

**SCOPE OF WORK**

**ENVIRONMENTAL DATA COLLECTION FOR LISTED AND SENSITIVE SPECIES  
IN SAN DIEGO BAY, CALIFORNIA**

**EPR: 00242MR106**

**(Period of Performance: 18 Months from Award)**

**January 2019**

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## A. INTRODUCTION

San Diego Bay is part of a highly urbanized ecosystem subject to anthropogenic watershed development and subsequent resource degradation and eutrophication. Despite the anthropogenic influence on the bay, it serves as a crucial ecosystem for several sensitive marine species. The shallow water habitats of San Diego Bay (SDB) support seagrass beds (*Zostera marina*) that provide vital spawning, nursery areas, and migration routes for nearshore marine fishes and invertebrates.

Abiotic parameters are known to be major contributors to the health of marine species and the foraging resources on which they depend (e.g., see Green Sea Turtle Recovery Plan for the maintenance of healthy foraging area). Similarly, environmental parameters such as seawater temperature, water clarity, chlorophyll can impact species at the primary productivity level, such as eelgrass (e.g., see CA Eelgrass Mitigation Policy), which can lead to impacts to fish nurseries and have detrimental impacts all the way up the food chain (e.g., green turtles, CA least terns, scalloped hammerhead sharks).

This project will utilize commercial off the shelf technology to collect automated environmental data (temperature, salinity, dissolved oxygen, pH, etc.) at locations adjacent to Naval Base Point Loma (NBPL), Naval Base Coronado (NBC), and Naval Base San Diego (NBSD) within SDB. Environmental data are not only important for the protection and recovery of federally listed threatened and endangered species (green sea turtles, CA least tern, western snowy plover, scalloped hammerhead shark) and their habitats but it also directly benefits Essential Fish Habitat (EFH) and federally managed fish species under Magnuson-Stevens Fishery Conservation and Management Act (MSFCA), marine mammals, a host of bird species, and other sensitive species that utilize SDB.

As a low-inflow estuary, SDB can express a variety of dynamical circulation regimes both seasonally as well as longitudinally ranging from “normal” estuarine exchange to “inverse” and “thermal” exchange conditions. Normal estuarine exchange flow indicates subtidal (or tidally averaged flow) into the estuary at depth and out of the estuary at the surface. Inverse conditions are opposite of normal conditions; while thermal exchange is in the normal exchange direction, however the dynamics are driven by density gradients caused by temperature instead of salinity (Largier et al, 1997; Largier 2010).

Prior work has shown that SDB experiences variations in these dynamical regimes both in time and along the axis of the bay (Chadwick et al., 1996; Largier et al, 1996; Largier et al, 1997; Largier 2010). The longitudinal variation in these dynamical regimes lead to regions of the bay behaving differently from one another and even distinct separate zonations. These dynamical regimes have ecosystem consequences given their substantial impact on residence time, exchange with ocean water, and total heating. As a result, they have been used to define different ecosystem regimes conducive to different types of habitats and species. The combined temporal and longitudinal changes in these regimes has not been fully documented; and requires additional understanding to capture the full extent of these regimes and their changes over time. Moreover, these dynamics have not been studied in great detail since the decommissioning of the South SDB Power Plant in 2010, which contributed to warmer waters in the far South SDB, influencing habitat and thus species such as green turtles (Turner-Tomaszewicz & Semioff, 2012).

This project aims to measure vertical stratification at multiple points along the axis of SDB as well as a profile of velocity. This instrumentation will allow researchers to examine the temporal and spatial variability in the dynamical regimes, which will greatly improve the understanding of ecosystem responses and ecosystem regimes.

These environmental data will be collected on a routine basis for use in ESA consultations, EFH Assessments under MSFCA consultations, installation INRMP resource monitoring (SDB, NBC, NBPL, NBSD), and overall environmental management of the SDB and Navy training and operating areas. These data can be utilized to collect a baseline of environmental parameters for future comparisons as the environment changes. Such monitoring has applications for climate change implications and sea level rise.

The principal components of this cooperative agreement are to: (1) collect and analyze environmental data from various locations within SDB by deploying various oceanographic instrumentation, including CTDs and current meters; (2) prepare a draft and final report.

## **B. PURPOSE**

This cooperative agreement includes two base tasks and up to two option periods: The first base task is to collect and analyze environmental data from various locations within SDB. The second task is to develop draft and final reports with a summary, results, and discussion of the annual survey.

The objectives of this Agreement are to:

- Improve the current understanding of the mechanisms driving SDB circulation patterns and their role in the ecological functions of the bay

## **C. LOCATION**

Environmental data collection efforts will be conducted in SDB, California.

## **D. DESIGNATED REPRESENTATIVES**

1. The Cooperative Agreement Administrator (CAA) is Mr. Reagan Pablo, Contract Specialist, Naval Facilities Engineering Command, Southwest (NAVFAC SW), 1220 Pacific Highway, San Diego, CA 92132-5190, telephone (619) 532-4150, and email reagan.s.pablo@navy.mil.

2. The Cooperative Agreement Technical Representative (CATR) is Ms. Jessica Bredvik (Code EV22.JB), Marine Biologist for NAVFAC SW, Environmental Corp, 1220 Pacific Highway, San Diego, CA 92132. Phone (619) 532-4182; email jessica.bredvik@navy.mil.

