STATEMENT OF WORK (SOW)
MANAGEMENT INVASIVE SPECIES - IRONWOOD REMOVAL
WAKE ISLAND AIRFIELD, USA
ACES PROJECT # YGFZOS171377
CESU-17-8

1.0 INTRODUCTION

In accordance with FAR 7.503(e), projects for execution under this Cooperative Agreement (CA) by USACE do not include any functions to be performed that are inherently governmental. This determination is made with the assessment that places emphasis on the degree to which conditions and facts restrict the discretionary authority, decision-making responsibility, or accountability of Government officials using Non-Federal Entity (NFE) services or work products.

In accordance with FAR 37.104, this CA shall not be used for performance of personal services. These tasks provided by the customer for execution under this CA by USACE do not include functions to be performed that are personal services.

Any modifications to Cooperative Agreement activities as outlined by this SOW/PWS must be channeled through the Grants Officer's Technical Representative (GOTR) and Grants Officer (GO) prior to NFE implementation.

NFE personnel shall also wear a distinctive NFE furnished security (ID) badge/lanyard readily identifying the individual as a NFE employee. The badge shall be worn in a conspicuous place at all times when performing work under the Cooperative Agreement including attendance at Government meetings and conferences that take place outside of the Government facility.

NFE personnel shall identify themselves as an NFE employee when answering or placing calls on a Government telephone and when leaving outgoing or incoming messages on voice mail. Use of acronyms in this identification is insufficient to meet this requirement.

All NFE email signatures shall identify them as such and will include their employer's name.

PERIOD OF PERFORMANCE: 18 months administrative 12 months technical

GOVERNMENT POCS:

1. USACE Omaha District POC: Mr. David Leptien PM, (402) 995-2742, david.b.leptien@usace.army.mil
2. USACE Omaha District POC: Ms. Kali Evans, GOTR, (402) 995-2295, kali.l.evans@usace.army.mil
3. USACE Omaha District POC: Ms. Stephanie Rostermundt, Grants Officer, (402) 995-2083, stephanie.a.rostermundt@usace.army.mil

2.0 OBJECTIVE

The overall goal of this project is to control specific invasive trees, forbs, and shrubs on a remote tropical atoll which is under the management of the United States Air Force (USAF) Pacific Air Forces Regional Support Center (PRSC). Reference A identifies which plant species have been documented on the atoll, along with mapped locations of those plants and plant communities. Maps within Reference A also display scale and extent of plant coverage, along with spatial depictions of travel corridors in relation to different plant communities. The atoll has experienced episodic introductions of invasive plants over the years of its occupancy, however invasive species control tools exist and can be used on Wake atoll to control and potentially in some cases eradicate specific species from the islands. This scope of work details control tasks which shall be implemented for the management of the following tree, forb, and/or shrubs species:

Casuarina equisetifolia (common name Ironwood)
Leucaena leucocephala (common name Tangantangan)
Opuntia sp.
Agave sp.

The Non-federal entity (NFE) shall specifically target these four species in specific locations on the atoll, which are described below.

Species	Locations for NFE to Implement Methods of Control
Casuarina equisetifolia	Wilkes, Peale Island and Northwestern Wake Island.
Leucaena leucocephala	Wilkes and Peale Island
Opuntia sp.	Wilkes, Peale Island and Wake Island.
Agave sp.	Wilkes, Peale Island and Wake Island.

The potential methods which may be used to control these four species shall include chain saw or hand saw felling, herbicide application, prescribed fire and manual pulling. Only EPA and USAF approved herbicides shall be utilized during this project for treatment of invasive vegetation. Within Reference A, maps depicting the locations of ironwood stands are displayed. EA engineering surveyed the atoll in October of 2013 and produced a plan of attack for various invasive species; the results of such effort are documented within the "Biocontrol, Survey, and Management Plan" which is a component plan within the June 2015 edition of the Integrated Natural Resources Management Plan for Pacific 611th installations. The "Biocontrol, Survey, and Management Plan" created by EA Engineering displays locations of Ironwood stands amongst differing Habitat Management Units, also referred to as polygons in this scope of work. Such maps shall be used by the NFE to identify locations of potential treatment. Given several years have passed since the creation of Reference A, there is a possibility that ironwood trees exist outside the delineations made and a subset may have already been treated with herbicide. In 2016, the University of Hawaii applied herbicide to many existing stands of ironwood on Wilkes and Peale, thus many of the ironwood stands are already dead, but seedlings have

