

Chair, FGDC Standards Working Group

FGDC Secretariat

590 National Center

Reston, VA 20192

Project Title – Cultural Resource Geospatial Data Content Standard

Date of Proposal 11/15/2007

Type of Standard: Data Content Standard

Submitting Organization: National Park Service, Cultural Resources GIS Facility, under the auspices of the FGDC Subcommittee for Social, Cultural and Demographic Data.

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Objectives A current, accurate spatial representation of all inventoried cultural resources is of interest to Federal government, State Historic Preservation Offices, Tribal Historic Preservation Offices, and Certified Local Historic Preservation Programs. This interest stems from the regulatory processes of managing cultural resources that are consistent with the National Historic Preservation Act (NHPA) as Amended, the National Environmental Policy Act as Amended, the Archaeological Resources Protection Act, and other laws related to cultural resources. The regulations promulgating these laws require the use of spatial data in support of various decisions and actions related to cultural resource management. This dataset provides feature geometry and is intended to be supplemented with attributes maintained by other external database systems. The proposed creation of a new standard is designed to provide a framework for these agencies, to follow when creating, maintaining, and distributing cultural resource spatial data. Cultural resource datasets that are compliant with the standard will facilitate agency compliance with Section 106 and 110 of the NHPA and the Archeological Resources Protection Act and aid in rapid response to disaster situations. In addition, the standard will facilitate the exchange of data among Federal, state, tribal, and local governments, universities, and historic preservation organizations through feature level metadata, while at the same time safe guarding sensitive locational information.

Scope The standard will be used to create, maintain, and distribute cultural resource spatial data. The standard will specify which cultural resources require spatial data, what type of geometry i.e. point, line, or polygon is appropriate for representing cultural resources, and the minimal positional accuracy of legacy and future data. It insures that geospatial data are linked to attribute databases that describe each cultural resource. Moreover the proposed standard addresses the Federal agency responsibility to safeguard sensitive cultural resource geospatial data. Finally, the proposed standard identifies the feature level metadata that should accompany each geospatial dataset.

Justification/Benefits Historic Preservation programs throughout the Federal government rely on cultural resource geospatial information to comply with preservation laws, regulations, and guidelines. There are many established laws and implementing regulations that call for the collection and maintenance of inventory information. Geospatial information such as coordinates, addresses, boundaries, footprints, etc. are used in Section 106 of the NHPA to identify the location of cultural resources that are within a project and to evaluate their integrity based in part on location. Agencies are required to mitigate a project's impact on historically significant cultural resources through documentation, excavation, or other treatment measures. These measures may involve detailed mapping of the resources' constituent components such as the distribution of archeological sites or artifacts, the contributing buildings within an historic district, and cultural landscape elements within a larger cultural landscape.

Under Section 110 of the NHPA each Federal agency is required to develop a preservation program that systematically identifies, nominates to the National Register of Historic Places, and protects cultural resources under their management or jurisdiction. The implementing regulations of Section 110 require Federal agencies to follow the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. These standards and guidelines state that agencies should define the boundaries of the surveyed area and record the precise location of all properties identified. The spatial extent or boundaries of cultural resources are also required information for nominating historic properties to the National Register of Historic Places (36 CFR 60.5) and designating properties as a National Historic Landmarks (36 CFR 65). Under Section 14(a) of the Archaeological Resources Protection Act of 1979 agencies in the Department of the Interior, Agriculture, Defense, and the Tennessee Valley Authority are required to conduct archaeological surveys to determine the location and extent of archaeological resources on lands they manage. Geospatial information is also required under Abandoned Shipwreck Act of 1988, the Historic Sites Act of 1935, the Internal Revenue Codes of 1986 and 1990, and the Native American Graves Protection and Repatriation Act of 1990.

