on the part of the Recipient, its employees, servants, agents, guests, invitees, or contractors. This indemnification also applies to claims arising out of the furnishings of any utilities or services by the Government or any interruption therein or failure thereof, occasioned by the negligence or lack of diligence of Recipient or its respective officers, agents, servants or employees. However, this indemnity shall not extend to damages due to the sole fault of the Government or its employees, agents, servants, guests, invitees or contractors. This covenant shall survive the termination of this Agreement.
2. In the event of damage, including damage by contamination, to any Government property by the Recipient, its officers, agents, servants, employees, or invitees, the Recipient, at the election of the Government, shall promptly repair, replace, or make monetary compensation for the repair or replacement of such property to the satisfaction of the Government.

## **O. INSURANCE**

1. At the commencement of this Agreement, the Recipient shall obtain, from a reputable insurance company or companies satisfactory to the Government, comprehensive general liability insurance. The insurance shall provide an amount not less than a minimum combined single limit of \$1,000,000.00 for any number of persons or claims arising from any one incident with respect to bodily injuries or death resulting therefrom, property damage or both, suffered or alleged to have been suffered by any person or persons resulting from or related to the presence or operations of the Recipient, its employees, agents or contractors under this Agreement. The Recipient shall require the insurance company or companies to furnish the Government with a certified copy of the policy or policies, or certificates of insurance evidencing the purchase of such insurance. Each policy of insurance required under this Paragraph shall contain an endorsement reading as follows:  
"The insurer waives any right of subrogation against the United States of America which might arise by reason of any payment made under this policy."
2. All insurance required of the Recipient hereunder shall be in such form, for such periods of time and with such insurers as the Government may require or approve. All policies or certificates issued by the respective insurers for public liability and property insurance shall name the United States of America as an additional insured, and shall provide that no cancellation, reduction in amount or any material change in coverage thereof shall be effective until at least 30 calendar days after receipt by the Government of written notice thereof, regardless of

any prior act or failure to act or negligence of the Recipient or the Government or any other person concerning such amount or change in coverage.

3. The Recipient at its sole cost and expense, may insure its activities in connection with this Agreement by maintaining a program of self-insurance that complies with the requirements of this section, including coverages specified in Attachment B hereof. Recipient shall also provide a copy of the exempting statute cited in support of its claim of self- insurance pursuant to Section 2 of Attachment A to this Agreement. (The self- insurance clause is applicable only to appropriate state and local governments and qualifying institutions of higher education who provide evidence of a self- insurance program in accordance with this Section and Attachment A, Section 2.)
4. During the entire period the Agreement shall be in effect, the Recipient shall require its contractors or agents or any contractor performing work at the Recipient's or agent's request on the affected Government Premises to carry and maintain the insurance required below:

**“Comprehensive general liability insurance in the amount of 1,000,000.00”**

5. The Recipient and any of its contractors or agents shall deliver or cause to be delivered promptly to the Agreement Administrator, a certificate of insurance or a certified copy of each renewal policy evidencing the insurance required by this Agreement and shall also deliver no later than thirty (30) calendar days prior to expiration of any such policy, a certificate of insurance evidencing each renewal policy covering the same risks.
6. In the event that any item or part of the premises or facilities shall require repair, rebuilding, or replacement resulting from loss or damage, the risk of which is assumed herein, the Recipient shall promptly give notice thereof to the Government and, to the extent of its liability as provided herein, shall, upon demand, either compensate the Government for such loss or damage, or rebuild, replace or repair the item or items of the premises or facilities so lost or damaged, as the Government may elect. If the cost of such repair, rebuilding, or replacement exceeds the liability of the Recipient for such loss or damage as provided herein, the Recipient shall effect such repair, rebuilding, or replacement if required so to do by the Government, and such excess of cost shall be reimbursed to the Recipient by the Government. In the event the Recipient shall have effected any repair, rebuilding, or replacement which the Recipient is herein required to effect, the Government shall direct payment to the Recipient of so much of the proceeds of any insurance carried by the Recipient and made available to the Government on account of loss of or damage to any item or part of the premises or facilities as may be necessary to enable the Recipient to effect such repair, rebuilding or replacement. In event the Recipient shall not have been required to effect such repair, rebuilding, or replacement, and the insurance proceeds allocable to the loss or damage which has created the need for such repair, rebuilding or replacement have been paid to the Recipient, the Recipient shall promptly refund to the Government the amount of such proceeds.

