

IV.

Excavation and Analysis of Human Remains

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Introduction

Wisconsin's burial sites preservation law, *Wis. Stats.*, s.157.70, was passed in 1987. Under that law, all discoveries of human bone on private or state land must be immediately reported to the Burial Sites Preservation Office (BSPO), and excavation or construction cannot proceed without the authorization of the Director of the State Historical Society of Wisconsin. It is illegal to disturb burial sites without prior authorization. Further, according to state statute and Chapter HS 2 of the Wisconsin Administrative Code, only "qualified archeologists" approved by the Director may oversee the excavation of burials. To apply for certification, an archeologist must demonstrate experience in the excavation of burials by submitting a *curriculum vitae* and two letters of reference for consideration to the Director, State Historical Society of Wisconsin, 816 State Street, Madison, Wisconsin 53706.

All archeologists working in Wisconsin must read and become familiar with the burial law and the administrative rules (Chapter HS 2) written to implement this legislation. Copies of those documents can be obtained, at no charge, by calling the Burial Sites Preservation Office.

Burial Site Identification

Records and Literature Search

Prior to initiating field work (either for Phase I or Phase II efforts), an archeologist must compile information on the cultural history of the region in general and the project area in particular. That effort must include, at minimum, data on the geology, pedology, and biotic environment as well as the known *and* expected distribution of all site types (historic and prehistoric). References to consult include

Phase I:

- local county ACSC surveys
- inventory and case files, county files, and USGS 7.5' topographic maps maintained by the Burial Sites Preservation Office
- early county plat books located in the State Archives (SHSW) or in individual county courthouses

Phase II:

- County Register of Deeds offices for deeds within the project area
- Wisconsin Land Economic Inventory Field Sheets, series 1956 (State Archives)
- Wisconsin State Old Cemetery Society (WSOCS) regional and county coordinators (list of coordinators is available, at no charge, from the BSPO)
- local genealogical societies

Field Survey

The goal of an archeological survey is to determine whether archeological sites, including prehistoric and historic burial sites, are present within a delimited area. Background research and interviews with local residents and collectors are useful for obtaining corroborating information on site location(s) and additional information on site types and locations that may not be referenced or recorded in written documents.

Surface survey. Burial sites are often, but not always, marked by surface features. These indications may include actual human bone or bone fragments discovered on the surface of badly eroded and/or plowed sites; grave pit depressions; obvious changes of vegetation, either natural or cultural (lilies or lilacs, for example); spirit houses; wooden crosses; prehistoric mounds; and gravestones or fragments of stone markers. Please note that, according to Chapter HS 2.02 (8), all prehistoric Indian mounds are defined as “grave markers.”

Methods employed to locate different types of burial sites in diverse environments vary from location to location. Consequently, the survey and sampling strategy must be reevaluated and redesigned for every survey. For example, if background research suggests that an isolated historic grave may lie within a given project area, the transect interval employed must represent the minimum necessary to locate that burial. In areas of dense vegetation, where ground visibility is limited, it is advisable, if at all practical, to undertake surface survey during the late fall or early spring.

If an archeologist identifies a feature that may represent a prehistoric Indian mound for which no Archeological Site Inventory (ASI) record exists, that feature may be explored using a soil probe to assess whether or not that “earthwork” is actually a Native American mound. In such an instance, it is highly recommended, but not mandatory, that the archeologist contact the Burial Sites Preservation Coordinator to discuss testing options prior to undertaking that activity.

Under state law, it is not necessary to physically uncover human bone to designate a

mound (or any other location) a burial site. If a soil profile confirms a soil discontinuity that is cultural in origin and clearly not related to “recent” land disturbance or agricultural activity, the location of that mound feature must be documented on a Wisconsin Archeological Site Inventory form and submitted to the Office of the State Archaeologist (SHSW). An archeologist may also probe a suspected grave pit depression to evaluate whether a disturbed soil profile confirms the presence of a human burial.

Probing a feature to determine whether that feature represents a burial site is *not* considered a “disturbance” and *does not* require permission from the Burial Sites Preservation Office. Please note, however, that archeologists working on municipal or federal land *must* secure a permit from the Office of the State Archaeologist or the appropriate federal land manager.

Subsurface survey. Subsurface testing must only be undertaken

- after documentary research is completed
- following surface survey (if advisable)
- in the event that surface survey could not be effected because of dense ground cover

It must be designed to provide the maximum amount of information regarding the stratigraphic continuity and spatial extent of the site.

Depending on the nature of local sediments, vegetation cover, size of the area to be tested, and cost considerations, remote sensing techniques may be the least intrusive and most cost-effective method for examining a large area. Ground-penetrating radar (GPR) and soil resistivity surveys have both proved useful in specific archeological contexts (primarily historic) where radio interference from outside power sources is not a factor. Because results of these tests can vary tremendously depending upon local conditions, subsequent test excavations may be recommended to confirm (“ground-truth”) the results obtained.