emerged, requiring control actions to thwart recolonization. This project aids the USAF in its endeavors to achieve the goals of the Integrated Natural Resources Management Plan, specifically INRMP Goal No 12, Objective IMP-2, which is further described within Reference A to this SOW.

3.0 TASKS

The tasks and deliverables described within this Section of the SOW shall be completed during the course of the period of performance. Polygons highlighted as "Casuarina" and "Tangantangan" depicted within Reference A are areas of concern and shall be focal points of the location to perform the tasks below, however it is possible that isolated patches of any target invasive occur outside of such lines. *Opuntia* and *Agave sp* occurrences are referenced within Reference A, with the majority of occurrences existing on Peale Island near the Marz Hotel.

TASK 1. DRAFT WORK PLAN

A Draft Work Plan shall be created by the NFE displaying how and when the work will be completed over the course of the period of performance. Within the work plan, the NFE shall populate a Project Planning Chart (PPC) which details the project schedule. The use of Gantt charts to depict project schedule is appropriate. A list of employees, inclusive of their educational certificates and licenses shall also be portrayed in the work plan. The NFE may require usage of the on island support contractor for logistics, vehicle, and other site specific support. The services the NFE intends to sub from the on island support contractor shall be described in the draft work plan. Scientific support for the herbicide of choice shall also be depicted in the work plan, alongside the Personal Protective Equipment (PPE) list and application requirements called out within the EPA label for the herbicide of choice. The work plan shall identify how successful the herbicide of choice for this project has been for other entities in other locales. The work plan contents shall defend the NFE's selection of herbicide. A Draft Work Plan shall be submitted to the government within 14 calendar days of date of task order award. The government shall be afforded a 14 calendar day review period and shall provide the NFE with comments to utilize for finalization of the document.

TASK 2. FINAL WORK PLAN

The NFE shall utilize the government comments to make final edits and changes to the work plan. A response to each government comment shall be documented by the NFE within a response to comment matrix, which shall be submitted alongside the Final Work Plan. The NFE shall submit a Final Work Plan with accompanying populated response to comment matrix within 42 calendar days of date of task order award.

TASK 3. VEGETATION TREATMENTS

Any tree, shrub or plant that is identified for felling or removal, must have a pre-felling survey condition check conducted. If an occupied nest, chick, egg is discovered, the tree should not be felled, but rather identified as a problematic tree and treated with herbicide and left to stand. Care shall be taken to ensure excessive amounts of herbicide are not used. Application efficacy has been discovered to be reduced when applications are made well after injury to the cambium layers of the tree, which are used to transport herbicides. Thus, in those instances when a stump will remain or a tree is girdled or notched, the NFE shall apply herbicide within 2 minutes of felling, notching or girdling of the tree. In order to ensure that no targeted species are missed and untreated, the NFE shall systematically move across each island so as to ensure no specimen is missed. Applications during rain events shall not take place.

A tally of the number of trees, plants, shrubs removed or treated shall be logged for each species. All Herbicidal application shall abide by Environmental Protection Agency (EPA) application labels and the personal protection clothing detailed within the EPA label shall be worn and utilized throughout the operation when using herbicides. A handheld GPS unit shall be used to delineate areas treated. Such GIS information shall be translated into maps for incorporation into the draft project summary report. The following methods shall be used to accomplish task 3 for each species:

Casuarina equisetifolia (common name: Ironwood)

Utilizing Reference A, the NFE shall approach each ironwood Diameter at Breast Height (DBH) and apply herbicide to those trees possessing DBH of 2 inches or more. Trees possessing a DBH of less than 2 inches, shall be cut down using a chainsaw, hatchet or machete. If the tree can be pulled from the ground, this is preferred in comparison to chopping it down, however each tree will need to be evaluated to determine if it can be pulled versus chopped. A process of notching or girdling shall be used when applying herbicides to the size class possessing DBH of >2 inches. The injury or notch should be substantial enough to ensure the herbicide will make contact with sensitive tissues of the tree, however caution should be used to ensure the injury or notch does not result in felling of the tree while working in the area.

