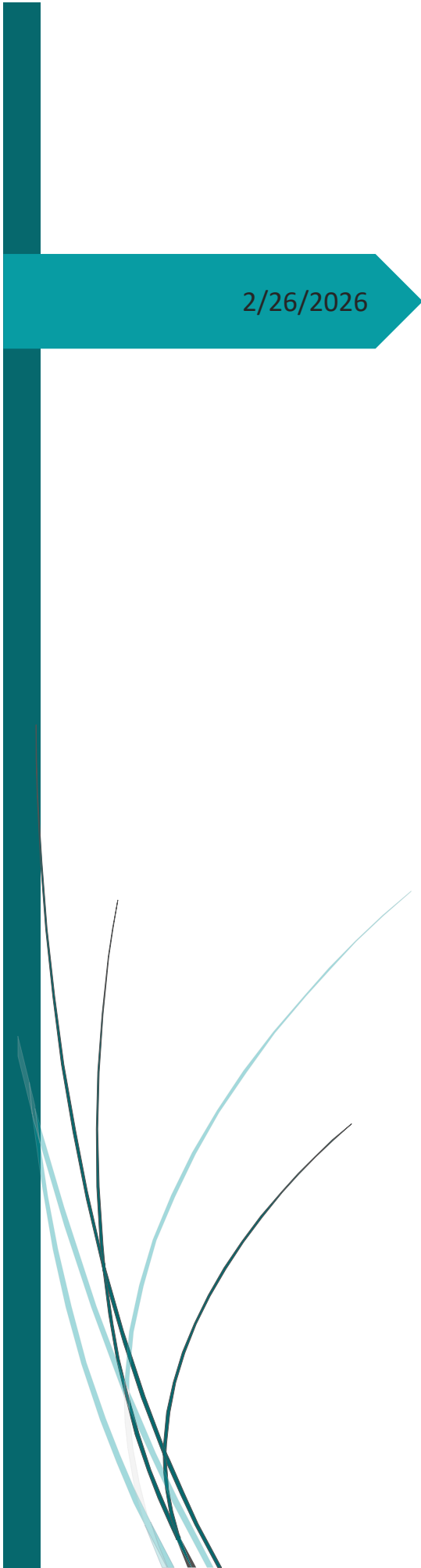




2/26/2026

Northeast Archeological Resources Program GIS Guidelines

GIS Guidelines Overview

Northeast Archeological Resources Program (NARP)
IR-1 NORTH ATLANTIC – APPALACIAN/LEGACY NORTHEAST REGION,
NATIONAL PARK SERVICE

Introduction

This is an overview of GIS Guidelines developed by the Northeast Archeological Resources Program (NARP), Interior Region 1 North Atlantic-Appalachian (IR-1) of the National Park Service. This overview outlines the NARP GIS Guidelines, including data requirements, coordinate systems, and file structures and formats required for GIS data submissions. All GIS and digital data produced by NARP, under NARP's guidance, or under contracts administered by NARP, must follow NPS GIS standards. These standards include the NPS Core Spatial Data Standards, the NPS Cultural Resources GIS Data Standards, the Federal Geographic Data Committee (FGDC) metadata standards, and the guidelines found in this document.

The *NARP GIS Guidelines Overview* is accompanied by the following supplemental material:

- NARP Feature Class Attribute Description Guide
- NARP Metadata Template
- NARP GIS Data Folder Template
- NARP Project Geodatabase Template
- NPS Core Spatial Data Standard*
- NPS Cultural Resources Spatial Data Standard*
- NPS Layer Naming Conventions*

** Provided as permanent links to the corresponding NPS DataStore references*

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I. General Requirements

Software Requirements

ArcGIS Pro software version 3.2 or newer should be used for GIS project development. Alternative software, such as QGIS or other mapping programs, may be used provided NARP is consulted and approves of the software selection.

Coordinate System

GIS data and projects should use one of the following coordinate systems, selecting the appropriate UTM Zone for the project area:

- North American Datum of 1983 (2011) epoch 2010.00 [GEOID 18]
- Universal Transverse Mercator (UTM) Zone 17, 18, or 19 N:
 - *NAD83 (2011) UTM Zone 17N* (ESPG: 6346)
 - *NAD83 (2011) UTM Zone 18N* (ESPG: 6347)
 - *NAD83 (2011) UTM Zone 19N* (ESPG: 6348)

Refer to Appendix A for a list of IR-1 park units and their corresponding UTM Zones.