There are numerous sources of attribute and spatial data for cultural resources even within a single agency, let alone all Federal agencies and their partners. Within the National Park Service, for example, there are fourteen separate databases that describe the cultural resources managed by NPS. Geospatial information on these cultural resources is collected on 3000 cultural landscapes, 27,000 historic buildings and structures, 1,200 ethnographic resources, 63,000 archeological sites, and over 500 American battlefields. This information is critical to accomplishing the Park Service's mission of safeguarding and protecting its heritage assets for future generations.

The National Park Service maintains partnerships and conducts cultural resource surveys and documentation activities outside of the Park System. Cultural resource geospatial data plays a key role in these activities. The NHPA mandates that each state create and maintain an inventory of historic properties. The Historic Preservation Fund, which is administered by the National Park Service, assists State Historic Preservation Offices (SHPOs) in conducting surveys and maintaining their comprehensive inventories. These inventories fulfill two key functions. First they are used by Federal agencies as part of their Section 106 surveys. And second, these inventories represent the pool from which properties are nominated to the National Register of Historic Places. Collectively the inventories contain geospatial data on over 4.5 million historic properties. In most cases the geospatial data take the form of locational data plotted on USGS 1:24000 Topographic Quadrangle Maps although street addresses and UTM coordinate information are stored in SHPO databases.

The National Register of Historic Places contains over 75,000 historic buildings, structures, sites, objects and Districts. Within the 15,000 historic districts listed on the National Register there are over 1 million contributing historic properties. Like the statewide inventories, cultural resource geospatial data in the National Register can be found on paper USGS 1:24000 Topographic Quadrangle Maps, as street addresses appearing on the nomination form, or as UTM coordinates stored in the National Register Information System (NRIS). Currently contributing properties to National Register Historic Districts do not have coordinate data although historic districts listed after 1980 do contain street addresses which have the potential to be geocoded. Geospatial data from the NRIS is used by other Federal agencies such as the Federal Emergency Management Agency in disaster planning and mitigation, by numerous Federal agencies for Section 106

projects, and by state and local governments for zoning and rehabilitation tax credit purposes, among other uses.

The Historic American Buildings Survey (HABS), the Historic American Engineering Record (HAER), and the Historic American Landscapes Survey (HALS)) together have documented over 38,000 historic properties with measured drawings, large-format photographs, and historical narratives that form part of the Library of Congress' Built in America Collection. Additionally, there exists a database that describes these documentation projects, enhances search capabilities, and contains UTM coordinates for all documented historic properties.

After 40 years of conducting surveys and maintaining inventories, the volume of cultural resource geospatial data has reached a point where it is no longer accessible in paper form. Search times are increasingly longer to retrieve needed geospatial information. Paper maps limit the kind of spatial analyses one can perform. And the distribution of geospatial data in large quantities is all but impossible. The conversion of geospatial cultural resource data from paper to digital must be done if cultural resources are to be adequately protected in an increasingly time sensitive and digital development environment. This need has become the highest priority of the Preserve America Summit chaired by First Lady Laura Bush. Many Federal and State preservation agencies have independently converted their paper data to digital spatial data without the guidance of any overarching standards. In the absence of such spatial standards these efforts will result in inconsistency, inefficiency, and ultimately a loss of credibility to the national cultural resource geospatial dataset.

As Federal, state and local agencies begin to incorporate new data collected more accurately with global positioning systems (GPS), this data must be clearly distinct from legacy data created from paper records, yet it must be incorporated into the same databases and geospatial datasets. Data created through the use of GIS must also be accommodated and included in these established systems without causing the restructuring of survey methodologies or databases which contain cultural resource information within the National Park Service or any other Federal, State, or local agency.

Currently there are no standards for cultural resource spatial data. Without such standards it is difficult to exchange cultural resource geospatial data among agencies and organizations. Geospatial data for any one cultural resource may be created by different agencies resulting in data that are inconsistent with each other. For some cultural resources geospatial data are not collected at all e.g. contributing properties to historic districts, contributing elements to cultural landscapes, or ethnographic sites. In other cases, collecting geospatial data is optional. Standards would facilitate the conversion of cultural resource geospatial data from paper to digital format, and help in the incorporation of new data with legacy data. This conversion is absolutely essential if timely, accurate, and consistent cultural resource geospatial data is to be delivered to those who need it. The standards would give those who are performing the conversion a set of principles to use in creating this digital geospatial data. Thus no matter whether the data is being converted from legacy or created new, a certain level of consistency would be expected. Moreover, users would be able to evaluate the data they are receiving against these standards and make a well informed decision on the data's usefulness.

