

**SECTION C**  
**DESCRIPTION/SPECIFICATIONS/AND WORK STATEMENT**

1. **BACKGROUND**

The National Park Service (NPS) produces maps for use by visitors to all areas of the National Park System. They are produced digitally for use in various media. Boundary information, access routes, developed areas, trails, parking locations, cultural and historic resource sites, natural history resource locations, as well as adjacent lands are included in their content. Many maps use shaded-relief as background information. Other maps use landcover, vegetation, and ecosystem data, in both vector and raster formats, as background information. Their presentation and appearance is such that as a body of work, they become a visual series. Maps in site specific brochures have similar tones, consistent type fonts, and standard line weight treatments for like-subject items. So, too, do maps produced for use on outdoor wayside panels and indoor exhibits. The difference for these maps is site specific information. The information may be educational, for orientation, or thematic and culturally focused.

2. **PURPOSE**

The purpose of the contract is to provide design and production services to create accurate, visually appealing, cartographic presentations that safely direct visitors around the park in a manner that preserves the resource yet showcases the park's unique characteristics. Production techniques are also standardized to make revision work efficient. Because the maps are released into the public domain, other NPS offices, other government agencies, and the general public must be confident that the information is accurate and the mapping technically sound.

3. **SCOPE OF WORK**

Independently, and not as an agent of the Government, the Contractor shall furnish all labor, materials, facilities and miscellaneous services necessary to provide the NPS with digitally produced maps. The maps shall be produced for use in publications, interior or exterior exhibits, websites, and multimedia displays. Map sizes vary from small thumbnails to mural-sized maps taking up entire walls.

All digital work shall be accessible on computers running Macintosh OS 10.3, or Windows XP or higher. Required software includes Adobe Illustrator CS, or higher, for creating vector lines, polygons, and labels; Natural Scene Designer 4.0, or higher, for shaded relief production and reprojection of raster geodata; Photoshop CS, or higher, for manipulation of shaded relief and other raster map art; and, MAPublisher 5.0, or higher, for importing GIS data into Adobe Illustrator. Software upgrades will be required over the course of the contract. Programs and/or upgrades will be specified in individual Task Orders.

National Park Service requirements include a wide range of services from preliminary cartographic compilation to complete mapping services or any aspect between and are described as follows:

A. **Map Design and Production—Overview**

The Contractor shall provide cartographic services to make new-map digital files, corrections to existing digital files, adjustments to existing digital files for other uses and sizes.

Instructions for the design and production of specific maps will be conveyed to the Contractor by a combination of two methods:

**Method 1:** The NPS will provide the Contractor with detailed written instructions on how to design and construct the map. If reference resources are provided by the NPS, they would typically include map standards, paper and digital reference maps, and digital data. On many jobs the NPS will require the Contractor to obtain the reference maps and data needed for map compilation.

**Method 2:** *Map Starter Files* in Adobe Illustrator CS format will be provided by the NPS and brings semi-automated procedures to NPS map making. These layered files contain all of the information needed to design and produce maps in accordance with NPS map standards. For example, graphical styles assigned to layers automatically apply line weights and colors to roads, trails, and drainages; the Contractor need only to draft (or paste) a line on the appropriate layer for the proper style to appear. Overprint and trapping settings needed for pre-press production are included in the styles. A sampling of other map elements found in Map Starter Files: north arrows; bar scales; recreational symbols; “you are here” callout boxes; black, blue, and green labels; area colors; and crop marks.

With Map Starter Files, the design and production of NPS maps largely becomes a matter of importing map data from GIS sources, manipulating these data for cartographic presentation, and placing it on the appropriate layer in Adobe Illustrator. Type placement, however, is still done manually.

The NPS will provide the Contractor with a set of Map Starter Files for creating generic maps for publications and wayside exhibits at various sizes. When maps with customized designs are needed, the NPS will provide the Contractor with customized Map Starter Files.

See Attachment F for sample Map Starter Files in Adobe Illustrator CS format.