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

4. For the purposes of this Cooperative Agreement, the term Recipient shall mean TBD. The use of the term Recipient in this Cooperative Agreement includes TBD and all designated representative(s).

5. Any change in scope of work must be issued to the Recipient, in writing, by the Grants Officer to be binding on the US Government. No US Government employee has authority to change this Cooperative Agreement by oral or written directives, instructions, commitments and/or acceptances or any other manner.

6. The Recipient will designate at time of proposal submission the individual within their organization who is authorized to negotiate with the Cooperative Agreement Administrator. The designation will stipulate the individual's authority to commit the Recipient.

## **E. PERIOD OF PERFORMANCE**

The period of performance covered by this agreement is 18 months upon award. The proposed period of performance consists of an 18-month base period and two (2), 18-month option periods. If an option period is awarded, the period of performance will be extended by 18 months from the date of award. These options may be unilaterally awarded within the last 6 months of the period of performance of the base scope of work, or within the preceding option period of the Cooperative Agreement. The period of performance of the base period and option periods may overlap. The total duration of this agreement, including any option periods, shall not exceed 54 months. The end date is the anticipated date that the Final Report is accepted by the Government. In the event that an option period(s) is exercise, a cumulative report consisting of the base and all option periods will be the Final Report. All option periods are subject to the availability of funds.

A fifteen (15) day period, starting on date of award, will be used for the recipient to provide preliminary documents to the CAA and CATR. Documents include, but are not limited to, Insurance documents/certificates, Accident Prevention Plans/Site Health and Safety Plans (as applicable), etc. Recipient may not begin performance until preliminary documents are submitted and accepted/approved as appropriate.

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

Recipient and/or his/her representative(s) have access to the following materials that provide additional background information, but are not required to review:

- a. SDB Integrated Natural Resource Management Plan (INRMP) – 2013

#### **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 Department of the Navy (DoN) at the end of the Agreement. Equipment is defined as “tangible nonexpendable personal property including exempt property charged directly to the award 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 contractor 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 area as often as necessary and within the time limits stated within this Scope of Work to accomplish the purposes of the Agreement as detailed further in this Scope of Work. It is the Recipient's responsibility to obtain security and entrance clearances and camera passes for himself/herself and his/her personnel onto the Range Complex. 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 the Range Complex, the Recipient shall abide by all applicable rules and regulations issued by the Commanding Officer. The Recipient may be subject to inspections for contraband while on 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 collecting environmental data.
5. All work conducted under this Agreement shall be in accordance with:
  - a. Title 33 of the Code of Federal Regulations (regulated by U.S. Coast Guard), Part 66 (33CFR66)
6. Due to the complexity of work, the Recipient shall provide the following key personnel with the following minimum qualifications:
  - A. Principal Investigator: The Recipient shall designate one person as responsible for ensuring provisions are in place, project and personnel supervision are adequate, and quality control and meeting of reporting requirements are met on a daily basis. This person shall have, at the minimum:

- i. A PhD in Environmental Engineering or a related science.
- ii. 10 years of experience analyzing estuarine hydrodynamics, including oceanographic properties and biological parameters.
- iii. Extensive field experience in utilizing in-situ instrumentation including moorings, boat-based surveys, and autonomous underwater vehicles.

B. Research Associate: The Recipient shall designate one person as responsible for obtaining permits required for deployment of CTDs and coordination logistics. This person shall have, at minimum:

- i. A PhD in Oceanography or a related science.
- ii. 10 years of experience coordinating logistics for field experiments.
- iii. 5 years of experience obtaining access permits associated with field experiments.

C. Graduate Student Researcher: The Recipient shall designate one person as responsible for experimental design and conducting rigorous analysis of data collected. This person shall have, at minimum:

- i. An M.S. in Oceanography or a related science.
- ii. 5 years of experience with estuarine hydrodynamics, including oceanographic properties and biological parameters.

D. Research Assistant: The Recipient shall designate one or more people as responsible for assisting with field operations and data collection. This person shall have, at minimum:

- i. Over 5 years of experience as an oceanographic field technician.
- ii. Experience deploying and recovering instruments including mooring design, boat mounts, and all boat operations.
- iii. Knowledge of programming oceanographic hydrodynamic instruments (ADCPs, CTDs, pressure sensors, etc.) and expertise preparing instruments for deployment.

7. The Recipient shall provide the CAA (via the CATR) the names of persons and copies of their resumes being considered for work under this Agreement. The Recipient shall not replace or substitute any staff member without prior written approval by the CAA.

8. The Recipient shall work closely with the CATR in planning and carrying out all field activities.

9. All work conducted in support of this Agreement shall comply with all federal and state laws.

10. If there is an incident which the Recipient believes may involve “take” of an endangered species and involves an activity permitted under the endangered species permit, the Recipient shall follow the procedures in the permit and notify the CATR immediately.

11. If the Recipient “take” of an endangered species that results from an activity not listed on the permit, the CATR shall be contacted immediately.

12. Photography may be restricted on the Range Complex. The Recipient and all representatives are required to obtain permission from the CATR prior to taking any photographs on the Range Complex. Only photographs of Agreement-related activities will be permitted.