Site Datum and Survey Control

It is essential that a valid site datum is identified and used if one exists in or near the area of investigation. If no previously established datum or other survey control point is available, a datum must be established for GIS data creation. Any datum established or reference point used to provide survey control during a project must be submitted as part of the final GIS data delivery, using the *Control_points_pt* layer template.

Vector Data

Archeological investigation and research require complete and accurate vector spatial data. All vector data submitted as part of the project GIS should:

- Conform to the format, file structure, and file naming conventions specified below (see Sections II and III) and in the *NARP GIS Data Folder Template*.
- Contain complete and accurate attributes according to the guidelines in this document (see Section IV), the accompanying *NARP Feature Class Attribute Description Guide*, and the NARP Project Geodatabase Template.
- Be accompanied by corresponding metadata (see Section V), which should be developed using the *NARP Metadata Template*.
- Use the most appropriate layer template and data standard for each dataset. For guidance in selecting a layer template, see below or refer to the *NARP Feature Class Attribute Description Guide*. Layer templates for each data type are located in the *NARP Project Geodatabase Template*.

The following are the most common types of vector data associated with archeological investigations, along with their corresponding layer templates and data standards. For more information, refer to the *NARP Feature Class Attribute Description Guide*.

Data Type	Layer Template
Location of site datums, control points, site or survey grid points, and other spatial reference points	Control_Points_pt
Location and extent of identified or updated archeological sites or subsites	CRIS_AR_py
Location and extent of large (greater than 0.5m ²) archeological excavations, such as test or excavation units	Excavation_py
Location of small (less than 0.5m ²) archeological excavations, such as shovel test pits or excavation of metal detection targets	Excavation_pt
Location and extent of surface artifacts, concentrations, and surface and subsurface archeological features*	Features_py
Location of discrete artifacts (where appropriate to record individually), small archeological features, and other significant objects best described as points*	Features_pt
Location and extent of linear features, boundaries, and other alignments best described as lines*	Features_ln
Location and extent of archeological and geophysical survey areas and grids	Survey_Areas_py
Location and extent of anomalies, areas of disturbance, etc. identified during geophysical survey and accompanying interpretations*	Geophys_Anomalies_py
Location of small, discrete anomalies identified during geophysical survey and accompanying interpretations*	Geophys_Anomalies_pt
Location and extent of linear anomalies, utility lines, etc. identified during geophysical survey and accompanying interpretations *	Geophys_Anomalies_ln

**Wherever possible, archeological features and geophysical anomalies should be represented as polygon features. However, point and line features may be used in cases where these data types best describe the feature or anomaly in question.*

Raster Data

Archeological investigation and research frequently require review and integration of extensive documentation, historic maps, images, and other forms of raster spatial data. All raster data submitted as part of the project GIS should:

- Be geo-rectified wherever possible, using the same coordinate system selected for the project vector data as a reference frame.
- Be saved and delivered in a file format which uses LZW lossless compression, such as TIFF (Tagged Image File Format).
- Conform to the file structure, and file naming conventions specified below (see Sections II and III) and in the *NARP GIS Data Folder Template*.
- Be accompanied by FGDC- and/or ISO-compliant metadata (see Section V).

Common examples of raster data associated with archeological investigations include:

- Maps
 - Historic maps (town maps, plats, Sanborn insurance maps)
 - Previous archeological maps (plan views, site maps)
 - Planning and construction maps
 - Existing conditions maps (utilities, park facilities)
- Remote sensing data
 - Geophysical survey data
 - Terrestrial, UAS, Airborne, or Satellite LiDAR data
 - UAS, Airborne, or Satellite imagery

All raster data generated or analyzed during a project must be included in the project GIS.