**P. PAYMENTS**

1. Partial payments equal to the amount of work accomplished may be made monthly after submission of completed schedules and deliverables in Section J. Recipient shall prepare itemized invoices according to costs incurred during the reporting period and submit the itemized invoices to the Government for payment. Partial payments shall not exceed 85 percent of the total funding for the Agreement for any individual POP.
2. The final payment of the balance of the Agreement funds for a POP or 15 percent of the POP funding for the Agreement, whichever is less, shall be paid when the final report and all other submittals and deliverables listed in Section J have been received and accepted by the CATR.
3. Any requirement for the payment or obligation of funds, under the terms of this Agreement, shall be subject to the availability of appropriated funds, and no provision herein shall be interpreted to require obligation or

payment of funds in violation of the Anti-Deficiency Act, 31 USC §1341 et seq. Nothing in this Agreement shall be construed as implying that Congress will, at a later time, appropriate funds sufficient to meet deficiencies.

4. Payments will be made in accordance with Defense Federal Acquisition Regulation (DFAR) 252.232-7006 Wide Area Work Flow Payment Instruction. See Attachment C WAWF Instructions for instructions on payment procedures

### **EXECUTIVE COMPENSATION & SUBCONTRACT REPORTING**

Section 2(d) of the Federal Funding Accountability and Transparency Act of 2006 (Pub. L. No. 109-282), as amended by section 6202 of the Government Funding Transparency Act of 2008 (Pub. L. 110-252), requires the Contractor/ Recipient to report information on subcontract awards. The law requires all reported information be made public; therefore, the Contractor/ Recipient is responsible for notifying its subcontractors that the required information will be made public.

Unless otherwise directed by the Grants Officer, by the end of the month following the month of award of a first-tier subcontract with a value of \$25,000 or more, (and any modifications to these subcontracts that change previously reported data), the Contractor/ Recipient shall report the following information at <http://www.fsr.gov>, for each first-tier subcontract:

- (a) Unique identifier (DUNS Number) for the subcontractor receiving the award and for the subcontractor's parent company, if the subcontractor has one.
- (b) Name of the subcontractor.
- (c) Amount of the subcontract award.
- (d) Date of the subcontract award.
- (e) A description of the products or services (including construction) being provided under the subcontract, including the overall purpose and expected outcomes or results of the subcontract.
- (f) Subcontract number (the subcontract number assigned by the Recipient).
- (g) Subcontractor's physical address including street address, city, state, and country. Also include the nine-digit zip code and congressional district.
- (h) Subcontractor's primary performance location including street address, city, state, and country. Also include the nine-digit zip code and congressional district.
- (i) The prime Agreement number, and order number if applicable.
- (j) Awarding agency name and code.
- (k) Funding agency name and code.
- (l) Government contracting office code.
- (m) Treasury account symbol (TAS) as reported in FPDS.
- (n) The applicable North American Industry Classification System (NAICS) code.

By the end of the month following the month of an Agreement award, and annually thereafter, the Recipient shall report the names and total compensation of each of the five most highly compensated executives for the Recipient's preceding completed fiscal year at <http://www.ccr.gov>, if –

- (a) In the Contractor's/ Recipient's preceding fiscal year, the Contractor/ Recipient received –
  - (i) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and sub grants) and cooperative agreements; and

- (ii) \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and sub grants) and cooperative agreements; and
- (b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>).

Unless otherwise directed by the Contracting Officer, by the end of the month following the month of a first-tier subcontract with a value of \$25,000 or more, and annually thereafter, the Contractor/ Recipient shall report the names and total compensation of each of the five most highly compensated executives for each first-tier subcontractor for the subcontractor's preceding completed fiscal year at <http://www.fsr.gov>, if

- (a) In the Subcontractor's preceding fiscal year, the Subcontractor received –
  - (i) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and sub grants) and cooperative agreements; and \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and sub grants) and cooperative agreements; and
- (b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>).

If the Contractor/ Recipient in the previous tax year had gross income, from all sources, under \$300,000, the Contractor/ Recipient is exempt from the requirement to report subcontractor awards. Likewise, if a subcontractor in the previous tax year had gross income from all sources under \$300,000, the Contractor/ Recipient does not need to report awards to that subcontractor.

