

Statement of Objectives For

Conservation/Recreation Interns to Perform Recreational Road Inventories

Master Cooperative Agreement No.: W9126G-16-2-0004 Work Order xxxxxx between USACE
and the **Student Conservation Association, Inc.**

1.0 PURPOSE

The US Army Corps of Engineers (USACE) recreation areas receive some of the highest visitation of any areas in the federal system. In 2012, the USACE was included in the Map-21 legislation as part of the Federal Lands Transportation Program. This program provides funding for road improvement and data collection activities associated with an agency's public transportation assets. In addition, USACE is a participant in Recreation.gov, an online reservation service for the federal agencies. In both programs, geospatial data has become a requirement. USACE has identified the need to develop, verify, and improve spatial data representing recreation and transportation facilities in USACE Water Resource Projects (Project). This information will be used to meet program requirements and to provide better information to visitors with regard to recreation on public land.

This data collection effort will be to create a product that meets the management needs of key business lines and programs within the USACE that utilize different internal databases. Additionally, in order to meet obligations to fund road improvement with funds provided from the USACE allocation of Federal Lands Transportation Program funding, spatial data representing the network of corps managed roads must be developed and maintained for use in GIS. Road network data may also be shared with local Emergency Management Agencies to advance public safety at corps projects. The effort to verify and inventory recreation facility locations and attributes will improve the spatial and descriptive accuracy of information used to manage the corps recreation program and the information presented to current and potential visitors.

This work order is in accordance with 2.2.5.2, Conservation/Recreation Teams.

Purposes:

- Collect geospatial and related attribute data for recreation and transportation assets.
- Improve transportation information available to key stakeholders, like US DOT, local DOT agencies, and local emergency services.
- Improve recreation facility information available on recreation.gov or on local division, district or project websites.
- Utilize existing data and systems where possible for source and collection of data.

1.2 Number of Crews/Interns

One crew that consists of a leader and four participants/members.

1.3 Participating Projects

Data collection will take place at Sacramento District Project with recreation assets as represented in the OMBIL database (10 Projects). They include the following USACE Projects:

- Black Butte Lake
- Buchanan Dam H.V. Eastman Lake
- Englebright Lake
- Hidden Dam Hensley Lake
- Martis Creek Lake
- New Hogan Lake
- New Melones Lake (Stanislaus River)
- Pine Flat Lake
- Success Lake
- Terminus Dam Lake Kaweah

See Attachment C for List of Projects and summary data on assets at those projects expected to be mapped.

1.4 Period of Performance

The crew will be utilized for a 16-week period that includes one week for training and one week for relocation and on-site equipment testing.

***Addendum:** SCA estimate included a period of performance for a team leader at 24 weeks. This was discussed with Lucille Smith by telecom on 27 July 2016 and Meredith Bridgers by e-mail, and found to be necessary and acceptable.

2.0 AUTHORITY

2.1 In agreement with the above stated goals, the recipient/cooperator agrees to provide the necessary personnel, equipment, and materials required to implement, in part, the USACE's responsibilities pursuant to Section 213(a) of the Water Resources Development Act of 2000, further amended by Section 1047(e) and located at 33 U.S.C. 2339 (a).

3.0 DESCRIPTION OF OBJECTIVES

3.1 **Transportation Network Features**

Roads and Parking Areas:

The nature of corps managed roads falls into two general categories, Project roads on fee owned land and roads in recreation areas within fee owned land. Centerline digitization and linear referencing of features in each category is required as part of this data collection and mapping effort.

While developing this dataset, the use of ArcGIS Desktop software's editing and geoprocessing tools will be necessary to modify existing road network polyline data where available, or to create new polyline features based on interpretation of aerial or satellite imagery. Parking area polygon delineations based on aerial or satellite imagery will also be required as part of this mapping effort.

Potential sources of existing road network features for reference or modification include corps project and/or district offices, TIGER/LINE files, and TeleAtlas roads geometry, among others. The user will have these provided, as well as polygon delineations for projects and recreation areas

Example sources of aerial or satellite imagery for locations where new polyline data must be created, as well as to examine existing geometry, include The National Map download platform from USGS, or orthoimagery products from the USDA NRCS Geospatial Data Gateway.

Relational fields and attribute information associated with road network features will need to be created, and must meet required specifications set by the Department of Defense (DoD) Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE), as well as requirements from the FLTP program. USACE will provide a final SDFSIE compatible data model in Excel Format, a working draft version is attached. (Attachment A two files one for roads, one for parking)

The spatial accuracy of digitized road network and parking area features will need to be verified in the field with the use of hand held GPS units. This will require coordination with project staff and deployment to project sites with the geospatial data development team. Additionally, the accuracy of attribute information related to road network and parking area features will need to be verified with corps project staff to ensure correct feature descriptive information.

