

Utah Bureau of Land Management
Digital Data Standards
March 2024

Reports will be accompanied by a UTSHP Cover Page, UT 8110-3 BLM Summary Report; Utah Archaeological Site Forms; Historic Site Forms (as appropriate); tabular data for sites; tabular data for isolated finds; photographs; GIS shapefiles for sites, survey areas, and isolated finds; and maps. Reports and all associated documentation shall be clear, legible, and submitted in a quality and format as specified below.

I. DIGITAL DATA SUBMISSION

Format

A digital copy will be submitted in PDF/A format at a resolution of 300 ppi or higher. Paper copies will no longer be accepted.

Born Digital

All records shall be born digital, meaning the records are originally created and later submitted in a digital format (i.e. in Adobe Acrobat, Microsoft Word, or other digital form generator) without being printed and re-scanned. Digital creation without rescanning assures accurate digital text recognition. Any record submitted that is not born digital, and was scanned, requires Optical Character Recognition (OCR) processing by the submitter. OCR allows full text searching of the record within our content management system.

Reports

Reports shall be formatted in an Archival Portable Document Format (PDF/A) with Optical Character Recognition (OCR) PDF files required as they allow the document to be searchable. The PDF/A report should be a mirror image of the paper submission. Utah Archaeology Site Forms (UASF) will not be included with the report file, but submitted as separate PDF/A files. The PDF/A report file name will consist of the State Antiquities Project number (no hyphens or land status identifiers). Example: U95IG456.pdf

UASF Site Forms

Each UASF site form will be submitted as a separate PDF/A file. The file should include all relevant parts of the UASF form including site sketch and location maps, artifact illustrations, and photographs. The naming convention for site PDF files shall be the Smithsonian Trinomial with county abbreviations capitalized, and no leading zeros. Amendments or updates for the same site will consist of the Smithsonian Trinomial followed by a hyphen and a sequential number. If more than one site form is being submitted, please put all the site form PDFs in a single .zip file. Example: 42BE205.pdf or 42BE205-1.pdf or U95IG0456_Siteforms.zip

UASF Tabular Data

A spreadsheet in .xlsx or .tsv format containing key tabular data corresponding with each site form submitted must also be included in submissions. The spreadsheet contains 21 data points across 37 fields. The spreadsheet must be structured the same as the template provided by the SHPO, which is located on the SHPO's website at <https://heritage.utah.gov/history/archaeology-records>. One spreadsheet for each project is required. Each site located during the project will constitute one row and every site recorded shall be included. Please name this excel file as shown below. Example: U95IG0456_tabular.xlsx

Isolates Tabular Data

At a minimum, isolated finds should be individually numbered with a unique identifier, include a description, include the class of the find (general temporal period), cultural affiliation, UTM coordinates, an estimated date range, and the area extent of the isolated find.

GIS Data

GIS Data must be submitted in the form of shapefiles or a file geodatabase. Shapefiles should consist of one shapefile of the area inventoried and a separate shapefile for archaeological site boundaries. Spatial data must meet the following specifications listed below:

GIS Data – Sites

- File will be named with the state project number preceded by a 's'. Ex. sU18UC0001.shp;
- All file components must be zipped into one file titled as shown above;
- One shapefile or geodatabase should include all project site boundaries, versus one shapefile per site;
- Include a field named "Smith_Tri" where the site number is stored without leading zeros (e.g. 42SL100 not 42SL00100);
- NAD 83 datum required;
- Only polygon features are accepted. Polygons must depict actual, ground verified site boundaries;
- A new polygon should be provided for any new site recording or updated site submitted with an updated site form. For updated sites, a duplication of the previous site boundary is acceptable if no boundary has changed. Sites revisited, but not updated, should not be included in the submitted spatial data.

GIS Data – Isolated Finds

- File will be named with the state project number preceded by an ‘i’. Ex. iU18UC0001.shp;
- All file components must be zipped into one file titled as shown above;
- One shapefile or geodatabase should include all project isolates;
- Use the template provided by SHPO to populate the date recorded, temporary number, class, descriptions, measurements, estimated age, and SHPO report number
- Each isolate should receive a unique identifier
- NAD 83 datum required;
- Only polygon features are accepted. Points and lines should be buffered by 5 meters or more, if appropriate.