13. The use of the Range Complex by the Recipient and at-sea operations are on a “not to interfere” basis.

14. At no additional cost to the government, the Recipient shall be in possession of all necessary permits (as described above) from National Marine Fisheries Service necessary to conduct the activities stipulated in this Agreement. All permits shall be submitted as part of the proposal.

15. All parties involved in this Agreement agree to comply with all U.S. and foreign 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. The Navy does not assume responsibility for Recipient compliance with the laws and regulations of the country in which the work is to be conducted.

16. All work conducted in support of this Agreement shall comply with all federal laws applicable to the Ranges including, but not limited to, the Marine Mammal Protection Act, Endangered Species Act, the Clean Water Act and the Migratory Bird Treaty Act.

17. Vehicle operators may **not** use cell phones unless the vehicle is safely stopped or the cell phone employs a "hands free" device. Drivers may not hold, dial, text or adjust the phone while the vehicle is in motion. Hands free systems such as ear buds, blue tooth, OnStar and other voice activated or speaker phone systems are authorized. Installation Security personnel can issue military motor vehicle citations to operators in violation of this policy. These citations result in a three-point penalty assessed to the violator's driving record and if a driver accumulates twelve points within a twelve-month period or eighteen points within a twenty-four-month period he/she is subject to suspension of Installation driving privileges for one year.

18. 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.

19. 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 conducted by the Recipient 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 CAA shall approve (via the CATR) 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.

20. The Recipient shall inform the CATR via 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.

21. The Recipient shall inform the CATR via e-mail of any unusual species observed while conducting surveys in the field (e.g. species which are federally listed or are State of Species of Special Concern). Information should include (a) location, (b) date, (c) time and (d) any detailed facts about the sighting.

22. 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 CAA in establishing the Recipient's performance in fulfilling the requirements of this Agreement.

23. The DoN, via the CAA, may request updated 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 I 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 CAA, via the CATR. The DoN understands that facilitating the requested most updated 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 CAA

(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 following specific work requirements for this Cooperative Agreement are in addition to the requirements set forth above under Section B. PURPOSE. All work shall be consistent with all pertinent federal, state and local laws and regulations. All work shall be coordinated with the CATR.

### **BASE TASKS:**

#### **1. Automated Environmental Data Collection 2019:**

The Recipient shall deploy vertical CTDs (salinity (C) and temperature (T) and depth (D)) at a minimum of 4 locations along the central axis of SDB to capture vertical stratification and longitudinal density gradients relevant to estuarine dynamics and to ecosystem regimes. The Recipient shall also deploy a current meter in the central bay to capture water velocity throughout depth in the along-channel direction, as well as in the across the channel/shoal interface. This work will also include obtaining permits to deploy instrumentation on the navigational buoys.

#### **2. Draft and Final Report:**

To meet the objectives of this Agreement, a detailed analysis and discussion shall be conducted to be included in a comprehensive report and incorporate results from the BASE efforts under this Agreement. The primary focus of this effort will be collection and analysis of environmental data. These data will be evaluated to describe the mechanisms driving SDB circulation patterns and their role in the ecological functions of the bay. Evaluation will include graphical/mapping and table data comparisons, and statistical analyses along with generation of a database of distributional data. The Recipient may conduct the following analyses: principle axes analysis, frequency spectra analysis, subtidal exchange analysis, quantification of stratification and buoyancy frequency, a heat budget, comparison to estuarine theory, and more. All data will be compiled into a draft and final report that includes a discussion of the aforementioned analyses.

### **OPTIONAL TASKS:**

OPTION PERIOD 1: Upon award of OPTION PERIOD 1, the Period of Performance shall be extended 18 months.

#### **1. Automated Environmental Data Collection 2020:**

The Recipient shall deploy vertical CTDs (salinity (C) and temperature (T) and depth (D)) at a minimum of 4 locations along the central axis of SDB to capture vertical stratification and longitudinal density gradients relevant to estuarine dynamics and to ecosystem regimes. The Recipient shall also deploy a current meter in the central bay to capture water velocity throughout depth in the along-channel direction, as well as in the across the channel/shoal interface.

#### **2. Draft and Final Report:**

To meet the objectives of this Agreement, a detailed analysis and discussion shall be conducted to be included in a comprehensive report and incorporate results from the BASE and OPTIONAL efforts under this Agreement. The primary focus of this effort will be collection and analysis of environmental data. These data will be evaluated to describe the mechanisms driving SDB circulation patterns and their role in the ecological functions of the bay. Evaluation will include graphical/mapping and table data comparisons, and statistical analyses along with generation of a database of distributional data. The Recipient may conduct the following analyses: principle axes analysis, frequency spectra analysis, subtidal exchange analysis, quantification of stratification and buoyancy frequency, a heat budget, comparison to estuarine theory, and more. All data will be compiled into a draft and final report that includes a discussion of the aforementioned analyses.

OPTION PERIOD 2: Upon award of OPTION PERIOD 2, the Period of Performance shall be extended 18 months.

**1. Automated Environmental Data Collection 2021:**

The Recipient shall deploy vertical CTDs (salinity (C) and temperature (T) and depth (D)) at a minimum of 4 locations along the central axis of SDB to capture vertical stratification and longitudinal density gradients relevant to estuarine dynamics and to ecosystem regimes. The Recipient shall also deploy a current meter in the central bay to capture water velocity throughout depth in the along-channel direction, as well as in the across the channel/shoal interface.