Raw or Unprocessed Data

Unless specified otherwise by a relevant Scope of Work (or similar document) or by NARP, the submitted project GIS should include all data collected, processed, and analyzed during a project. In addition to the processed data discussed above, this may include raw or unprocessed data, such as:

- Raw GPS collection files
- Raw geophysical survey data, such as:
 - Project files (e.g. .dat files)
 - Grid, mesh, and composite files for magnetic gradient, conductivity, and magnetic susceptibility survey data
 - .DZT and .DAT files
 - Raw gridded composites of the entire survey area and/or subdivided survey areas
- Original, un-georeferenced rasters of planning, construction, or historic maps

Unprocessed data should be accompanied by metadata or associated documentation sufficient to describe them to an unfamiliar user. This documentation should describe information such as file format, data type, sampling rate, purpose, and native program or application, as appropriate.

Final Data and Data Delivery

At the conclusion of a project, the project GIS should be submitted to NARP as part of both draft and final deliverables, as specified in the relevant Scope of Work (or similar document). Project GIS data are usually submitted twice. First, a draft copy is submitted for review and comment by NARP, along with the draft project report. After any comments are addressed, a final copy is submitted along with the final report. Before delivering any project GIS data, contractors and partners should review the relevant Scope of Work (or similar document) and coordinate with NARP to identify the most appropriate method for delivery. However, in most situations, data should be submitted as follows:

1. An abridged copy of the project GIS should be uploaded using NPS secure file transfer protocols, such as NARP's External Data Sharing and Transfer Sharepoint page. Due to the storage limitations of this method, the abridged copy should typically include only vector data and processed rasters, while excluding unprocessed rasters and geophysical data due to the large file sizes involved with these data.
2. A full copy of the project GIS should be submitted to NARP using a removable storage device, such as a portable hard drive. This copy should include the entire project GIS, following the folder structure described below.

Final Notes

Thank you for following these guidelines when preparing and submitting geospatial data to NARP! By doing so, you're helping us to improve the quality, accuracy, reliability, and breadth of our archeological spatial data. Continue reading this document for additional guidelines regarding specific aspects of geospatial data preparation, such as file structure and attributes. Further information can also be found in the supplemental materials, including the *NARP Feature Class Attribute Description Guide* and the *NARP Metadata Template*.

If you have any questions or need clarification about any aspect of these guidelines, please reach out to NARP. We're always happy to provide further details and discuss what support you may need!

II. File Structure

Project GIS and associated digital data submitted to NARP should be organized in the format and file structure outlined below. Text in ***ALL CAPS***, such as ***NARP_PROJECTID***, should be updated with appropriate project specific information (e.g. ACAD_2025A). The accompanying *NARP GIS Data Folder Template* provides an example of this folder structure and may be used as a template when developing the project GIS.

- ***NARP_PROJECTID*** (Folder)
 - ***NARP_PROJECTID***_Aerial_Remote_Sensing (Folder)
 - Processed_Data (Folder)
 - ***METHOD_SITE_YEAR*** (Folder)
 - e.g. LiDAR_Barber_Wheatfield_2021
 - Unprocessed_Data (Folder)
 - ***METHOD_SITE_YEAR*** (Folder)
 - e.g. LiDAR_Barber_Wheatfield_2021
 - ***NARP_PROJECTID***_Geophysics (Folder)
 - Processed_Data (Folder)
 - ***METHOD_SITE_YEAR*** (Folder)
 - e.g. GPR_Elmwood_2021
 - Unprocessed_Data (Folder)
 - ***METHOD_SITE_YEAR*** (Folder)
 - e.g. GPR_Elmwood_2021
 - ***NARP_PROJECTID***_GIS (Folder)
 - ***PARK_NARPPROJECTID*** (File Geodatabase)
 - ***PARK_NARPPROJECTID***_Archeology (Feature Dataset)
 - Control_Points_pt (Feature Class)
 - CRIS_AR_py (Feature Class)
 - Excavation_pt/py (Feature Class)
 - Features_pt/ln/py (Feature Class)
 - Geophys_Anomalies_pt/ln/py (Feature Class)
 - Survey_Areas_py (Feature Class)
 - ***PARK_NARPPROJECTID***_Context (Feature Dataset)
 - Any additional contextual GIS layers, such as data relevant to park land use, transportation, utilities, etc., if applicable.
 - ***NARP_PROJECTID***_Historic_Maps (Folder)
 - Original (Folder)
 - ***PARK_YEAR_AUTHOR_TITLE***
 - e.g. ACAD_1950_Billings_Land_Ownership_Map
 - Georeferenced (Folder)
 - ***PARK_YEAR_AUTHOR_TITLE***
 - e.g. ACAD_1950_Billings_Land_Ownership_Map
 - ***NARP_PROJECTID***_Map_Products (Folder)
 - ***NARP_PROJECTID***_Reports (Folder)
 - ***PARK_YEAR_AUTHOR_TITLE***
 - e.g. ACAD_2024_Griswold_Visitor_Center_GPR_Survey