**END**

**ATTACHMENT A: SELF-INSURANCE REQUIREMENTS FORM**

**INSURANCE MUST CONFORM TO ALL THE REQUIREMENTS LISTED BELOW PRIOR TO RECIPIENT BEING PERMITTED TO USE OR OCCUPY GOVERNMENT PREMISES OR PROPERTY PURSUANT TO THE COOPERATIVE AGREEMENT**

**1. PUBLIC LIABILITY AND PROPERTY DAMAGE**

a. Required minimum amounts of insurance listed below:

\$ N/A	Fire and Extended Coverage
\$ 1,000,000	Third Party Property Damage
\$ 1,000,000	Third Party Personal Injury Per Person
\$ 1,000,000	Third Party Personal Injury Per Accident

**2. SELF-INSURANCE REQUIREMENTS:** If your organization is self-insured, please provide evidence of self- insurance which meets or exceeds the insurance liability amounts in Item # 1.

The following information, written on your organization's letterhead, is also required:

- A brief description of your organization's self-insurance program, with reference to statutory or regulatory authority establishing the self-insurance program.
- The name and telephone number of your organization's self-insurance program administrator.
- Reference the appropriate military facility and cooperative agreement number.

**3. IF YOUR SELF-INSURANCE PROGRAM DOES NOT MEET THE ABOVE MINIMUM REQUIREMENTS:**

- Provide evidence of Excess Liability Insurance in the amount necessary to meet or exceed the minimum requirements in Item #1 above.
- The following endorsements are required for Excess Liability insurance policies:
  - a. "The insurer waives any right of subrogation against the United States of America which might arise by reason  
of any payment made under this policy."
  - b. "The Commanding Officer, Naval Facilities Engineering Command Marianas, Guam shall be given thirty (30) days written notice prior to making any material change in or the cancellation of the self-insurance program."
  - c. "The United States of America (Department of the Navy) is added as an additional insured in operations of the policyholder at or from the premises licensed/leased from the United States".
  - d. "This insurance certificate is for use of facilities at Joint Region Marianas, Guam under this Cooperative Agreement, No. N40192-21-R-8001."

**4. NOTICE: "RIGHT TO USE" DOCUMENTS WILL NOT BE FULLY EXECUTED UNTIL CERTIFICATE IS RECEIVED WITH PROPER ENDORSEMENTS.**

**ATTACHMENT A (Continued)**

**NON SELF-INSURED REQUIREMENTS FORM**

**INSURANCE MUST CONFORM TO ALL THE REQUIREMENTS LISTED BELOW PRIOR TO RECIPIENT BEING PERMITTED TO USE OR OCCUPY GOVERNMENT PREMISES OR PROPERTY PURSUANT TO THE COOPERATIVE AGREEMENT**

**1. PUBLIC LIABILITY AND PROPERTY DAMAGE**

a. Required minimum amounts of insurance listed below:

- \$ N/A Fire and Extended Coverage
- \$ 1,000,000 Third Party Property Damage
- \$ 1,000,000 Third Party Personal Injury Per Person
- \$ 1,000,000 Third Party Personal Injury Per Accident

**2. THE CERTIFICATE OF INSURANCE MUST CONTAIN THE FOLLOWING ENDORSEMENTS:**

- ii. "The insurer waives any right of subrogation against the United States of America which might arise by reason of any payment made under this policy."
- iii. "The Commanding Officer, Naval Facilities Engineering Command Marianas, Guam shall be given thirty (30) days written notice prior to making any material change in or the cancellation of the policy."
- iv. "The United States of America (Dept. of the Navy) is added as an additional insured in operations of the policyholder at or from the premises **licensed/leased** from the United States."
- v. "This insurance certificate is for use of facilities at Joint Region Marianas, Guam under this Cooperative Agreement, No. N40192-21-R-8001."
- vi. Loss, if any, under this policy shall be adjusted with Recipient and the proceeds, at the direction of the Government, shall be payable to Recipient, and proceeds not paid to Recipient shall be payable to the Treasurer of the United States of America."

**3. NOTICE: "RIGHT TO USE" DOCUMENTS WILL NOT BE FULLY EXECUTED UNTIL CERTIFICATE IS RECEIVED WITH PROPER ENDORSEMENTS.**

## **ATTACHMENT B: DRAFT AND FINAL REPORT FORMAT**

The Annual Report shall follow the formats described by Mesmer, T.A and M.L. Morrison 2006. Unified Manuscript Guidelines for the Wildlife Society Peer-Reviewed Publications. Journal of Wildlife Management, 70(1): 304-320, as appropriate, with the following outline:

- i. Title page showing the title, date, and CATR representative location and Cooperative Agreement Number
- ii. Sub-title page showing:
  - (a) Title
  - (b) “Prepared by” listing with affiliations
  - (c) “Under contract to” listing, and shall include the CATR representative location
  - (d) Date
  - (e) Recommended citation
- iii. Table of contents, arranged as follows:
  - (a) Table of contents
  - (b) List of tables
  - (c) List of figures (photographs are considered figures)
  - (d) References/literature cited
  - (e) List of appendices
- iv. Abstract
- v. Introduction
- vi. Study Area
- vii. Methods
  - (a) This section should not be quantitative in nature, but should include information such as specific hours of the day, days of week that surveys/observations were accomplished, survey procedures, equipment used, etc.
  - (b) Each method used to acquire data must be explained in sufficient detail such that another researcher could duplicate the study.
  - (c) Each statistical technique used must be accompanied by a justification and explanation as to why that particular test was chosen to analyze the data set.



viii. Results at a minimum include:

- (a) Data collected from Tasks identified. Data are to be presented using both tables and figures. Cumulative analyses of data collected by previous contractors between 1998 and 2006 shall be conducted where appropriate and scientifically meaningful.

- (b) Total man-hours spent by time period (0400 - 1200 hrs. and 1201 - 2000 hrs.), for: surveying - by site (canyon or other identified geographic area), monitoring each nest site, and any other information that would enable the reader to specifically quantify total man-hours spent on each significant activity.
  - (c) The chronology of releases including locations, and distribution, and the success of nesting
  - (d) The incidental observations of potential predators
- ix. Discussion. At a minimum this section shall include:
- (a) A biologically meaningful synthesis and discussion of current and past results and with other recent studies obtained from the most updated scientific manuscripts, including unpublished scientific literatures, if available.
  - (b) Relevant work from previous basic research conducted, as appropriate, particularly in reference to long- term data collection and cumulative analyses.
- x. Conclusions and Management Implications
- (a) Provide a summary highlighting the important factors influencing shrike survival and nesting success
  - (b) Provide a list of recommendations to improve or increase the efficiency of shrike management actions
  - (c) Provide recommendations to improve shrike management
- xi. Acknowledgments
- Include the following statement: "This basic research was funded by Insert name of Region or Command."
- xii. Appendices. All appendices contained in Heath et al. 2006 shall be included, with any appropriate additional appendices.
- xiii. Electronic Appendices. Two copies of each Appendix shall be submitted on CD-ROM(s) as described below. 'Read Only' formatted files will not be accepted. The CD ROM(s) shall include an ASCII text file labeled README. The README file is to describe the contents of each CD and the total number of CDs. Should the CATR have problems loading the data into the Navy's database, or should the data be incorrectly recorded, the Recipient will work with the CATR to correct the problem. Successful loading of the data must be accomplished by Insert date or number of days.
- (a) An inventory (to be included as an Appendix) of all equipment and supplies  $\leq$  \$5000 purchased under this Agreement. The Recipient's property management standards for equipment acquired with Federal funds and federally-owned property shall include all of the following:
    1. Records for equipment and federally-owned property shall be maintained accurately and shall include the following information:
      - a. A description of the equipment or federally-owned property.
      - b. Manufacturer's serial number, model number, Federal stock number, national stock

- number, or other identification number.
- c. Source of the equipment or federally-owned property, including the award number.
  - d. Whether title vests in the Recipient or the Federal Government.
  - e. Acquisition date (or date received, if the property was furnished by the Federal Government) and cost.
  - f. Information from which one can calculate the percentage of Federal participation in the cost of the equipment (not applicable to property furnished by the Federal Government).
  - g. Location and condition of the equipment or federally-owned property and the date the information was reported.

- h. Unit acquisition cost.
  - i. Ultimate disposition data, including date of disposal and sales price or the method used to determine current fair market value where a Recipient compensates the DoD Component that made the award for its share.
2. Property owned by the Federal Government shall be identified to indicate Federal ownership.
3. A physical inventory of equipment and federally-owned property shall be taken and the results reconciled with the equipment records at least once every two years. Any differences between quantities determined by the physical inspection and those shown in the accounting records shall be investigated to determine the causes of the difference. The Recipient shall, in connection with the inventory, verify the existence, current utilization, and continued need for the equipment or federally-owned property.
- (a) An electronic copy of the report (text, tables and figures, not to include color photos or figures submitted in ARCGIS) shall be submitted with the final report in a format readable by Microsoft Word.
  - (b) All databases containing raw data and all associated electronic data summary and analytical files shall be formatted in Excel, Word, Dbase IV, or any compatible Microsoft database software. Microsoft ACCESS files shall include all queries, reports, tables etc.
  - (c) All electronic source files for tables and figures shall be labeled and submitted.
  - (d) Electronic versions of all appendices printed in the FAR in formats readable by Microsoft Word or Excel.
  - (e) Electronic copies of all GIS coverages developed as part of this Agreement shall be submitted with the final report. These coverages shall be compatible with the existing GIS and readable in ARCGIS 10.0.