**2. Draft and Final Report:**

To meet the objectives of this Agreement, a detailed analysis and discussion shall be conducted to be included in a comprehensive report and incorporate results from the BASE and OPTIONAL efforts under this Agreement. The primary focus of this effort will be collection and analysis of environmental data. These data will be evaluated to describe the mechanisms driving SDB circulation patterns and their role in the ecological functions of the bay. Evaluation will include graphical/mapping and table data comparisons, and statistical analyses along with generation of a database of distributional data. The Recipient may conduct the following analyses: principle axes analysis, frequency spectra analysis, subtidal exchange analysis, quantification of stratification and buoyancy frequency, a heat budget, comparison to estuarine theory, and more. All data will be compiled into a draft and final report that includes a discussion of the aforementioned analyses.

All draft and final reports shall be in scientific format and include the following: 1) Title page showing title, date, CA number, CATR contact information; 2) Sub-title page showing title, prepared by and for listings, date and recommended citation; 3) Table of contents; 4) Abstract or Executive Summary; 5) Introduction; 6) Methods; 7) Results; 8) Discussion; 9) Conclusions (to include synthesis with previous work and recommendations for future study); 10) Legible copies of the field notes, data forms and other information.

In accordance with the California Cooperative Ecosystem Studies Unit Cooperative (CESU) and Joint Venture Agreement, Article II. Statement of Work, the CATR agrees to provide substantial involvement to include, but are not limited, the following:

- NAVFAC SW CATR is involved in the development of study methodology, data gathering, analysis, and/or report writing.
- NAVFAC SW CATR actively participates and collaborates in carrying out the project plan of work and review.
- NAVFAC SW CATR incurs in-kind or direct expenditures in carrying out the activities specified in the statement of work.

**I. MEETINGS/COORDINATION**

1. The Recipient or his/her designee will attend (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 be available on an intermittent basis throughout the Agreement period for consultation with the CATR on any matters related to this Cooperative Agreement.

**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 Cooperative Agreement Administrator for retention in the official agreement file.

Recipient shall adhere to following schedule, unless otherwise approved by CAA and CATR.



## 2. Submittals and Deliverable Schedule

| Event/Deliverable  | Due Date   | Format                          |
|--|--|---------------------------------|
| <b>Meetings and Coordination</b>   |  |                                 |
| i) Kick-off meeting  | Within one month following award                     | -                               |
| <b>BASE Work – Automated Environmental Data Collection, Draft and Final Report</b> |  |                                 |
| i) Draft Report to Navy  | No later than 90 days after final data collection    | Electronic (email)<br>(MS Word) |
| ii) Final Report to Navy   | No later than 30 days after receipt of Navy comments | Electronic (email)<br>(MS Word) |
| <b>OPTION YEAR 1</b>   |  |                                 |
| i) Draft Report to Navy  | No later than 90 days after final data collection    | Electronic (email)<br>(MS Word) |
| ii) Final Report to Navy   | No later than 30 days after receipt of Navy comments | Electronic (email)<br>(MS Word) |
| <b>OPTION YEAR 2</b>   |  |                                 |
| i) Draft Report to Navy  | No later than 90 days after final data collection    | Electronic (email)<br>(MS Word) |
| ii) Final Report to Navy   | No later than 30 days after receipt of Navy comments | Electronic (email)<br>(MS Word) |

- a. Permits. A copy of all permits required for the work described in this Agreement shall be provided at the kick-off meeting (if not already submitted).
- b. Draft and Final Report of Automated Environmental Data Collection. The draft and final report shall include a detailed analysis and discussion addressing the objectives and work descriptions described previously in this SOW, including those in the table in Section H-Specific Requirements.

## 3. Deliverable Specifics

- a. The Government will have 30 calendar days from receipt of the draft report(s) to review and return comments to the Recipient. All final reports shall be submitted by the Recipient within 30 days of receipt of Government comment. If necessary, the Government will have a 30-day review period from receipt of final reports (with comments incorporated) for Government review of documents to ensure comments were adequately addressed. If review and acceptance by Government is not completed within the 30-day review period of the final report, constructive acceptance will be deemed to have occurred and the deliverable considered final. Only the CAA has the authority to make changes to the 30 calendar day review period.
- b. The Recipient shall provide all required draft reports as electronic files, either as email attachments, sent to the CATR on CD, or downloadable via FTP site. The Recipient shall provide six (6) CD-ROMs containing the report, maps, photographs and any pertinent supplemental information.
- c. Data format and standards should follow guidelines established in Attachment C.