GIS Data – Projects

- File will be named with the state project number preceded by a ‘p’. Ex. pU18UC0001.shp;
- All file components must be zipped into one file titled as stated above;
- Include a field named “StateProj” where the state project number is stored with no hypens/dashes or landowner suffixes;
- NAD 83 datum required;
- Polygons required;
- Different survey intensity should be clearly denoted with different record attributing;
- Accurate and clear representation of surveyed area (vs APE).

Maps

Maps related to the site and/or report shall be embedded in the appropriate PDF/A version of the site form and/or report. If the size or scale of the map is such that including the map in the PDF/A document would in some way be detrimental to the document, the map may be submitted as a separate PDF/A file. All map images should be properly displayed to the scale listed on the Map. For example, a 1:24,000 scaled map should be free from distortions that alter the accuracy of the scaling.

Maps must be appropriately labeled and include at a *minimum* the following information: Map Title/Project Name, Project Number, legend, north star, scale, firm name/authors name, date the map produced, and a *clear* depiction of the area of potential effect, area surveyed, sites recorded, and land status.

Maps depicting the GPS’d location of sites and project boundaries on the appropriate USGS 7.5’ Quadrangle shall be included in the report. Good quality hand drawn site sketch maps or GPS produced site maps are acceptable.

Digital Media Format

Data must be submitted electronically using a secure platform. Files should be organized in the following manner:

- Reports and appendices to be placed in a folder named “Report”
- UASF forms to be placed in a folder named “Site_Forms”
- GIS Data should be placed in a zipped folder named with the state project number preceded by a ‘s’. Ex. sU18UC0001.shp.
- Maps should be placed in a folder named “Maps”

II. GPS/GIS STANDARDS

Field Observation Standards

- Site boundaries shall be recorded as polygons, as acreage cannot be calculated for linear or point features in GIS. In addition, a polygon best represents the size and shape of a site.
- For linear sites, a single linear feature down the centerline may be appropriate with the width of the feature noted in the site form and/or metadata. If possible, a linear site may be recorded as a line in the field then appropriately buffered and converted to a polygon using GIS.
- At a *minimum*, a site datum (located near the approximate center of the site) and site boundary must be recorded with a GPS unit for each site. This coordinate should correspond with the UTM listed in the UASF. Features and other site detail may be recorded with a GPS unit, however, how such details are recorded is at the archaeologist’s discretion.

III. PROJECTION STANDARDS

All horizontal position data shall be reported in the NAD 1983 datum in UTM coordinates in the appropriate zone and Meridian.

IV. ACCURACY STANDARDS

Any type or model of GPS unit may be used so long as it meets the following standards:

- The positional accuracy should be within +/- **3 meters**.
- GPS data will require real time or post processed differential correction to ensure data accuracy. Data must be differentially processed using a base station closer than 200 miles.
- PDOP is less than or equal to 6.
- Minimum of 4 satellites (3D) for every position.
- In situations where GPS observations are not practical or possible due to geography, vegetation, satellite availability, or the presence of hazardous materials, the recorder should locate the resource using GPS offset equipment and capabilities, map coordinates, or a combination of GPS and other techniques. Such non-GPS methods must be described in the site form, report, and/or metadata.

V. FEATURE ATTRIBUTE STANDARDS

GIS polygons for cultural resources must be associated with attributes that describe these cultural resources in accordance with the tabular data required. Submitted data must conform to the attribute names as specified for the tabular data submitted for the sites. Data should be collected using the same attribute names or the names may be assigned later.

VI. PHOTOGRAPH STANDARDS

Photographs

Photographs should be embedded in reports and site forms. Each report should include at least two overview photographs that are clear, in focus and at least 300 ppi or higher. Multiple photographs should be included in site forms. Each diagnostic or unique isolated find should include at least one digital photograph.

A maximum of two photos per page with captions is acceptable. Captions should include at a minimum the site number, project number, date, direction facing, and a brief description. While not required, if individual photograph files are submitted to the BLM, they must be submitted in either JPEG or TIFF formats and numbered using the site or isolate number, a hyphen followed by a sequential number. Photographs of individual artifacts must be taken with a photo scale or ruler, not with alternative items of indeterminate size used as a scale. Photographs of these items should also be composed against a background from which the artifact will stand out.