The proposed standard is designed to fill this gap and provide a framework for Federal agencies to follow when creating, maintaining, and distributing cultural resource spatial data. It insures that each cultural resource has geospatial data that are linked to descriptive attribute databases. Moreover the proposed standard addresses agency responsibilities to safeguard sensitive geospatial data. And finally, the proposed standard identifies the feature level metadata that

should accompany each geospatial dataset. The datasets created, maintained, and distributed using this standard will allow state, local, tribal, and Federal agencies to share data more efficiently. The resulting national cultural resource datasets should become available for planning efforts at all levels of government resulting in better protection of our important cultural heritage.

The proposed standard is an outcome of OMB Circular A-16 (revised in August 2002) which identifies the National Park Service as the lead agency to develop spatial standards for cultural resources. Within NPS, the CRGIS Facility is the lead program to guide the proposed standard through the standards making process. This document marks the formal beginning of the standards making process.

Development Approach Once the proposal is accepted by the Standards Working Group, the Social, Cultural and Demographic Subcommittee will appoint the Cultural Resources Working Group (CRWG) (a subgroup under the SCDD) to see the standard through the FGDC standard making process (see schedule below). Currently the CRWG is not active. However, once the standard proposal is adopted the CRWG will be activated and members will be identified to fulfill its assignment. Within the CRWG, a smaller committee that actually writes the drafts of the standard will be established. Once the document is developed it will be put before the entire CRWG group for a pre-public review to obtain their feedback.

The CRWG will be composed of representatives of those public and private sector agencies or organizations who are involved in historic preservation, including, but not limited to, Federal agencies, delegates from the member agencies of the Subcommittee on Cultural and Demographic Data (SCDD), as well as representatives of State Historic Preservation Offices, Tribal Historic Preservation Offices, Certified Local Governments, the National Conference of State Historic Preservation Offices, universities, or consultants. The Chair of the work group will be the National Park Service in accordance with its A-16 responsibilities and the members will be both subject-matter specialists on cultural resource GIS, or collection and creation of cultural resource data and historic preservation program leaders.

A key component in our approach to developing the standard is to foster consensus. To that end, a National Historic Preservation Summit will be held during Step 4. The Summit will bring together Federal Preservation Officers, State and Tribal Historic Preservation Officers and Certified Local Governments, universities, and historic preservation consultants. The Summit will focus on four aspects of the standards, creation of cultural resource geospatial data, linking geospatial data to descriptive attributes, safe guarding of sensitive locational information, and the content of feature level metadata. Best practices will be presented in each of these areas for discussion and incorporation into the standard.

Once the standard is released for public comment, the CRWG will parse the comments following FGDC Directive #2d and formulate responses and revisions.

As part of its A-16 data steward responsibilities NPS will develop training materials and tools in support of the standard. Additionally, NPS will establish a plan for implementing the standard along with a monitoring program to track the progress and effects of using the

standard. Revisions based on feedback are likely to be frequent in the two years following the release of the standard. As with the development of the standard, the CRWG will be tasked to complete the revisions and follow the FGDC process for maintaining the standard per Directive #9.

