

# Utah Bureau of Land Management

## Digital Data Standards

### May 2012

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#### **Reports**

Reports will include all cover pages, site forms, a table of isolated resources, photographs and maps. Reports and all associated documentation shall be clear, legible and printed on high quality paper.

Standard forms to be included in the report:

Utah SHPO Coversheet

UT-8110-3 BLM Cover Page

UT-8110-X Photo Log

#### **Digital Data Submission**

In addition to the required “hard copy” of the report and associated documentation, an identical digital copy will also be submitted. Paper documents are considered the standard for archival purposes, however, digital copies allow documents to be easily searched, reduce impacts to archival paper copies from less handling, and provide a backup in the event the paper document is lost or destroyed.

#### Reports

Reports shall be formatted in Portable Document Format (PDF) with Optical Character Recognition (OCR) PDF files preferred as they allow the document to be searchable. The PDF report should be a mirror image of the paper submission. IMACS site forms will not be included with the report file, but submitted as separate files. The PDF report file name will consist of the State Antiquities Project number (no hyphens or land status identifiers).

Example: U95IG456.pdf

#### IMACS Site Forms

Each IMACS site form will be submitted as a separate PDF file. The PDF site form should also be identical to the paper site form submitted. The file should include all relevant parts of the IMACS form: encoding form, site sketch, artifact illustrations, photographs and site map. The naming convention for site PDF files shall be the Smithsonian Trinomial with county abbreviations capitalized. No leading zeros.

Amendments or updates for the same site will consist of the Smithsonian Trinomial followed by a hyphen and a sequential number.

Example: 42BE205.pdf or 42BE205-1.pdf

## Photos

Photographs relating to the site and/or report shall be embedded in the appropriate PDF version of the report and site form. In addition, a separate image file must be included with the final data submitted in the form of a .jpg or .TIFF file.

## GIS Shape Files

GIS Data must be submitted in the form of shapefiles (preferred) or a personal geodatabase. Shapefiles should consist of one shapefile of the area inventoried and a separate shapefile of all sites recorded. The project number and all site numbers should be included in the corresponding attribute tables in the shapefile. In other words, all points, lines and polygons depicted in the shapefile should have a project number or site number in the tabular data which identifies that feature. Naming convention will be the project number proceeded by either an "s" or "p" to indicate either site or project.

Example: sU11BL456.shp Or pU11BL456.shp

## Maps

Maps related to the site and/or report shall be embedded in the appropriate PDF version of the site and/or report. If the size or scale of the map is such that including the map in the PDF document would in some way be detrimental to the document, the map may be submitted as a separate PDF 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 map produced, and a *clear* depiction of the area surveyed and/or sites recorded.

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 on high quality CDs or DVDs along with the required number of hard copy documents requested. **A total of two copies of either the CD or DVD's are required – one to be sent to the SHPO and one copy for BLM records.** A third option may be the BLM FTP site once that becomes available.

Files should be organized in the following manner:

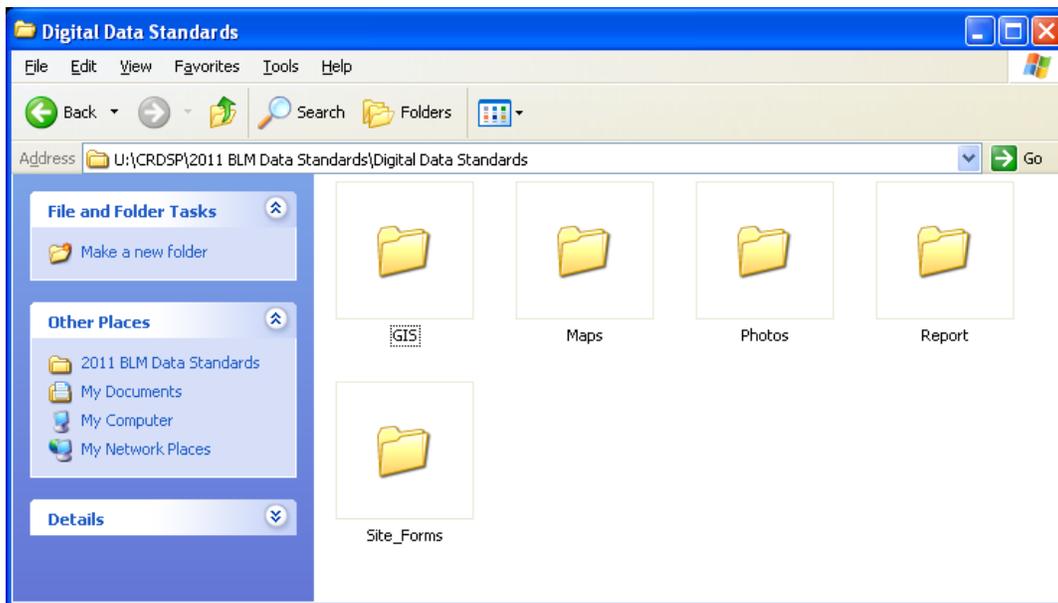
Reports and appendices to be placed in a folder named “Report”

IMACS forms to be placed in a folder named “Site\_Forms”

GIS Data to be placed in a folder named “GIS”

Photos to be placed in a folder named “Photos”

Maps to be placed in a folder named “Maps”



## GPS/GIS STANDARDS

### Field Observation Standards

- Site boundaries shall be recorded as polygons. 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. Features and other site detail may be recorded with a GPS unit, however, how such details are recorded is at the archaeologists discretion.