- d. Any resulting publically available information (peer-reviewed publication, conference/workshop presentation, etc.) shall be provided to the Navy as a .pdf of the final document at no additional cost.
- e. The DoD have been directed to provide an approach to support increased public access to peer reviewed scholarly publications and digitally formatted scientific data arising from unclassified publicly releasable research and programs funded wholly or in part by the DoD, as directed by Office of Science and Technology Policy (OSTP) Memorandum: “Increasing Access to the Results of Federally Funded Scientific Research” PARR), dated 22 February 2013 and the ‘DoD Plan to Establish Public Access to the Results of Federally Funded Research’ dated February 2015. By providing greater public access to DoD funded research, the Department seeks to encourage and accelerate scientific breakthroughs and innovation of potential interest to DoD in carrying out its mission. A robust industrial base and commercialization of DoD technologies will also benefit entrepreneurship, and enhance economic growth and job creation.
- f. Submittal/Deliverable Standards: All submittals/deliverables are expected to be of the highest professional quality and will be rejected if any of the following exists:
- there are typographical errors, spelling, or grammar mistakes; or
  - results and discussion are not tied directly and continually to natural resource management concerns of the installation; or
  - the document is not organized in a manner that flows well; or
  - 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); or
  - the document is not fully formatted (e.g. functional table of content links, consistent fonts/styles throughout document, accurate page numbers, accurate and complete stand-alone appendices [if applicable], accurate and functional figure titles, table titles, section headers, and table of contents need to be complete and accurate); or
  - abbreviations and acronyms are not consistent throughout each submitted document; references/literature not cited fully cross-checked between what is in the document vs. what is presented in the references section; data in tables shall be checked for consistency if information is repeated throughout the document or referenced in other documents, figure titles shall be checked against what is presented in the figures; appendices/figures shall be for the current project and not a copy/paste from another project, prior to submittal for client review.
- g. The draft report shall be a complete document that has been proofread for spelling and grammatical errors and contains all text, figures, graphics, photographs and tables provided for review.
- h. Data All raw data, data sheets and electronic databases (including GIS data) shall be submitted as appendices or supplemental information with the draft Annual Report. If too large to be included with the other draft submittals, the Electronic databases shall be submitted on a labeled CD-ROM. The final versions of these databases will be included on the CD-ROM’s attached to the final reports.
- i. Maps
1. All maps created for this Agreement shall be incorporated in the draft and final reports. All maps shall be printed on 8.5 by 11-inch paper or 11 by 17-inch paper folded to match the size of the report(s).
  2. All maps shall be printed at an acceptable scale using a State Plane projection, Zone 0405, North American Datum 1983 or USGS. Electronic copies of all maps shall also be provided.
  3. All maps created for this Agreement shall contain the following information: (a) title, (b) scale bar, (c) legend, (d) date, (e) north arrow and (f) notation identifying who prepared the map.
- j. 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 final report. All original photographs shall be appropriately labeled with information to include:

- date,
- location (specific place and Installation),
- subject/activity,
- activity documented,
- identification of any people in the picture, and
- photographer.

## **K. DATA AND PUBLICATION**

1. This Cooperative Agreement is subject to, and Recipient shall comply with, 2 CFR 200.315 concerning “Intangible Property,” which includes use of 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 upon the fundamental research that is the subject of this Cooperative 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 research under this Agreement shall be Recipient’s right to publish the results of such 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 research was funded by Commander, Naval Installations Command”

3. Any publications resulting from this work shall be provided at no cost to the DoN in quantities jointly determined by the DoN representative and the Recipient at the time of publication.

4. The Recipient shall be responsible for ensuring all personnel participating in activities under this Agreement have read and acknowledged the DATA AND PUBLICATION provisions of this Agreement.

## **L. RELEASE OF INFORMATION**

The Recipient shall not respond to any inquiries about this Cooperative Agreement from the news media or non-governmental organizations or other persons during the term of this Cooperative 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 Public Affairs Officer at the Installation and Public Affairs Officer at NAVFAC SW through the CATR and CAA.

## **M. SAFETY**

The Recipient will be required to develop an Accident Prevention Plan (APP) following the format in Appendix A of the EM 385-1-1, US Army Corps of Engineers Safety & Health Requirements Manual, 30 November 2014 or latest edition. The government CATR will contact the SW EV Safety Office to check if the project may qualify for the Abbreviated APP, prior to directing the recipient to prepare an APP. Additional specific plan or plans is/are

required if the project involves work that is potentially hazardous. List of specific plans is located at section (i) of Appendix A of the EM 385-1-1. Potentially hazardous activities include, but are not limited to:

- soil boring or digging test pits (excludes manual collection of de minimis surface soil samples)
- work on, in, or near bodies of water where there a danger from drowning
- use of heavy equipment, e.g. backhoes, excavators, bulldozers, etc.
- excavation, backfilling, and compaction
- use of man lifts, ladders, and other climbing apparatus
- use of weight handling equipment, e.g. crane, forklifts, and hoists
- well drilling and/or well pump repair or replacement
- construction, demolition, or repair of site improvements
- work within 10 ten feet of high voltage lines, or high pressure gas, steam, or water lines

A Site Safety and Health Plan (SSHP) is also required if the work involves potential exposure to hazardous, toxic or radioactive waste (HTRW). The minimum requirement for the SSHP is in Section 33 of the EM 385-1-1. Include an Activity Hazard Analysis (AHA) for all tasks reasonably anticipated to be performed as part of this scope of work. Format and instructions for the AHA is in section 1 of the EM 385-1-1. As a minimum, references used to develop the APP, SSHP and AHA are: EM 385-1-1 (or latest addition), and Local Activity safety plans and standard operating procedures. When developing the APP, SSHP and AHA, address all sections that are deemed appropriate for performing the work in this CA, while ensuring a safe work environment for all personnel involved. The draft APP, SSHP and AHA have to be reviewed by the Government Designated Authorities (SW EV Safety Office, CATR, ROICC/FEAD) prior to start of field work activities.