Development and Completion Schedule

Proposal Stage	Time Frame	Custodian
Step 1, Develop Proposal	December 2007	Social, Cultural and Demographic Data Subcommittee, Cultural Resources Working Group
Step 2, Review Proposal	December 2007 - January 2008	FGDC Standards Working Group
Project Stage		
Step 3, Set up Project	Early February 2008	Social, Cultural and Demographic Data Subcommittee, Cultural Resources Working Group
Draft Stage		
Step 4, Produce Working Draft	February-September 2008	Social, Cultural and Demographic Data Subcommittee, Cultural Resources Working Group (2.5 day Workshop [in June] and follow-up one-hour teleconference [late July], email communications throughout Step 4.)
Step 5, Review Working Draft	October 2008	FGDC Standards Working Group
Review Stage		
Step 6, Review and Evaluate	November - December 2008	FGDC Standards Working Group
Step 7, Act on Recommendation	January 2009	FGDC Coordination Group
Step 8, Coordinate Public Review	February-March 2009	FGDC Secretariat
Step 9, Respond to Public Comments	April - June 2009	Social, Cultural and Demographic Data Subcommittee, Cultural Resources Working Group [one-hour teleconferences in December, January, and February], email communications throughout Step 9.)
Step 10, Evaluate Responsiveness to Public Comments	July 2009	FGDC Standards Working Group
Step 11, Act on Recommendation	August - September 2009	FGDC Coordination Group
Final Stage		
Step 12, FGDC Steering	October-	FGDC Steering Committee

Resources Required There are two cost centers associated with producing the standard. First, NPS salaries. Since NPS began to devote personnel to fulfilling A-16 responsibilities over \$91,000 in salaries has been expended. NPS estimates that \$180,000 in salary costs will be needed to see the standard through the process. These costs will be paid for by NPS. Second, the National Preservation Summit is expected to cost \$30,000 of which NPS will fund \$15,000. The balance will be off set by a successful CAP grant and/or cost cutting efforts by NPS and participating agencies and organizations.

Potential Participants The development group to lead the standards activity will be the CRWG under the auspices of the SCDD Subcommittee. In addition, the following organizations will be asked to participate in both the CRWG and the Summit: Federal Preservation Officers from: Advisor Council on Historic Preservation, **American Battle Monuments**

Commission, Department of Agriculture (Forest Service, Natural Resources Conservation Service), **Department of Commerce** (National Oceanic and Atmospheric Administration, U.S. Census Bureau), **Department of Defense** (Air Force, Army, Army Corps of Engineers, Marine Corps, Navy), **Department of Energy** (Federal Energy Regulatory Commission), **Department of Homeland Security** (U. S. Coast Guard, U. S. Customs and Border Protection, Federal Emergency Management Agency), **Department of Housing and Urban Development, Department of the Interior** (Bureau of Indian Affairs, Bureau of Land Management, Bureau of Reclamation, Fish and Wildlife Service, Minerals Management Service, National Park Service, Office of Surface Mining, U. S. Geological Survey), **Department of Transportation** (Federal Highway Administration), **Department of Veterans Affairs, Environmental Protection Agency, General Services Administration, Smithsonian Institution, Tennessee Valley Authority, United States Postal Service.** At the state level we will request that the National Conference of State Historic Preservation Officers participate and designate at least ten State Historic Preservation Offices to participate in the CRWG and Summit. At the tribal level we will request that the National Tribal Historic Preservation Officers participate and designate at least five Tribal Historic Preservation Officers to participate in the CRWG and Summit. At the local level we will request that the National Alliance of Preservation Commissions participate and designate at least five Certified Local Governments to participate in the CRWG and Summit. There are a number of universities and historic preservation consultants that will be invited to participate including but not limited to the University of Arkansas' Center for Advanced Spatial Technologies and Gnomon Inc.

Related Standards The proposed FGDC Trail Data Content and Data Transfer Standard proposal issued on 02/01/2007 is closely related to the proposed Cultural Resource Geospatial Data Content Standard in that many trails in the National Trail System have been formally designated as National Historic Trails. Consequently, close coordination and exchange of information to eliminate redundancy and establish compatibility and complementarity among these standards will be required. In addition, the U.S. Forest Service Cultural Data Standard will be used and referenced.

Other Targeted Authorization Bodies This proposal to develop the Cultural Resource Geospatial Data Content Standard does not target other standards authorizing bodies.