## ATTACHMENT C WAWF INSTRUCTIONS

### 252.232-7006 WIDE AREA WORKFLOW PAYMENT INSTRUCTIONS (JUN 2012)

- (a) Definitions. As used in this clause--

Department of Defense Activity Address Code (DoDAAC) is a six position code that uniquely identifies a unit, activity, or organization.

Document type means the type of payment request or receiving report available for creation in Wide Area Work Flow (WAWF).

Local processing office (LPO) is the office responsible for payment certification when payment certification is done external to the entitlement system.

- (b) Electronic invoicing. The WAWF system is the method to electronically process vendor payment requests and receiving reports, as authorized by DFARS 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports.
- (c) WAWF access. To access WAWF, the Contractor/Recipient shall--
- (1) Have a designated electronic business point of contact in the Central Contractor Registration at <https://www.acquisition.gov>; and
  - (2) Be registered to use WAWF at <https://wawf.eb.mil/> following the step-by-step procedures for self- registration available at this Web site.
- (d) WAWF training. The Contractor/Recipient should follow the training instructions of the WAWF Web-Based Training Course and use the Practice Training Site before submitting payment requests through WAWF. Both can be accessed by selecting the “Web Based Training” link on the WAWF home page at <https://wawf.eb.mil/>.
- (e) WAWF methods of document submission. Document submissions may be via Web entry, Electronic Data Interchange, or File Transfer Protocol.
- (f) WAWF payment instructions. The Contractor/Recipient must use the following information when submitting payment requests and receiving reports in WAWF for this contract/order.
- (1) Document type. The Contractor shall use the following document type(s).

### NAVY CONSTRUCTION/FACILITIES MANAGEMENT INVOICE

- (2) Inspection/acceptance location. The Contractor/Recipient shall select the following inspection/acceptance location(s) in WAWF, as specified by the contracting officer.
- (3) Document routing. The Contractor/Recipient shall use the information in the Routing Data Table below only to fill in applicable fields in WAWF when creating payment requests and receiving reports in the system.

Field Name in WAWF	Data to be entered in WAWF
Pay Official DoDAAC	N68732
Select Document to Create	Grant Voucher
Issue by DoDAAC	N40192
Admin DoDAAC	N40192
Grant Approver DoDAAC/Extension	N40192/CORECA

- (4) Payment request and supporting documentation. The Contractor/Recipient shall ensure a payment request includes appropriate contract line item and subline item descriptions of the work performed or supplies delivered, unit price/cost per unit, fee (if applicable), and all relevant back-up documentation, as defined in DFARS Appendix F, (e.g. timesheets) in support of each payment request.
- (5) WAWF email notifications. The Contractor/Recipient shall enter the email address identified below in the “Send Additional Email Notifications” field of WAWF once a document is submitted in the system.

[christopher.r.santos2.civ@us.navy.mil](mailto:christopher.r.santos2.civ@us.navy.mil)  
[jason.s.martin44.civ@us.navy.mil](mailto:jason.s.martin44.civ@us.navy.mil)  
[gregorio.borja@us.af.mil](mailto:gregorio.borja@us.af.mil)  
[Adrienne.m.loerzel.civ@us.navy.mil](mailto:Adrienne.m.loerzel.civ@us.navy.mil)

WAWF point of contact.

- (1) The Contractor/Recipient may obtain clarification regarding invoicing in WAWF from the following contracting activity's WAWF point of contact.

**NOT APPLICABLE**

- (2) For technical WAWF help, contact the WAWF helpdesk at 866-618-5988.

## ATTACHMENT D: NAVFAC STANDARDS FOR GEOGRAPHIC INFORMATION SYSTEMS (GIS)

### Overview:

The Geo-Readiness Center (GRC) is the single, authoritative source and distribution point for all geospatial shore installation data within the region. The GRC houses the most current geospatial information for the entire region and provides access to the comprehensive data set and analysis tools to Regional and DOD decision makers/managers, sponsored contractors, and other sponsored individuals via a secure government Internet site.