**B. Map Design and Production—Specifics**

Digital cartographic techniques and services shall include, but are not limited to:

1. Have the capacity to import data files obtained via the internet in various formats including ESRI Shape and .e00, AutoCAD DXF, Digital Chart of the World (DCW), Digital Line Graph (DLG), Digital Elevation Model (DEM), Digital Orthophoto Quadrangles (DOQ), Digital Raster Graphics (DRG), Spatial Data Transfer Standard (SDTS), and the full range of data formats available on the U.S. Geological Seamless Data Server. The Contractor shall identify other available sources as required.
2. When required to obtain data, determine if that information is available from NPS sources (Harpers Ferry Center, park GIS specialists, and the NPS Geospatial Data Clearinghouse); U.S. Geological Survey; or other free, non-proprietary sources in the public domain. Data, once compiled, edited, and approved for the NPS projects must be unencumbered by one-time use fees, copyrights, or other licensing agreements.
3. Have the ability to merge data obtained from multiple sources and in differing file formats, projections, and datums as an integrated final map file.
4. When digital data is not available, assemble data for maps in Adobe Illustrator by hand digitizing scans of paper maps or other raster map images.
5. Generalize linework derived from digital data sources to specifications provided by the Contracting Officer's Representative (COR). Lines derived from GIS sources shall be simplified if they consist of excessive number of data points, smoothed if they contain unwanted angular detail, and converted to Bezier Curves in Adobe Illustrator.
6. Compile and place on individual layers lines, area fills, labels, point symbols and other map elements with names and data attributes in Adobe Illustrator. Shaded relief and other raster map art shall be provided in Adobe Photoshop format. Shaded relief files shall be placed as linked files in the Adobe Illustrator file on a separate layer.

7. Obtain from Adobe Systems, Inc. fonts and license to use Frutiger and Helvetica Neue. The old NPS house font is Helvetica Neue, which is still used for occasional legacy map projects. The new NPS house font is Adobe Frutiger, including Light, Light Italic, Roman, Roman Italic, Bold, Bold Italic, Black, Black Italic, and Ultra Black variants. The NPS uses a customized OpenType version of Adobe Frutiger, which NPS will provide to the Contractor to use instead of the Postscript Type-1 version of Frutiger sold by Adobe Systems. On occasion, the NPS will request the Contractor to use fonts other than Frutiger and Helvetica Neue, including NPS Rawlinson, Adobe Helvetica Neue, and fonts with Hawaiian diacritical marks. Additional fonts will be specified in individual Task Orders and provided by the NPS to the Contractor as needed.
8. Position type guided by legibility, layout, and consultation with NPS cartographers or the designated COR specified in the individual Task Order.
9. Place corrections and/or changes added to the existing maps on new layers in Adobe Illustrator and labeled for easy identification.
10. Prepare shaded relief and raster map art at a resolution of 300 dots-per-inch for maps intended for print production. The DPI needed for maps used with other media shall be specified in the individual Task Order.
11. Work within CMYK or RGB color mode depending on the media type and reproduction method used. Color mode will be defined in individual Task Orders.

C. **Deliverables**

Completed and approved maps shall be delivered to the NPS as digital files on CD-ROM, DVD-ROM, or via the Internet. The NPS shall occasionally request color inkjet paper prints at 1,200 DPI, or higher, at sizes up to 42 inches wide.

4. **ADVANCE UNDERSTANDING**

The NPS retains ownership of the compilation data and all digital components used to maps.

5. **PERFORMANCE**

All work to be performed under this contract, will be directed by the Government through the issuance of individual Task Orders in accordance with the procedures outlined in Section G. In no event will the Government be responsible for any work performed by the Contractor that was not undertaken pursuant to a duly executed Task Order signed by the Contracting Officer.

6. **ACCESSIBILITY**

All work performed under this contract shall be in accordance with Attachment L, *Draft Programmatic Accessibility Standards for National Park Service Interpretive Media*, dated July 2006. These standards are in the process of being finalized. Once finalized, the contract will be modified to add the final version.