It is anticipated that most ironwood encountered on Peale Island and Wilkes Island will be young seedlings, given historic herbicide treatments. Ironwood within the northwestern portion of Wake Island are rather mature and large in size. Care shall be taken to not disturb ironwood within 20 feet of any structure in the northwestern portion of the atoll. Polygons highlighted as "Casuarina" depicted within Reference A are areas of concern and shall be focal points of the location to perform control tasks, however episodic locations outside such polygons shall also be treated as they are encountered during field work.

Leucaena leucocephala (common name: Tangantangan)

A combination or singular use of the following methods is appropriate for the treatment of Tangantangan on Peale and Wilkes Island. Methods of potential usage include: chain saw or hand saw felling, herbicide application, prescribed fire and manual pulling. Polygons highlighted as "Tangantangan" depicted within Reference A are areas of concern and shall be

focal points of the location to perform control tasks, however episodic occurrences of the species outside such polygons shall also be treated as they are encountered during field work.

Opuntia sp.

A combination or singular use of the following methods is appropriate for the treatment of *Opuntia sp*. on Peale and Wilkes Island. Methods of potential usage include: chain saw or hand saw felling, herbicide application, prescribed fire and manual pulling. Reference A identifies the locations of the species on Wilkes and Peale Island, however undocumented occurrences of the species outside descriptions in Reference A shall also be treated as they are encountered during field surveys.

Agave sp.

A combination or singular use of the following methods is appropriate for the treatment of *Agave sp.* on Peale and Wilkes Island. Methods of potential usage include: chain saw or hand saw felling, herbicide application, prescribed fire and manual pulling. Reference A identifies the locations of the species on Wilkes and Peale Island, however undocumented occurrences of the species outside descriptions in Reference A shall also be treated as they are encountered during field surveys.

TASK 4. DRAFT PROJECT SUMMARY REPORT

Upon completion of field duties, the NFE shall take information collected over the course of the project and develop a draft project summary report. The report shall include maps of the areas treated, any areas not treated due to restrictions in this SOW, the amount of product used to treat each size class of tree, pictures of the PPE used, pictures of the EPA label for the product used, and photocopies of the licenses for each person using herbicides on the project. Descriptions of the field conditions inclusive of precipitation, wind, cloud cover, and humidity for each day of field work shall also be included in the draft project summary report. The NFE shall create text in this report which describes how the project could be executed more efficiently if enacted again for the same species. Any observations of non-target exposure to any other species of plant or animal shall also be reported and photographed, and displayed in this draft report. The draft report shall be submitted to the government within 300 days of task order award. The government shall be afforded a 14 calendar day review period.

TASK 5. FINAL PROJECT SUMMARY REPORT

The NFE shall utilize the government comments to make final edits and changes to the draft project summary report. A response to each government comment shall be documented by the NFE within a response to comment matrix, which shall be submitted alongside the Final Project Summary Report. The NFE shall submit a Final Project Summary report with accompanying populated response to comment matrix within 345 calendar days of date of task order award. GIS shape files used to make maps within the report shall be submitted digitally alongside the report. GIS mapping restrictions are detailed in section 11.0 of this SOW.

4.0 SUPPLIES AND MATERIALS

All supplies and materials required to complete the SOW must be purchased or leased by the NFE. Any herbicides used during this project must be shipped in accordance with the associated EPA label affixed to the product. Personal protection equipment (PPE) shall be utilized during the project when applying herbicides. The PPE utilized shall be defined by the EPA label affixed to the product of intended usage. Vehicle rental, chainsaw procurement, on island gas purchases or procurement of any other equipment is the requirement of the NFE. Shipping of any materials to the island shall be done so at the cost of the NFE.