NOTE: AHA is an attachment required by the APP. SSHP is also an attachment required by the APP if a project includes potential exposure to HTRW. Government PM should verify with the SW EV Safety Office prior to directing the recipient to prepare a SSHP.

The APP, SSHP and AHA will provide a safe and healthful environment for all personnel involved as well as personnel working near the sites for the DoN. The Recipient shall certify to CATR that the final APP, SSHP and AHA have been reviewed with each Recipient employee working on this Cooperative Agreement prior to mobilization and start of fieldwork activities.

A Draft and Final APP, SSHP and AHA will be submitted concurrently with the Work Plan but shall be printed under a separate cover from the Work Plan. The final APP, SSHP and AHA shall be immediately accessible to the Site Safety and Health Officer (SSHO) and Project Manager at all times during the project, and a copy shall be available in every vehicle utilized for work under this Cooperative Agreement. The SSSH is required to have completed the 10-hour OSHA Safety Training.

Man-hour reporting is also required by the EM 385-1-1 and the Unified Facilities Guide Specifications (UFGS) -01 35 26, (February 2012) change 2, 08/13. The recipient will provide a Monthly Exposure Report (MER) and will attach this report to the quarterly (or other specified interval) billing request. The CATR will submit a copy of the MER to the SW EV Safety Office.

Site Assist Visit (SAV). While the recipient is performing the job on-site, a SW EV Safety representative may perform an SAV. The recipient is required to comply with the contents of the final APP (with the AHA and/or SSHP, as applicable). Any modifications to the APP shall be approved first by the GDA prior to continuing work. Also the recipient has to comply with the requirements of the Section 1, Program Management, of the EM-385 -1-1, while at the job site.

## **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 occupation or use of Government Premises 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 Cooperative Agreement.

2. In the event of damage, including damage by contamination, to any US 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 US Government.

## **O. INSURANCE**

1. At the commencement of this Cooperative 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 Cooperative 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 Cooperative Agreement by maintaining a program of self-insurance that complies with the requirements of this Section O, including coverages specified in Attachment A 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 Cooperative 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 Cooperative 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 Cooperative Agreement Administrator, a certificate of insurance or a certified copy of each renewal policy evidencing the insurance required by this Cooperative 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 under this Section O, the Recipient shall promptly give notice thereof to the Government and, to the extent of its liability as provided in this Section O, 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 under this Section O, 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 required to effect pursuant to this Section O, 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 during the field work portion; after submittal of the draft reports; and after receipt of the final reports.

2. The final payment of 15 percent of the Cooperative Agreement overall value shall be paid when the final report and all other submittals listed in Section J have been received and accepted by the CATR.

4. 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 B WAWF Instructions for instructions on payment procedures.

## **Q. EXECUTIVE COMPENSATION AND FIRST-TIER 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 to report information on subcontract awards. The law requires all reported information be made public, therefore, the Contractor is responsible for notifying its subcontractors that the required information will be made public.

Unless otherwise directed by the Contracting 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 shall report the following information at <http://www.fsrc.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 Contractor).
- (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 contract 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 a contract award, and annually thereafter, the Contractor shall report the names and total compensation of each of the five most highly compensated executives for the Contractor's preceding completed fiscal year at <http://www.ccr.gov>, if –

- (a) In the Contractor's preceding fiscal year, the Contractor received –

80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

\$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) 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 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 –

80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

\$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) 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 in the previous tax year had gross income, from all sources, under \$300,000, the Contractor 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 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 San Diego, CA 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 NAVFAC SW under this Cooperative Agreement, No. N62473-19-2-0006."

**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:**

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, Facilities Engineering Command, shall be given thirty (30) days written notice prior to making any material change in or the cancellation of the policy."

c. "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."

d. "This insurance certificate is for use of facilities at NAVFAC SW under this Cooperative Agreement, No. N62473-19-2-0006."

e. 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 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 WorkFlow (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 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 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 must use the following information when submitting payment requests and receiving reports in WAWF for this contract/order: **N62473-19-2-0006**

(1) Document type. The Contractor shall use the following document type(s).

#### **NAVY CONSTRUCTION/FACILITIES MANAGEMENT INVOICE**

(2) Inspection/acceptance location. The Contractor shall select the following inspection/acceptance location(s) in WAWF, as specified by the contracting officer.

(3) Document routing. The Contractor 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.

Routing Data Table\*

-----  
Field Name in WAWF Data to be entered in WAWF  
-----

Pay Official DoDAAC **N68732**  
Issue By DoDAAC **N62473/ECOMP**  
Admin DoDAAC **N62473/ECOMP**  
Inspect By DoDAAC **N62473/ECOMP**  
Ship To Code \_\_\_\_  
Ship From Code \_\_\_\_  
Mark For Code \_\_\_\_  
Service Approver (DoDAAC) \_\_\_\_  
Service Acceptor (DoDAAC) **N62473/ECOMP**  
Accept at Other DoDAAC \_\_\_\_  
LPO DoDAAC **N62473/ECOMP**  
DCAA Auditor DoDAAC \_\_\_\_  
Other DoDAAC(s) \_\_\_\_  
-----

(4) Payment request and supporting documentation. The Contractor 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 shall enter the email address identified below in the “Send Additional Email Notifications” field of WAWF once a document is submitted in the system.