III. File Naming

The above file structure should be used in conjunction with a standardized naming structure. These guidelines follow the naming convention model developed by the NPS GIS Council. For more information or clarification, reference the *NPS Layer Naming Conventions*. A general outline of the NPS naming conventions is as follows:

Unit Code	Sensitivity	Category	Layer	Details (optional)	Data Type
<i>SARA</i>	<i>SENSITIVE</i>	<i>CULT</i>	<i>Survey Areas</i>		<i>py</i>
<i>SARA</i>	<i>SENSITIVE</i>	<i>CULT</i>	<i>GPR</i>	<i>1.76-5.18ns 0.06-0.17m</i>	<i>ra</i>

The first file above would be named *SARA_SENSITIVE_CULT_Survey_Areas_py* and would correspond to polygon features which describe archeological and geophysical survey areas in Saratoga National Battlefield. The second file above would be named *SARA_SENSITIVE_CULT_GPR_1.76-5.18ns_0.06-0.17m_ra* and represents a raster file displaying a specific GPR slice from 1.76 to 5.18ns or 0.06-0.17m below surface.

Files such as reports, historic maps, and other non-spatial data that are submitted as a part of associated digital data accompanying GIS and Geophysical data should be named as follows:

Unit Code	Year	Author	Title
<i>SARA</i>	<i>1983</i>	<i>Johnson</i>	<i>Archeological Testing of Proposed Fence Replacement</i>
<i>BOWA</i>	<i>1964</i>	<i>NPS</i>	<i>Historical Base Map</i>

IV. Attribute Data

All vector GIS data must include relevant attribute information in the data layer's associated attribute table as needed. Attribute data should fully describe the data layer's nature, quality, and source, and ideally all attributes for which data is available should be completed. For each type of vector data and corresponding layer template, certain attributes have been designated as required; required attributes must be completed before data submission. Required attributes are outlined in the *NARP Feature Class Attribute Description Guide*, which also describes each available attribute field and provides guidance for when and how it should be completed. Please refer to that document for details. If additional clarification is required, please consult with NARP staff for guidance or assistance.

V. Metadata

All GIS data are required to have complete and accurate metadata. The Federal Geographic Data Committee (FGDC) has recommended that all federal agencies move towards using the International Organization for Standardization (ISO) standard for metadata related to geographic information (ISO: 19115 and associated standards). While the full implementation of ISO and FGDC compliant metadata standards is still in development, all geospatial data developed by

NARP, under NARP’s guidance, or under contracts administered by NARP must be accompanied by metadata as described in this document and the *NARP Metadata Template*. All metadata fields described in the *NARP Metadata Template* should be completed. Any capitalized placeholder text (e.g. ***PARK_NARPProjectID***) should be replaced with the appropriate information, as described in the *NARP Metadata Template*.

For vector data, metadata may be created using the native ArcGIS Pro metadata editor. If using this editor, ensure that “ISO 19115-3 XML Schema Implementation” is selected as the metadata style in the project options, as illustrated below.