5.0 PREFERRED PROFESSIONAL REQUIREMENTS

The NFE shall have recent experience performing work on remote tropical atolls or extremely humid and hot locales in oceanic settings. Each on-site NFE utilizing herbicides to complete tasks in this SOW must hold a valid herbicide applicator license sanctioned by the Department of Defense and or any state within the USA. The forestry category or category 2 is the certification type needed to complete herbicide applications for this project.

6.0 TASK ORDER MANAGEMENT, PLANNING, AND REPORTING SERVICES

NFEs shall plan project activities, including the development, implementation, and maintenance of project schedules, events, status of resources, report(s) on the activities, and progress toward accomplishing project objectives. Document for government review and approval the results of the project efforts for this TO.

7.0 NFE PROGRESS AND STATUS REPORT

NFE shall prepare and submit at a minimum a quarterly progress report throughout the period of performance. The report will be used to review and evaluate the current progress of the project, along with any existing or potential problem areas. The report shall include a summary of the events that occurred during the reporting period, discussion of performance, identification of problems, proposed solutions, corrective actions taken, and outstanding issues.

8.0 NOTIFICATION REQUIREMENTS

The NFE is required to notify the Grants Officer (GO) and GOTR of critical issues that may affect the task performance and/or human health and the environment. The types of issues that require notification include, but are not limited to, health risks, spills, unexpected utility crossings, unusual weather conditions, unacceptable materials, changes in critical personnel, and Unexploded Ordinance (UXO). As an example, if UXO was discovered during field activities, the NFE would be required to immediately stop work, report the discovery to the base POC and GO, and implement the appropriate safety precautions. Commencement of field activities could

not continue until clearance was received from the CO. On critical issues, oral notification should be made immediately, followed by written notification as soon as practical.

9.0 WORK SITE CONDITIONS

Coordinate work site activities to ensure the protection of human health and the environment; the prevention of damage to property, utilities, materials, supplies, and equipment; and the avoidance of work interruptions. Provide physical security to the work area with security equipment and personnel as specified in this TO. The NFE must comply with Occupational Safety and Health Administration (OSHA) safety and health regulations and local safety office requirements. The NFE is required to provide the CO copies of any OSHA report(s) submitted during the duration of the TO. The NFE must have a U.S. State Pesticide Applicators license or a Department of Defense Pesticide Applicators license and include copies of each applicators license within the work plan, draft report and final report. The license must include category 2, forestry level, proof of completion and certification. The NFE shall coordinate work site activities with the 611th Civil Engineering Squadron (CES) Environmental Office to ensure no nesting birds will be affected during implementation of this SOW. Also, the NFE must work with the base to coordinate on other general matters. Examples of the offices/departments that the NFE shall coordinate activities with include, but are not limited to:

Transportation Planning	Police/Security/Safety Office Utilities
Hazardous Materials Operations	Fire Department
Pass and Identification	Environmental
Facility Management	Base Civil Engineer
Local Reuse Authority	Public Works Field Operations
Local and State Regulators	Federal Regulators
Off Site Emergency Facilities Communications	U.S. Customs and Border Protection

10.0 LOGISTICS

The NFE will work with the Air Force Natural Resources (NR) team well in advance to ensure all supplies make it to WIA with the project field team or before the NR team arrives on the island. The Air Force NR team has a member in Hawaii who will serve as the logistics point of contact. The NFE may utilize this point of contact to assist with getting equipment and supplies out to WIA in advance of the field deployment, however the POC possesses no ability to fund the NFE's travel and shipment costs. The NFE will cover the cost for air travel to WIA and air costs for all equipment needed to fulfill the scope of work. Transportation is limited on WIA, and the NFE must plan accordingly to ensure all transportation needs are established before arriving to the island. The NFE is required to bring their own transportation if they are unable to secure vehicles through the base operating NFE. There is no bridge or road to either of the two atolls in question. At high tide, both atolls experience water in between the channels which separate the respective islands, thus the NFE will need to procure or rent equipment to travel back and forth

between islands on a daily basis. An on island contractor can be contacted for services it can provide to support shipments and logistics, however such utility of the on island contractor shall be funded by the NFE using a subcontract or other legal contracting mechanism.