Other Transportation Features:

Vehicle Estimation and Reporting System (VERS) traffic meter locations will need to be verified as part of this transportation network mapping effort. Coordinates for meters found at project recreation areas will be provided, and must be verified using GPS in the field. For meters where the original coordinates need to be corrected, a new layer will be created with the use of the coordinates taken from the field verification. This layer will need to include all attributes of the existing dataset, including when a meter location is updated and key fields linking meters to information in existing databases.

Point locations representing bridge endpoints will also be included as a type of feature in the mapped transportation network. Bridge endpoint locations will be determined and features will be created with the use of aerial or satellite imagery and ArcGIS Desktop software, and subsequently verified with the use of GPS in the field. USACE will provide a SDFSIE compatible data model in Excel Format.

3.2 Recreation Facilities and Amenities

Point locations representing USACE managed recreation facilities and amenities provided by Recreation.gov will need to be checked, and missing features will need to be created, using aerial or satellite imagery in ArcGIS Desktop. Additionally, field verification using GPS will be required to ensure spatial accuracy. USACE will provide a SDSFIE compatible data model in Excel Format.

Features provided by Recreation.gov to be verified including but not limited to trail heads, campgrounds, day use areas, multi-purpose areas, scenic viewing areas, visitor centers, water access points, marinas, and boat ramps.

Attribute data associated with these features will be provided from the USACE Operations and Maintenance Business Information Link (OMBIL) database, and will need to be joined to the spatial dataset through a relational field. As with other features included in this mapping effort, the descriptive accuracy of both existing and newly created facilities and amenities location data will need to be verified with project staff and in the field.

3.3 Conservation Projects

Not more than twenty percent (20%) of the project should be dedicated to Conservation projects and activities that benefit both the recipient's education, training, and leadership goals and the USACE projects where they are working. This opportunity allows the crew members an expanded experience and will help participants to better understand the broad role of USACE and the work of field staff. See Attachment B for some conservation project suggestions.

3.4 Training

Providing location, housing and transportation for training is the responsibility of the recipient. The recipient will be responsible for providing technical training on GIS data collection and use of related software and equipment. USACE will provide training on specifications associated with specific elements to be mapped and attributes to be collected.

3.5 Travel and Housing

SCA is required to provide all lodging arrangements, recruiting, and mileage/transportation. In addition SCA is required to arrange travel to and from work locations for each student. Some of the USACE Projects may have campsites that can be made available to the crew while working at that site. Actual availability will have to be determined after the timing, logistics and schedule of data collection are developed.

3.6 Uniforms

SCA will provide uniforms for each participant. Due to nature of work along roadways, participants should wear long pants and closed toe shoes while collecting data.

3.7 Funding

This work order is not to exceed \$280,000

4.0 QUALIFICATIONS

4.1 Minimum Qualifications:

- a. Working knowledge of Geographic Information System (GIS) practice and principals in a planning or natural resource management context.
- b. Familiar with and can use laptop computers.
- c. Familiar with software products such as word processing, spreadsheet, presentation, relational databases and geospatial mapping.
- d. Familiar with Global Positioning System (GPS) and devices or activities where GPS is utilized.
- e. Must wear required uniform while on duty.
- f. Must possess and maintain valid driver's license
- g. Possess good verbal and written communications skills.
- h. Physical ability to navigate campground loops, swim areas and visit campsites, lift 20 lbs and carry a 20 lb. object 25 feet (position may require extended periods in the outdoors during adverse conditions such as heat, cold or rain.)
- i. Ability to work as part of a team and take direction from USACE staff.

4.2 Desired Experience (Not Mandatory)

- a. Coursework, class exercises or degree in GIS, especially if in natural resources or planning context.
- b. Previous paid or volunteer experience in collecting GIS or GPS data.
- c. First Aid, CPR, AED training
- d. Customer service or work with public (participants are likely to encounter the visiting public during data collection activities at the Projects)
- e. Previous natural/environmental sciences or outdoor recreation experience as employee or volunteer.

5.0 GOVERNMENT FURNISHED MATERIALS OR PROPERTY

5.1 Facility and Office Equipment

During the period of performance, the government will not provide internet, telephone, drafting, printing, photocopying or photography equipment. Current DOD security measures mean that non Corps Computers are not allowed on the Corps network and access to USACE servers has been determined to not be required to complete this project. Recipient will need to provide a central work location for primary internet access and other office needs.