In some cases, mechanical stripping of large areas of topsoil/plow zone to locate grave outlines or burial pits can be a practical, low-cost alternative to the use of remote sensing equipment, which can cost over \$1,000 per day. Although destructive, mechanical stripping provides the most comprehensive plan view of surface distributions of burial (and other) features. Such stripping is recommended when early maps indicate the presence of Indian mounds within the present-day project area but surface indications of those cultural features no longer remain.

When the sediments in the area under investigation exhibit clear soil horizons (with color and textural differences), burial pits can be detected by locating areas of disturbed soil profiles. Soil probing can be effective in locating burials, particularly if a systematic survey strategy is employed. Because close-interval testing is recommended when probing to locate burials, the recommended 10- to 15-meter interval between shovel tests is not considered an adequate or effective means of locating burials.

Cataloging Burial Sites

1. Documentation

According to Administrative Rule Chapter HS 2.03 (2), documentation of a burial site may include, but is not limited to

- physical evidence, as demonstrated by archeological or written historical reports showing the presence of human bone or grave markers
- adequate historical documentation
- oral depositions, affidavits, or oral histories
- any additional information requested by the director

2. Metes and Bounds Description of a Burial Area

Under law, the location of a burial site can be filed with the Register of Deeds office in the county in which it is located, a process known as “cataloging.” To catalogue a burial site, the following information must be provided to the

Burial Sites Preservation Office: a legal (metes and bounds) description of the property (drafted by a licensed surveyor); the names, addresses, and telephone numbers of the property owners (and owners of land within the five-foot buffer zone surrounding the site, if appropriate); and photographs. In a compliance case, the agency applying to the SHPO for project review must furnish the Burial Sites Preservation Office with a metes and bounds description if the property on which the burial site is located lies within or near the proposed project area.

Because of potential legal concerns, the Burial Sites Preservation Office will no longer accept metes and bounds descriptions from any individuals not trained and certified as land surveyors. Archeologists can, however, flag a burial site or a mound in advance of a certified survey; the marked area must incorporate at least the five-foot buffer zone required by law. If landowners request a larger buffer zone surrounding a burial site on their property, that request must be reasonable, not excessive (simply to take advantage of a larger tax exemption). Since a burial site that is cataloged represents, to some degree, a restricted area (in terms of what can and cannot occur on or around it), and “runs with the land,” the landowner may want to consider those factors when deciding to exempt more than 10 to 25 feet around a discrete burial site.

Historic burial sites. Many historic burials already have metes and bounds descriptions recorded on deeds filed with the County Register of Deeds. The Burial Sites Preservation Office requires a copy of the deed describing the cemetery, including its name and number and the page number(s) of the volume from which the description was copied. If there is a deed describing the boundaries of a burial site, this legal description, whenever possible, must be verified in the field against the actual (i.e., present-day) dimensions of the burial site. For example, if the dimensions of a cemetery were recorded as 100 x 100 feet in 1878, that cemetery in 1995 must still measure 10,000 square feet.

If there is no existing deed with a metes and bounds description, the archeologist must define the burial area and “sufficient continuous

land” necessary to protect the site; this may be accomplished by surface survey and/or sub-surface testing. “Sufficient contiguous land” is defined in the statute as a minimum of five feet. After the archeologist has completed this work, a certified land surveyor may produce a metes and bounds description of the area defined by the archeologist.

Prehistoric burial sites. As with previously undefined historic burial sites, the archeologist must first define the burial area and sufficient contiguous land necessary, under the law, to protect the site. A registered land surveyor must then produce a metes and bounds description of the defined burial area.

Excavation of Human Remains

Authorization

The discovery of any human remains, or remains suspected to be human, must be reported immediately to the Burial Sites Preservation Office, either in person or by telephone. No excavation of human bone is permitted without the express permission of the Director of the State Historical Society of Wisconsin. To excavate human remains from a burial site on state or private land in Wisconsin, an archeologist must be “qualified” as per 157.70 and approved (in writing) by the Director. To apply for certification, an archeologist must demonstrate experience in the excavation of burials by submitting a *curriculum vitae* and two letters of reference for consideration to the Director, State Historical Society of Wisconsin, 816 State Street, Madison, Wisconsin 53706. A listing of “Archeologists Qualified to Excavate Burials” is updated as needed and kept on file in the Burial Sites Preservation Office.