[NAVFAC\\_SW\\_ECOMP\\_inspector@navy.mil](mailto:NAVFAC_SW_ECOMP_inspector@navy.mil)  
[jessica.bredvik@navy.mil](mailto:jessica.bredvik@navy.mil)

(g) WAWF point of contact. (1) The Contractor 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.

(End of clause)

Please visit the link below for specific line item payment.

[https://www.acq.osd.mil/dpap/dars/pgi/pgi\\_hm/current/PGI204\\_71.htm#payment\\_instructions](https://www.acq.osd.mil/dpap/dars/pgi/pgi_hm/current/PGI204_71.htm#payment_instructions)

## ATTACHMENT C ELECTRONIC DATA DELIVERABLE SPECIFICATIONS

### A-1 REFERENCES

a) Environmental Information Management System (EIMS) Homepage.

<https://eims3.sscno.nmci.navy.mil/>

b) Environmental Information Management System (EIMS) User Manual.

<https://eims3.sscno.nmci.navy.mil/eimshelp>

Spatial Data Standards for Facilities, Infrastructure and Environment (SDSFIE) v3.1, Defense Installations Spatial Data Infrastructure (DISDI) Group.

<http://www.sdsfieonline.org/PublicPages/Branches/Navy.aspx>

c) US Navy Marine Species Monitoring Program Data Management Plan

d) US Navy Marine Species Monitoring Program Data Use Agreement

e) North American Profile (NAP) of ISO 19115: 2003, Geographic Information – Metadata.

<http://www.fgdc.gov/nap/metadata>

f) Geospatial Positioning Accuracy Standards, Part 4: Architecture, Engineering, Construction, and Facilities Management (FGDC-STD-007.4-2002), Federal Geographic Data Committee (FGDC), 2002.

<http://www.fgdc.gov/standards/projects/FGDC-standards-projects/accuracy/part4>

g) Geospatial Positioning Accuracy Standards, Part 1: Reporting Methodology (FGDC-STD-007.1-1998), FGDC, 1998.

<http://www.fgdc.gov/standards/projects/FGDC-standards-projects/accuracy/part1/index.html>

h) Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy (FGDC-STD-007.3-1998), FGDC, 1998.

i) Contributing Data to OBIS-SEAMAP. [http://seamap.env.duke.edu/about/provider\\_faq](http://seamap.env.duke.edu/about/provider_faq)

### A-2 GENERAL SPECIFICATIONS

All deliverables shall be fully compatible with EIMS system requirements and the data standards and format prescribed below unless otherwise approved by the COR. Reference (a) provides information on EIMS system requirements.

a) EIMS Access: Request an EIMS account for access to necessary capabilities, geospatial data, reports, or other pertinent information. The contractor's technical consultant shall coordinate with the project's Contracting Officer's Representative (COR) prior to and during the establishment of EIMS accounts to ensure appropriate contract personnel receive system access. Reference (a) provides information on requesting access to EIMS.

b) Project Setup: Establish appropriate project folders on EIMS to facilitate document and map production among project members as well as transfer of final data deliverables and associated map documents. Reference (b) provides information on setting up projects in EIMS.

c) Document Commenting: The EIMS Document Commenting tool may be used to collect, manage, and sort comments for draft and final deliverables. Reference (b) provides information on Document Commenting in EIMS.

d) Geospatial Data Production and Management: Upload all map documents (.mxd and .jpeg) and geospatial data for the project to the established 'GIS Project' folder. A schedule for uploading draft and final geospatial products to EIMS will be determined during the project kick-off meeting. Refer to Sections A-3 and A-4 for specific geospatial data requirements.

e) Government Review: Retain all draft, pre-final, and final versions of the raw and finished format digital data and documents in the Document Project and GIS Project folders for Government review and approval. Contractors shall have technical consultants available to assist the Government with any digital data discrepancies. The data will be analyzed for subject content and system compatibility. Edits due to comments on data shall be incorporated by the contractor prior to approval of the final deliverable.

f) Final Deliverables: Data and documents destined for publication in EIMS must be uploaded to the established EIMS folders. Visual survey data should also be provided to OBIS-SEAMAP.

i. Upload all final map documents (.mxd and .jpeg) and GIS data with metadata to the established GIS Project folder on EIMS. Refer to Sections A-3 and A-4 for specific geospatial data requirements.

ii. Submit all source survey data the Ocean Biogeographic Information System Spatial Ecological Analysis of Megavertebrate Populations (OBIS-SEAMAP). Data sets should be designated for the Navy's partner contribution page (<http://seamap.env.duke.edu/partner/NAVY>) and attributed to the original collector with acknowledgement of appropriate the U.S. Navy Command(s) as the funding source. Reference (j) provides information on submitting data to OBIS-SEAMAP.

g) Project Close-Out: At project completion, clean up non-essential data, working drafts (non-deliverables), reference documents, etc. from project folders within EIMS or delete as directed by the COR.

h) Deliverables and Use: All digital files prepared for this contract, including source data acquired, source code generated and/or used, and related materials shall be delivered to the COR in digital form upon completion of the contract period. The Navy shall have unlimited rights to use all data and deliverables collected or produced under this contract for the purposes of regulatory compliance, environmental planning, public outreach, and/or other needs to support navy's mission. Distribution and publication of any data generated as a result of this contract shall be in accordance with reference (e) (US Navy Marine Species Monitoring Program Data Use Agreement).