Some USACE Projects may have guest WI-FI and temporary office space while working at that location. Should be noted that internet speeds are slower in field locations and

cellular signals may be weak or nonexistent. The central work location may be the crew's only high-speed internet access. Availability of office space and guest wi-fi will be determined after the timing, logistics and schedule of data collection are developed.

Army transportation, including fuel, will not be provided in performing data collection activities and fieldwork on the installation.

Government furnished materials or property is governed by 2 C.F.R. Part 200.312 which states that a) Title to federally owned property remains vested in the Federal Government. The non-federal entity must submit annually an inventory listing of federally-owned property in its custody to the Federal awarding agency. Upon completion of the Federal award or when the property is no longer needed, the non-Federal entity must return the property to the Federal awarding agency for further Federal agency utilization.

5.2 Facility: Temporary work space may be provided by the Government at each location if available. Availability of office space will be determined after the timing, logistics and schedule of data collection are developed.

5.3 Equipment:

Recipient is responsible for acquiring all equipment necessary to meet project requirements and deliverables. The following are some recommendations and/or specifications:

- Computer Hardware and Software that will allow for compatibility with ArcGIS 10
- Hand-held GPS units
- WI-FI hotspots for internet access when working at Field locations with no guest WI-FI
- Personal safety equipment suitable for working along roadways. Refer to USACE safety manual (EM 385-1-1) as appropriate. Link to manual - <http://www.usace.army.mil/SafetyandOccupationalHealth/EM38511,2008BeingRevised.aspx>
- Additional equipment as appropriate to meet project requirements and deliverables

USACE will provide an ACE-IT approved USB hard drive. This may be used to store electronic versions of the documents and data for delivery back to USACE during and at the conclusion of this project.

Government, if available, can allow the use of government property for this work order.

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award or when the property is no longer needed, the non-Federal entity must return the property to the Federal awarding agency for further Federal agency utilization.

6.0 PERIOD OF PERFORMANCE

6.1 16 weeks/24 weeks for Lead

7.0 COORDINATION

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8.0 DELIVERABLES

8.1 Logistics and Schedule

Prior to training or collecting data, recipient should provide an operational plan that includes logistics and data collection schedule for review by Meredith Bridgers or another designated USACE staff member. Following that review, recipient may consult with Project POCs to discuss any arrangements or potential scheduling conflicts. The recipient may need to adjust the schedule based on activities occurring at a particular Project. A final schedule should be provided at least 1 month prior to data collection beginning.

8.2 Initial Data Assessment

At the conclusion of mapping approximately 10% of the assets, or when the first Project is completely mapped, a data assessment should take place. This would be an informal meeting that included representatives from the SCA, USACE FLTP program and District/Project operational staff to review data to ensure that it will meet project specifications, operational needs, and be compatible with USACE systems. Date and location of this assessment will be determined after data collection has begun.

8.3 Invoicing – Invoicing should be done as stated in chapter 4.1.2 of the Cooperative agreement award. Invoices should be sent no more frequently than monthly.

8.4 Final Deliverables

Within 30 days of the conclusion of data collection the recipient should provide to the USACE the following items:

- An FLTP and SDSFIE compatible geodatabase containing verified project and recreation area road network linear referenced polyline features and parking area polygon features for all projects mapped
- A layer containing verified traffic meter point locations compatible with the existing VERS database for all projects mapped.
- A layer containing as bridge endpoint features for all projects mapped.
- A geodatabase containing verified corps facilities and amenities point locations and attributes compatible with SDSFIE standard for all projects mapped.
- A written report detailing the methods utilized during the mapping effort and identifying strengths and weaknesses of using and modifying existing data, and the techniques used to create new data in the absence of existing data. The report will also require feedback to be used to make recommendations for improvement if this mapping effort were to continue to include more USACE districts.
- A brief written report detailing conservation project descriptions, hours and outcomes.

All data collected by the recipient is the property of the US government. While the assets that are being mapped are public and the related attribute data unclassified, the data may not be used or distributed by the recipient outside the scope of this work order.

8.5. Reporting Requirements. The following forms shall be utilized to meet reporting requirements:

- SF-428 Tangible Personal Property Report
- SF-428 A – Annual Report (reporting Federally-owned property)
- SF-428 B – Final Report
- SF-428 C – Disposition Request
- RPSR – Real Property Status Report
- RPSR Attachment A – General Reporting
- RPSR Attachment B – Request to Acquire, Improve or Furnish
- RPSR Attachment C – Disposition Request

9.0 Any resulting cooperative agreement is subject to and recipient/cooperator shall comply with 2 CFR 200.313 “Equipment”, 200.314 “Supplies”, and 200.315 “Intangible Property” which includes use of research data.