An archeologist does not need prior authorization to excavate human remains if the bone is not recovered from a burial context. For example, no advance permission is required to excavate isolated pieces of human bone from a trash midden. If the context of discovery is at all questionable, it must be treated (until otherwise evaluated) as a burial site until a field visit to the location of discovery is made by Burial Sites Preservation Office staff.

If a Native American burial site is discovered during compliance work (i.e., pursuant to the Antiquities Act of 1906, the Reservoir Salvage Act, the National Historic Preservation Act of 1966, as amended, or the Archeological Resources Protection Act of 1979), provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) may apply and override Wisconsin’s burial law. The contracting archeologist must contact the Burial Sites Preservation Office immediately and must also contact the funding or licensing federal agency regarding its policy on the excavation of (Native American) human remains. The excavation of non-Native American human remains still requires authorization from the Director of the State Historical Society of Wisconsin.

Methodology

The following guidelines represent the *minimum* amount of information that must be recorded during the excavation of human remains:

Exposure and documentation:

1. The first step is to identify boundaries of the burial pits(s) and record burial dimensions (once exposed) and pit size (length/width/depth), orientation, burial type, shape, and vertical and horizontal location in a plan view (refer to BSPO Field Recording Form). Contrasts in soil color and texture should be described, and a soil sample taken of the surrounding pit fill.
2. The next step is to carefully remove the sediments surrounding the burial(s) and expose the human remains using excavation tools appropriate to the task. The bone should not be touched with sharp metal tools. Wooden or bamboo picks are recommended. A second sample of sediments should be taken from the area of the sacrum, if possible. If bones are damp when initially exposed, they should not be left to dry in direct sunlight.
- 3a. If the burial is supine, the frontal bone of the cranium and the innominates (pelvic bones) will normally be the first exposed

through excavation. Because these elements are often the most fragmentary (and will often yield the greatest information on sex and age during analysis), they should be excavated last if possible. They can be used as landmarks from which to approximate the location of the long bones (arms and legs) and expose them before excavating the chest, pelvic, and cranial regions. Once an area is exposed, it should be kept free from sediment by covering it with newspaper or lightweight cloth. This is not always easy as one area (e.g., elbow or hip joint) is likely to still be in articulation with other bones sharing other connections.

- 3b. If the burial is flexed, the side of the skull (and possibly the lateral portion of the orbit), side of the pelvis, and knee joint will likely be exposed first. Because of the circumstances of burial deposition, excavation must begin at the most elevated points and work sideways and downward until the remains are exposed. Procedures used must be sensitive to the context and reflect the objectives (including time and cost constraints) of the recovery plan.
4. All skeletal elements and associated objects should be left in situ until the remains are completely exposed, photographed, and mapped on graph paper. Photographic documentation must include both black-and-white prints and color slides and a list of photographs taken, their numbers, orientation, and type of film used. All photographs should include a scale and an arrow pointing to magnetic north. If possible, the burial number(s) must also appear in the photograph.
5. The vertical and horizontal location of the human remains should be recorded, and a scale drawing made of each burial and any associated artifacts.
6. Field notes and the information on the Field Recording Form (see attached) must be as complete as possible. If feasible, and if within the scope of the project, the land adjacent to the burial must be investigated to determine whether there are features that may provide additional context for inter-

preting the burial site and associated mortuary behavior. If the adjacent land cannot be surveyed, for whatever reason, that fact must be explicitly recorded in the field notes.

Removal

1. After documentation, the remains should be removed as quickly as possible. An exposed burial should not be left overnight.
2. When skeletal elements are placed in paper or plastic bags, all provenience information (including burial number) should be written on the bag before the bone is put inside (for example, "Burial 1, 47-WK-1000, left hand bones"). If plastic bags are used, even for transport only, they should be left partially open if possible; a sealed bag traps humidity and accelerates bone decomposition.
3. Before excavated bone is placed into bags or boxes, as much adherent soil as possible should be removed. The one exception is a cranium that has dense, compacted soil remains within the internal cavity; no attempt should be made to remove the soil in the field, as the cranial bones will likely come apart and make laboratory reconstruction much more difficult.
4. When a large concentration of secondary (commingled) burials with no identifiable cluster(s) of skeletal elements is excavated, the position of each bone must be documented (graphically and numerically) on a plan view. An arbitrary grid system should be established along the long axis of the burial, and bones assigned to a designated excavated subunit.

Documentation Forms

The following forms were developed for the documentation of burial sites and the excavation, analysis, and reporting of research on human remains:

- Burial Sites Inventory Form
- Field Recording Form

- Skeletal Inventory for Single Individuals
- Skeletal Age and Sex Determination Form
- Bone Union and Epiphyseal Closure—Immature Remains

For additional information contact

Burial Sites Preservation Office
The State Historical Society of Wisconsin
816 State Street
Madison, Wisconsin 53706
608-264-6502/6503