#### 1. Basic Deliverable Requirements:

##### a. Submittals, Government Review and Acceptance:

- i. All data used and developed under contract is intellectual property of the U.S. Government, and shall be turned over to the U.S. Navy upon completion of this amendment.
- ii. All submittals shall be reviewed for accuracy, structure and completeness by a Geo-Readiness representative before acceptance. Contractors shall submit data and documentation samples at 25% and 75% project completion to avoid the rejection of final deliverables.
- iii. All source code (e.g. Python scripts, html files, etc.) and map files (ESRI ArcGIS.mpk) shall be provided to the government.
- iv. Failure to adhere to any of the stated delivery specifications could result in rejection of deliverables and nonpayment.

##### b. GIS Data Format: NAVFAC's GIS data is ERSI Geodatabase format, **version 10.3.1 as of July 7 2019**. All ESRI format data submittals must also be in version 10.3.1 or newer.

- i. All GIS/geospatial projects (i.e., MPK) shall be delivered containing all related source files in a specific project file, including extension, graphics, photos, CAD, source code (non-encrypted, Visual Basic) based on version of ArcGIS Desktop specified for the task order. Submittal format shall be determined by the COR.
- ii. Spatial Data (GIS Map Themes): Spatial data shall be delivered as an ArcGIS file geodatabase. File geodatabases are relational databases that contain geographic information. File geodatabases contain feature classes and tables. The names of these geodatabases should reflect the location of the geographic information it contains at the appropriate level of detail (region, special area, activity). The general format of personal geodatabase names is as follows:

Location\_yyyymmdd.gdb

- iii. Location = Location of the geographic information, defined to the appropriate level of detail. Names begin at the regional level, using the 2-digit country code from iNFADS (e.g. HI=Hawaii, GQ=Guam, JA=Japan, etc.) and may narrow into an area of interest within the region (e.g. Pearl Harbor, Yokosuka, Apra Harbor, etc.). The location can be further narrowed down to the activity level where the geodatabase can be identified by the activity's UIC (N68032, N58003, etc.)

- iv. yyyyymmdd= Date that the geodatabase was created or amended, as expressed in year (yyyy), month (mm), and date (dd).
- c. Data Retention: all data (electronic and paper formats) must be removed from contractor equipment and possession and returned to the government at the end of the POP and before the final invoice is approved.
- d. Data Structure:
  - i. Unless specifically directed otherwise, all data shall be structured according to the current version of the Spatial Data Standards (SDSFIE) in use by NAVFAC. **This is version NDM 4.0 as of April 2019.** Information on the SDFSIE data model can be found at: <https://sdsfie.org>, and a copy of the current data model implementation shall be provided to the contractor.
  - ii. If new data is being created and the corresponding SDFSIE data structure exists, the government shall provide unpopulated layers to the contractor structured per current NAVFAC standards.
  - iii. If new data is being created and the corresponding data structure does NOT yet exist, the contractor shall provide the GRC with a data dictionary identifying all of the SDFSIE Entity Types, attributes, and/or domain values associated with the new feature(s), the geographic area(s) covered by the data and Spatial extent information prior to the creation/editing of GIS data. Acceptable formats: MS Excel or MS Word. (Adobe PDF is not an acceptable format. New non-SDS compliant attributes (meeting SDFSIE criteria) will require precise schema definitions.
- e. Government Source Data: The contractor will be provided access to any GIS data required for the project via a government computer, which will require Contractor Common Access Card (CAC). Government GIS repository is in an ESRI format. All data shall be returned in this format and structure unless the government specifies otherwise. A completed NAVFAC GIS Data Release form is required prior to data being released to the Contractor if editing is required to be completed on Contractor equipment.
- f. Attribute Population:
  - i. The contractor shall consult with the COR before populating attribute tables to ensure the results match the current GeoReadiness interpretation of the SDFSIE.
  - ii. The contractor shall identify the classification, type, location, ID number, and any other necessary attributes (specified by the Government) for all new/updated/edited features.
  - iii. For new field collected data, attribution must include the date collected in the following format.

Name: Date

Description: Date that the feature was edited from its original or previous value.

Data Type: Date

Default Value: null



## 2. Data Integrity

- a. Data accuracy standards for all deliverables will be in accordance with those set forth in the section entitled 'Data Collection Procedures'. All deliverables should include an accuracy report in the metadata.
- b. The contractor shall employ appropriate QA/QC standards to ensure that data is topologically correct, accurate and complete (to include):
- c. No erroneous overshoots, undershoots, dangles or intersections in the line work
- d. Point and line features will be snapped together where appropriate to support networks. For example, do not break linear features for labeling or other aesthetic purposes.
- e. Lines should be continuous and point features should be digitized as points. For example, point features, such as manholes, should not be drawn using only a circle (polygon) to represent its location. Preferably, use an attribute block symbol that has an insertion point in the center of the manhole.
- f. No sliver polygons
- g. Digital representation of the common boundaries for all graphic features must be coincident, regardless of feature layer
- h. Geometric network connectivity must be maintained for utility networks. Note: This excludes field collected "walked" survey transect data

A summary of the methods used to correct inconsistencies and any remaining errors by case should be included in the metadata under the 'Logical Consistency Report' and 'Completeness Report' sections.