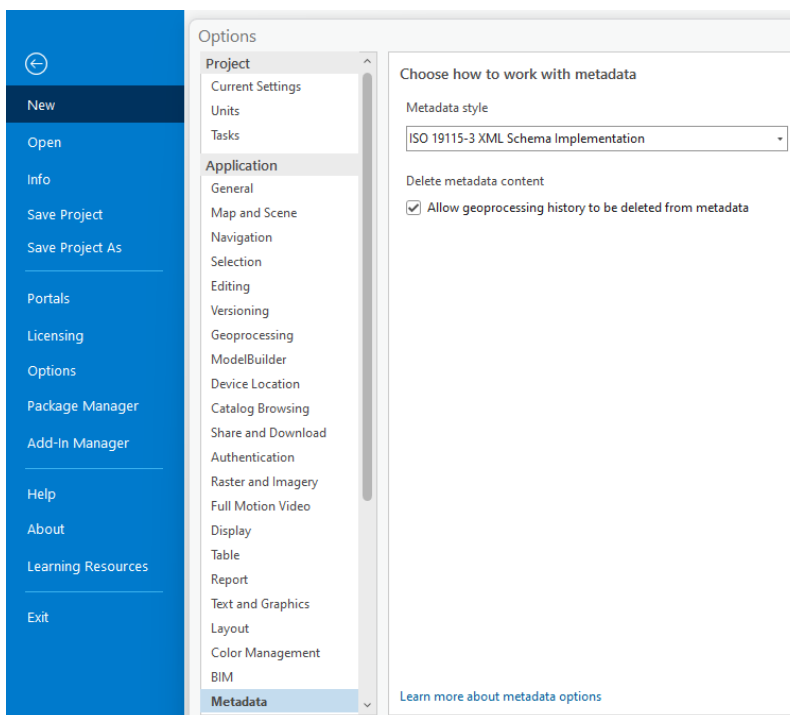


Image: A screenshot of the ArcGIS Pro Options dialogue window with the "Metadata" category selected. "ISO 19115-3 XML Schema Implementation" has been chosen as the project metadata style in the dropdown menu.

If using the native ArcGIS Pro metadata editor, the following fields (corresponding to the fields in the *NARP Metadata Template*) should be completed:

Category Group	Category	Required Items
Overview	Item Description	Title, Tags, Summary (Purpose), Description (Abstract), Credits, Use Limitation
Resource	Points of Contact	Contact
	Maintenance	Update Frequency
	Constraints	General Constraints

Raster and unprocessed data should be accompanied by a metadata, readme, or documentation file in XML or TXT format containing sufficient information to identify each file’s name, content, purpose, origin, native format or program, et cetera. The information above and in the *NARP Metadata Template* may be used as a guide.

Appendix A: IR-1/Legacy NER NPS Unit UTM Zones and Administration Group Codes

Unit Code	Unit Name	State	UTM Zone	Admin Group
ACAD	Acadia National Park	ME	19	
ADAM	Adams National Historical Park	MA	19	
AFBG	African Burial Ground National Monument	NY	18	MASI
ALPO	Allegheny Portage Railroad National Historic Site	PA	17	WEPA
APCO	Appomattox Court House National Historical Park	VA	17	
APPA	Appalachian National Scenic Trail	–	17, 18, 19	
ASIS	Assateague Island National Seashore	MD, VA	18	
BLUE	Bluestone National Scenic River	WV	17	
BOAF	Boston African American National Historic Site	MA	19	
BOHA	Boston Harbor Islands National Recreation Area	MA	19	
BOST	Boston National Historical Park	MA	19	
BOWA	Booker T. Washington National Monument	VA	17	
CACL	Castle Clinton National Monument	NY	18	MASI
CACO	Cape Cod National Seashore	MA	19	
CAJO	Captain John Smith Chesapeake National Historic Trail	MD	18	
CEBE	Cedar Creek and Belle Grove National Historical Park	VA	17	
COLO	Colonial National Historical Park	VA	18	
DELA	Delaware National Scenic River	PA	18	
DEWA	Delaware Water Gap National Recreation Area	NJ, PA	18	
EDAL	Edgar Allan Poe National Historic Site	PA	18	
EDIS	Thomas Edison National Historical Park	NJ	18	
EISE	Eisenhower National Historic Site	PA	18	
ELRO	Eleanor Roosevelt National Historic Site	NY	18	
FEHA	Federal Hall National Memorial	NY	18	MASI
FIIS	Fire Island National Seashore	NY	18	
FLNI	Flight 93 National Memorial	PA	17	WEPA
FOMC	Fort McHenry National Monument and Historic Shrine	MD	18	
FOMR	Fort Monroe National Monument	VA	18	
FONE	Fort Necessity National Battlefield	PA	17	WEPA
FOST	Fort Stanwix National Monument	NY	18	
FRHI	Friendship Hill National Historic Site	PA	17	WEPA
FRLA	Frederick Law Olmsted National Historic Site	MA	19	
FRSP	Fredericksburg and Spotsylvania County Battlefields Memorial National Military Park	VA	18	
FRST	First State National Historical Park	DE, PA	18	
GARI	Gauley River National Recreation Area	WV	17	