11.0 SPATIAL DATA AND MAPPING REQUIREMENTS

All products associated with this task order that provide a map representation of the location of installation features (historical, existing, or planned) including installation maps, site plans, area development plans, walls-out as-built depictions, or other related overhead (plan) views of an installation (partial or entire) must adhere to the following requirements. (NOTE: This requirement does not currently involve walls-in facility floor plans or interior renderings.) All maps and associated data must comply with the latest version of Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE) available from the SDSFIE website: http://www.sdsfie.org/. These data will be organized using the current version of the standard approved by the Headquarters Air Force Geo Integration Office (HAF GIO) as the functional lead for installation mapping and visualization. The SDSFIE will determine file and feature class identification and definition, attribution and valid domain values. When any geospatial information collected as a result of the task includes information identified in the Common Installation Picture (CIP) or recognized Mission Data Set (MDS) the NFE will deliver data consistent with the established requirements for the data and will ensure functionality with the receiving system. Information must be collected at no less than 1:1200 scales for base cantonment areas and 1:4800 scales for larger undeveloped base areas. Spatial data will meet or exceed National Map Accuracy Standards at those scales. Metadata will be provided and will use Federal Geographic Data Committee (FGDC) Content Standards for Digital Geospatial Metadata (CSDGM) for organization. Geospatial data must be delivered in a geo-referenced GIS (Geographic Information System) format (feature-based file structures with one-to-one cardinality between spatial records and attribute records) which would include Environmental Systems Research Institute's (ESRI) shape file and geodatabase formats. All attribute data as specifically outlined in the task order must be included either in the GIS data file or as a separate table with a SDSFIE key variable that may be used to relationally join the separate table with the GIS data file. All geospatial data must be delivered in the North American Datum 1983 (NAD83) projection, State Plane Coordinate System, using feet or metric coordinate units. Further guidance on mapping units, coordinate systems and projections is available from the Installation GIO. Mapping- or Survey-Grade Global Positioning Systems (GPS) or comparable traditional survey methods will be used to collect geospatial data. The use of mapping- or survey-grade GPS will depend on the precision requirements of the product data. These requirements will be specified later in this SOW for all task order activities where geospatial data are involved. In the case of tasks involving utility construction, location and attribute data will be obtained at the time of excavation. Further information about precision requirements should be obtained from the installation GIO. Source data and product data remain the property of the US Government. The NFE may be required to explain and demonstrate the company's process for protecting all geospatial data, including but not limited to geometry, attributes, metadata, topologies, and relational database schemas and operations used in association with this SOW.

The NFE may be required to sign a non-disclosure agreement attesting to the same before source data are released. Further information about security and nondisclosure requirements should be obtained from the installation GIO. Some installation map data, source and/or product, may be considered by the government to be "sensitive, but unclassified." The intent of this clause is to prevent intentional or unintentional dissemination of "sensitive, but unclassified" information to include unauthorized access to the source and product data by any entity wishing to do harm to the USAF or United States Government while the data resides on the NFE's computer network. The NFE is not authorized to release this information to any third party without the explicit consent of the Headquarters Air Force Office of the Civil Engineer (AF/A7C) or its involved installation. All source information must be returned to the government POC or destroyed upon completion of this project. Special requirements for handling classified map data, if applicable, will be addressed elsewhere in this SOW.

12.0 REFERENCES

A – June 2015 Integrated Natural Resource Management Plan, Wake Island Air Field Kōkee Air Force Station, Kauai, Hawaii and Mount Kaala Air Force Station, Oahu, Hawaii. (Available upon request)

13.0 DELIVERABLE SCHEDULE

Deliverable Title	**Submission Schedule**
Draft Work Plan	Submitted to the government within 14 calendar days of date of task order award.
Final Work Plan and Response to Comment Matrix	Submitted to the government within 42 calendar days of date of task order award.
Draft Project Summary Report	Submitted to the government within 300 days of task order award.
Final Project Summary Report and Response to Comment Matrix	Submitted to the government within 345 days of task order award.