### **A-3 GEOSPATIAL DATA REQUIREMENTS**

#### **A-3.1 Data Standards**

Data standards facilitate the development, sharing, and use of geospatial data. The contractor shall ensure that all geospatial data delivered is consistent with references (c) and (d), unless otherwise directed by the Government. Geospatial data shall be delivered in a single file geodatabase format and accompanied by a data inventory spreadsheet unless otherwise directed by the Government. The data will be compatible with ArcGIS 10.0 and must be importable to an Oracle multi-user geodatabase using ArcSDE. Digital map files (.mxd files) shall be delivered in ArcGIS 10.0 format and the associated data layers shall be sourced by a relative file pathway to the file geodatabase. The contractor shall provide an inventory spreadsheet that contains a field for File geodatabase name, Feature dataset, Feature class, feature label name, feature legend designation, data source, and a comment field. In addition, all geospatial data delivered by the contractor shall adhere to the following criteria:

a) precise geographic coordinates in decimal degree format with four decimal precision;

b) units of nautical miles (nm) for expansive marine areas and statute miles (mi) for expansive land areas;

c) reference the GRS 1980 spheroid and the North American Datum 1983 (WGS-84); and

d) contain a projection file, if appropriate, based on format.

#### **A-3.2 Metadata Standards**

The term "metadata" is defined as data about data. The term is often used to refer to information that allows either: (1) discovery of data, (2) understanding the provenance and quality of the data, or/and (3) analysis of the data via a set of machine readable instructions that describe the data and its relationships. The contractor shall provide metadata in accordance with Content Standard for Digital Geospatial Metadata (CSDGM), reference (f), the current U.S. federal metadata standard.

The contractor shall ensure that metadata is provided for all geospatial data delivered, including data furnished by the Government, a third party, or generated as a result of this project, and is compliant with reference (f). All metadata shall be in XML format. The contractor shall reference the North American Profile of ISO 19115 2003 metadata style sheet in ArcCatalog when populating Service-level and Feature Class-level metadata. The contractor is required to supply metadata for all fields within this style sheet.

### **A-3.3 Mapping Guidelines**

The contractor shall comply with FGDC Geospatial Positioning Accuracy Standards, Part 4: Architecture, Engineering, Construction, and Facilities Management, reference (g), which provides accuracy standards for engineering drawings, maps, and surveys. Map or drawing scales will be determined by the NTR, given specific project requirements.

### **A-3.4 GPS Surveys**

The contractor shall comply with the FGDC Geospatial Positioning Accuracy Standards, Part 1: Reporting Methodology, reference (h), when conducting GPS surveys and collecting geospatial data. Specifically, the contractor shall ensure that the horizontal accuracy for planning grade GPS data collection shall be sub-meter, unless otherwise specified. Every effort shall be made to capture feature locations without using offsets, unless obstructions are present. If offsets are used, the contractor shall ensure that they are agreed to by the Government and documented, per direction of the COR, given specific project requirements.

Data sets derived from GPS data collection efforts (mapping or survey grade) shall include metadata to record descriptions of the receiver and other equipment used during collection and processing, base stations used for differential corrections, software used for performing differential corrections, estimated horizontal and vertical accuracies obtained, and conversion routines used to translate the data into final geospatial data delivery format (see Section A-4.1). All metadata shall comply with the metadata format requirements as described in this document (see Section A-4.2). Metadata must include an accuracy statement at the 90% or 95% confidence interval. Accuracy statements shall include the method of determination, as specified in the FGDC Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy, reference (i).

### **A-3.5 Data Integrity**

The contractor shall employ appropriate QA/QC standards to ensure that data is topologically correct, accurate and complete, including:

- a) no erroneous overshoots, undershoots, dangles or intersections in the line work;
- b) point and line features shall be snapped together where appropriate to support networks, e.g. do not break linear features for labeling or other aesthetic purposes;
- c) lines should be continuous and point features should be digitized as points;
- d) no sliver polygons;
- e) digital representation of the common boundaries for all graphic features must be coincident, regardless of feature layer; and
- f) attribute information and labeling must be consistent throughout a GIS project.

## **A-4 USE OF AUTHORITATIVE GEOSPATIAL DATA and EIMS**

### **A-4.1 Navy Maintained Geospatial Data**

Navy has identified geospatial data layers that will be maintained by the Navy as the authoritative source. If required for the project, they will be provided by the Navy, in adherence with Reference (c) where available. The following data layers are examples of what will be maintained by the Navy but are not an all-inclusive list:

- a) Boundaries of air, land, and sea training and testing areas
- b) Special use airspace (SUAS)
- c) Study area boundaries
- d) Installation boundaries and features

Reference (a) provides information on accessing EIMS. The contractor can inquire what data are considered Navy authoritative and are required for the project.

#### **A-4.2 Electronic Data Use and Project Management on EIMS**

Any data required to support the project will be identified during the project kick off meeting. Any requests for existing geospatial data should be directed to the project COR or their designated representative.

The contractor is required to utilize any Government furnished ArcMap templates and the Common Operating Picture data provided by the Government to produce all maps and figures for the project.

New data generated by the contractor as a part of this contract will be uploaded to the GIS Project folder in EIMS adhering to the data format and metadata standards outlined in previous sections of this appendix.