Unit Code	Unit Name	State	UTM Zone	Admin Group
<i>GATE</i>	Gateway National Recreation Area	NY	18	
<i>GEGR</i>	General Grant National Memorial	NY	18	MASI
<i>GETT</i>	Gettysburg National Military Park	PA	18	
<i>GEWA</i>	George Washington Birthplace National Monument	VA	18	
<i>GOIS</i>	Governors Island National Monument	NY	18	MASI
<i>HAGR</i>	Hamilton Grange National Memorial	NY	18	MASI
<i>HAMP</i>	Hampton National Historic Site	MD	18	
<i>HART</i>	Harriet Tubman National Historical Park	NY	18	
<i>HATU</i>	Harriet Tubman Underground Railroad National Historical Park	MD	18	
<i>HOFR</i>	Home of Franklin D. Roosevelt National Historic Site	NY	18	
<i>HOFU</i>	Hopewell Furnace National Historic Site	PA	18	
<i>INDE</i>	Independence National Historical Park	PA	18	
<i>JOFI</i>	John Fitzgerald Kennedy National Historic Site	MA	19	
<i>JOFL</i>	Johnstown Flood National Memorial	PA	17	WEPA
<i>KAWW</i>	Katahdin Woods and Waters National Monument	ME	19	
<i>LONG</i>	Longfellow House-Washington's Headquarters National Historic Site	MA	19	
<i>LOWE</i>	Lowell National Historical Park	MA	19	
<i>MABI</i>	Marsh-Billings-Rockefeller National Historical Park	VT	18	
<i>MAVA</i>	Martin Van Buren National Historic Site	NY	18	
<i>MAWA</i>	Maggie L. Walker National Historic Site	VA	18	
<i>MIMA</i>	Minute Man National Historical Park	MA	19	
<i>MORR</i>	Morristown National Historical Park	NJ	18	
<i>NEBE</i>	New Bedford Whaling National Historical Park	MA	19	
<i>NERI</i>	New River Gorge National Park and Preserve	VA	17	
<i>PAGR</i>	Paterson Great Falls National Historical Park	NJ	18	
<i>PETE</i>	Petersburg National Battlefield	VA	18	
<i>RICH</i>	Richmond National Battlefield Park	VA	18	
<i>ROWI</i>	Roger Williams National Memorial	RI	19	
<i>SACR</i>	Saint Croix Island International Historic Site	ME	19	
<i>SAGA</i>	Saint-Gaudens National Historical Park	NH	18	
<i>SAHI</i>	Sagamore Hill National Historic Site	NY	18	
<i>SAIR</i>	Saugus Iron Works National Historic Site	MA	19	
<i>SAMA</i>	Salem Maritime National Historic Site	MA	19	
<i>SAPA</i>	Saint Paul's Church National Historic Site	NY	18	MASI
<i>SARA</i>	Saratoga National Historical Park	NY	18	
<i>SHEN</i>	Shenandoah National Park	VA	17	
<i>SPAR</i>	Springfield Armory National Historic Site	MA	18	
<i>STEA</i>	Steamtown National Historic Site	PA	18	
<i>STLI</i>	Statue of Liberty National Monument	NY	18	

Unit Code	<i>Unit Name</i>	<i>State</i>	<i>UTM Zone</i>	<i>Admin Group</i>
<i>STON</i>	Stonewall National Monument	NY	18	MASI
<i>THKO</i>	Thaddeus Kosciuszko National Memorial	PA	18	WEPA
<i>THRB</i>	Theodore Roosevelt Birthplace National Historic Site	NY	18	MASI
<i>THRI</i>	Theodore Roosevelt Inaugural National Historic Site	NY	17	
<i>THST</i>	Thomas Stone National Historic Site	MD	18	
<i>UPDE</i>	Upper Delaware Scenic and Recreational River	NY, PA	18	
<i>VAFO</i>	Valley Forge National Historical Park	PA	18	
<i>VAMA</i>	Vanderbilt Mansion National Historic Site	NY	18	
<i>WEFA</i>	Weir Farm National Historical Park	CT	18	
<i>WORI</i>	Women's Rights National Historical Park	NY	18	