### Projection Standards

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

## 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 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.

## Feature Attribute Standards

- Points, lines, or polygon boundaries for cultural resources must be associated with attributes that describe these cultural resources.

Submitted data must conform to the attribute names assigned for the CURES database. Data should be collected using the same attribute names or the names may be assigned later. A base BLM data dictionary with these specific fields is available upon request.

## BLM Standard Data Dictionary

(See attached)

The Utah BLM has created a standardized Base Data Dictionary to be used when recording any geographic field data. The purpose of a required data dictionary would be to standardize site and project location information that can easily be incorporated into our existing geodatabase and to reduce confusion among archaeologists working within multiple Field Office boundaries.

The data dictionary was designed as a *base* meaning that so long as the fields included in our data dictionary are incorporated, an archaeologist would be allowed to create additional features and attributes within the same data dictionary for mapping purposes or to create consistency within the archaeologist's own data.

## PHOTOGRAPH STANDARDS

### *Printed Photographs*

The Utah BLM subscribes to the guidelines established by the Utah Division of State History ([http://history.utah.gov/archaeology/laws\\_rules\\_and\\_related/photos.html](http://history.utah.gov/archaeology/laws_rules_and_related/photos.html)) for submission of photographic images. Photos should be embedded in reports and site forms, however, in addition a separate printed copy of all photographs associated with site forms should be printed, labeled, and

submitted in an archival plastic sleeve attached to the site form. Photographs may be printed by a commercial lab or printed using high quality inks and photographic paper, so long as the image is of publishable quality. Photos printed this way must still be submitted in an archival plastic sleeve as to avoid damage to the photos from handling. A maximum of two photos per page with captions is acceptable. Photographs may be back to back, so long as the caption is visible without having to remove the photo. Captions should include at a minimum the site number, project number, date, direction facing, and a brief description.

### *Digital Images*

In addition, a digital copy of each photograph should be submitted with other digital documentation in the appropriately labeled folder (Photos). Photographs may be submitted in either JPEG or TIFF formats and numbered using the site or isolate number, a hyphen followed by a sequential number.

Photographs should be recorded on a photo log (see attached) to be included with the report. The photo log includes the image number, date photo taken, direction facing when photo is taken, site number, and a brief description of the subject. It is beneficial to record the UTM locations of site overview photo points for the purpose of site monitoring, however, it can be time consuming and cumbersome. Therefore adding UTM coordinates for photo points is *optional* but encouraged.

## Attachment 1. Utah BLM Base Data Dictionary

### **Inventory Boundary** “Mapped Extent of Inventory”

**TempID** “Temporary Project Number”

**State\_Project\_Number** “Antiquities State Project Number”

**Level of Inventory** “Level of Effort”

- A. Class III
- B. Class II
- C. Other

### **Inventory Line** “Mapped Linear Inventory”

**TempID** “Temporary Project Number”

**State\_Project\_Number** “Antiquities State Project Number”

**Maximum\_Entity\_Width** “Maximum width of linear inventory in Meters”

**Level of Inventory** “Level of Effort”

- A. Class III
- B. Class II
- C. Other

### **Site Boundary** “Mapped Extent of Site”

**TempID** “Temporary Field Identification Number”

**Smith\_Tri** “Smithsonian Trinomial”

**State\_Project\_Number** “Antiquities State Project Number”

**NR** “National Register Status”

- A. NR Listed Site
- B. Nominated to NR
- C. NR Quality
- D. Non-Significant
- E. Other
- F. Reg. w/District
- G. NR site - absent
- H. Historic Landmark
- I. Determined Elig.
- J. Disputed Elig.
- O. Other Register
- Z. Undetermined

**Date\_Entered** “Date Recorded”

**Comment**

### **Site Line** “Linear Site Centerline”

**TempID** “Temporary Field Identification Number”

**Smith\_Tri** “Smithsonian Trinomial”

**State\_Project\_Number** “Antiquities State Project Number”

**Maximum\_Entity\_Width** “Maximum width of linear site in Meters”

**NR** “National Register Status”

- A. NR Listed Site
- B. Nominated to NR
- C. NR Quality
- D. Non-Significant
- E. Other
- F. Reg. w/District
- G. NR site - absent
- H. Historic Landmark
- I. Determined Elig.
- J. Disputed Elig.
- O. Other Register
- Z. Undetermined

**Date\_Entered** “Date Recorded”

**Comment**