## 3. CAD Format Deliverables:

- a. CAD drawings may be accepted as GIS deliverables, if COR approves.
- b. All files must be accurately georeferenced and adhere to the requirements regarding the coordinate system, metadata, and the specified data Quality Control and Quality Assurance requirements.
- c. CAD deliverables shall include AutoCAD (DWG) files. CAD symbols placed within the design/drawing file shall adhere to the A/E/C CAD Standard. CAD symbol libraries can be found on the Tri-Service CAD/BIM Technology Center website.  
<https://cadbim.usace.army.mil/CAD> <https://www.wbdg.org/ffc/army-coe/cad-bim-technology-center> or <https://cadbimcenter.erd.c.dren.mil/default.aspx?p=a&t=1&i=7>.

## 4. Coordinate System:

1. All geospatial data, unless specified otherwise, shall be in the Geographic Coordinate System: GCS\_WGS\_1984, Datum: D\_WGS\_1984.

## 5. Metadata:

- a. Feature Level Metadata: Feature-level (record level) attribute metadata is required to be populated for each GIS feature/record, per the current SDSFIE version.

Attributes for version 4.0 are listed in APPENDIX B

- b. Layer Level Metadata: Layer level metadata is required for all deliverables, structured according to the FGDC Content Standard for Digital Geospatial Data (CSDGM).

Details on the standard can be found at <http://www.fgdc.gov/metadata/geospatial-metadata-standards>.

#### 6. Quality Control and Quality Assurance:

The contractor shall take all appropriate and needed QA/QC measures to ensure data is complete, topologically correct, accurate, structured correctly, and formatted correctly per the SOW and complete (to include):

- a. **\*\*All data shall be visually inspected before submittal to the government.\*\***
- b. The numbers of records for all joined tables shall match, or the specific unmatched records shall be identified and explained to the satisfaction of the government.
- c. All required attributes (per NDM version 4.0 shall be populated).
- d. All domain constraints shall be adhered to, unless approved by the government, prior to submittal.
- e. No erroneous overshoots, undershoots, dangles or intersections in the line work.
- f. All area type features shall be closed polygons.
- g. Line features shall be snapped together where appropriate to support networks. For example, do not break linear features for labeling or other aesthetic purposes.
- h. Lines shall be continuous and point features shall be digitized as points. For example, point features, such as manholes, shall not be drawn using only a circle (polygon) to represent its location.
- i. No sliver polygons
- j. Digital representation of the common boundaries for all graphic features must be coincident, regardless of feature layer
- k. Geometric network connectivity shall be maintained for utility networks, where specified by the SOW.

#### 7. Field Collection

- a. Where field data collection is required, the contractor shall utilize conventional and other methods, such as a total station, or Global Positioning System (GPS) in accordance with the applicable Geospatial Positioning Accuracy Standards published by the Federal Geographic Data Committee (FGDC).

- b. At a minimum, the contractor shall provide resource grade GPS collection at an accuracy level of  $\pm < 1\text{m}$  and shall use differential correction to target accuracies of  $\pm .5\text{m}$ .
  - c. Where appropriate (as stipulated in the contract or as otherwise determined by the Government), the contractor shall use survey grade GPS, at an accuracy level of  $\pm 3\text{cm}$ . Global Positioning System (GPS) data collection activities will be based on a post-processed environment using an accurately sighted base station. Base station files for post processing acquired locally (off-site CORS Continuous Operating Reference Station) will be verified for accuracy.
  - d. GPS data on the location of utility lines and other features shall be captured at a minimum at the beginning, end, and at each turn or bend in the line and processed as a line feature type. GPS data on the location of utility points and other features shall be captured at the centroid of the feature unless signal obstruction or access prohibits; otherwise points will be captured at a uniform distance and direction from the centroid and the offset captured in the metadata for that feature. Data on polygon features shall be collected at every vertex of the feature and processed as a polygon.
  - e. All survey-grade data collected shall be provided to the Government in a digital format with an attached Survey Report identifying survey method, equipment list, calibration documentation, survey layout, description of control points, control diagrams, quality control report and field survey data.
  - f. A digital Survey Control Database (consisting of a survey marker database and a survey traverse database) will be produced for all survey control points established under this contract, including the horizontal and vertical order and coordinate location of each point.
  - g. Digitizing/Conversion: Where Digitizing/Conversion is stipulated in the contract, the contractor shall digitize/convert features from designated sources (including remotely sensed data, hardcopy scans and vector data) to support various GIS applications. Digitizing/conversion routines will insure that 90 percent of all features will measure within 0.01 inches when reproduced at the scale of original imagery or data source
8. Photography.
- a. Photography on-base must be approved in advance of visiting the base, the Contractor shall identify the personnel designated as photographers for this contract and shall identify the proposed areas/facilities to be photographed and provide installation (via COR) with any required photographic equipment information.
  - b. All photographs to be delivered/used in the final report must be geotagged with the UTM of the picture location.

## ATTACHMENT D (Continued)

The contractor shall consult with the government points of contact to ensure data is placed into the appropriate layer. Please see <http://datacollectionadvisor.com/> for full guidance

This section lists:

- **SDSFIE Required Global Attributes**: These must be populated for each record in all layers
- **SDSFIE Required Global Metadata Attributes**: These must be populated for each record in all layers
- **Project Specific GIS Layer and Attribute Descriptions**: Specific to the SOW, this section provides the full descriptions of each layer and available attributes. The contractor shall consult with the government points of contact to identify which specific non-required attributes to populate.

ATTRIBUTE	ATTRIBUTE DEFINITION	MANDATORY	ATTRIBUTE POPULATION GUIDANCE	EXAMPLE VALUE
Feature Name	The common name of the feature.	NO	For features that are not stored in iNFADS, populate with a common name of the feature if one exists, using Proper Case.	Kings Bay Fish and Wildlife Management Areas
Feature Description	The narrative describing the feature.	NO	For any attribute being populated with the domain value of "other", include the attribute name along with the description, and separate each using a semicolon (e.g., "nature Of Construction: Plastic; purpose Type: Recreation"). In addition, where appropriate, populate with text that further describes the feature (e.g., a local common name such as "Commercial Gate", or a physical label on a feature in the field such as "Fly Navy").	Management zone for Natural Resources management purposes.
Owner	The DoD Component or other entity that owns the feature.	YES	Populate with the appropriate value from the Owner constraint table.	Code: USN Description: US Navy

ATTRIBUTE	ATTRIBUTE DEFINITION	MANDATORY	ATTRIBUTE POPULATION GUIDANCE	EXAMPLE VALUE
Creator	The name of the department or contractor that collected the information for the feature for the first time. For example, NAVFAC SE GRC, attribute as NAVFACSEGRC	YES	The name of the federal employee or name of the contracting company that created the information for the feature (e.g., Art Vandelay as "Vandelay A" or Vandelay Industries as "Vandelay Industries").	Peterman J
Date Created	The date the feature was created for the first time.	YES	Populate with the date the feature was created (Geometry and Attribute).	6/28/1974
Collection Method	The method used to collect the geometry of the feature.	YES	Populate with the appropriate value from the Collection Method constraint table.	Code: Heads UpImageryMgGPSVrfy Description: Heads Up Imagery Mapping Grade GPS Verify
Location Accuracy	The location accuracy for the data that was collected and verified.	YES	Populate with the accuracy value followed by a space and then the abbreviation of the unit of measurement in lower case.	3 in

ATTRIBUTE	ATTRIBUTE DEFINITION	MANDATORY	ATTRIBUTE POPULATION GUIDANCE	EXAMPLE VALUE
Editor	<p>The contractor or person that edited the feature attribution or geometry from its original or previous value. This is to be stated as last name of the person and then their first initial. For example, Jane Smith would be attributed as Smith J.</p>	YES	<p>The name of the federal employee or name of the contracting company that last edited the information for the feature (e.g., Art Vandelay as "Vandelay A" or Vandelay Industries as "Vandelay Industries"). If editing within Citrix M&amp;A Spatial Database Engine (SDE) environment, this attribute will be Auto-populated with the Citrix user name.</p>	Peterman J
Date Edited	<p>The date that the feature was edited from its original or previous value.</p>	YES	<p>If editing within the Citrix M&amp;A SDE environment, this attribute will be Auto-populated. Otherwise, populate with the date the feature was edited (Geometry and/or Attribute).</p>	6/28/1974

(End of clause)