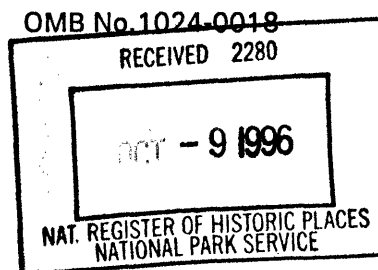


United States Department of the Interior
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**National Register of Historic Places
Multiple Property Documentation Form**



This form is used for documenting multiple property groups relating to one or several historic contexts. See instructions in How to Complete the Multiple Property Documentation Form (National Register Bulletin 1680). Complete each item by entering the requested information. For additional space, use continuation sheets (Form 10-900-a). Use a typewriter, word processor, or computer to complete all items.

☒ New Submission ☐ Amended Submission

A. Name of Multiple Property Listing

Precontact American Indian Earthworks, 500 B.C. - A.D. 1650

B. Associated Historic Contexts

(Name each associated historic context, identifying theme, geographical area, and chronological period for each.)

Minnesota Statewide Contexts - Early Woodland (500 - 200 BC), Havana Related (200 BC - AD 300), Laurel (200 BC - AD 600), Brainerd (200 BC - AD 700), Central Minnesota Transitional Woodland (AD 600 - 800), Lake Benton (AD 700 - 1200), Southeastern Minnesota Late Woodland (AD 500 - 1000), Kathio (AD 800 - 1000), Blackduck (AD 700 - 1200), Psinomani (AD 1000 - 1650), Cambria (AD 1000 - 1200), Great Oasis (AD 900 - 1200), Big Stone (AD 1200 - 1400), Silvernale (AD 1150 - 1250), Red Wing Oneota (AD 1100 - 1300), Orr Oneota (AD 1200 - 1650)

C. Form Prepared by

name/title Clark A. Dobbs, Ph.D.

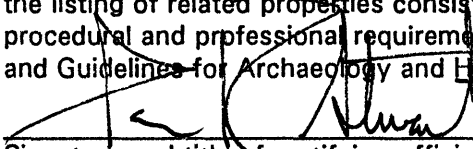
organization Institute for Minnesota Archaeology date 12-1-94

street & number 3300 University Avenue SE Suite 202 telephone (612) 623-0299

city or town Minneapolis state MN zip code 55414

D. Certification

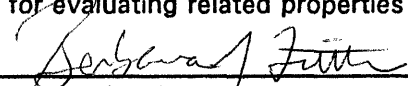
As the designated authority under the National Historic Preservation Act of 1966, as amended. I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. (See continuation sheet for additional comments.)


Signature and title of certifying official Jan R. Stewart

9/17/96
Date

Deputy State Historic Preservation Officer, Minnesota Historical Society
State of Federal agency and bureau

I hereby certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.


Signature of the Keeper

11/14/96
Date of Action

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STATEMENT OF HISTORIC CONTEXTS

Introduction

In the mid-eighteenth century, settlers poured west across the Appalachian Mountains seeking land, new homes, and fresh beginnings. As these settlers filled the numerous river valleys of the midwestern and southeastern United States, they were confronted with thousands of earthworks of all shapes and sizes. These mysterious remnants of earlier civilizations intrigued the new arrivals and gave rise to one of the most persistent themes in American popular culture: the myth of the Moundbuilders. Today archaeologists know that the earthworks are the product of many different Indian groups and were constructed over a period of more than 2,500 years. Nonetheless, the concept of 'Moundbuilders' persists in the American imagination and dominated earthwork investigations throughout the nineteenth and early twentieth centuries.

This document describes the historic context for earthworks in Minnesota and delineates a series of property types that are associated with this context. A thematic approach to this context has been chosen because the subject of earthwork construction cross-cuts a variety of intellectual and analytical perspectives.

In a very real sense, the intellectual history of the study of earthworks serves as metaphor for the changing relationships between the Euro-American settlers of North America and the American Indian people who resisted this settlement. Throughout much of the nineteenth century, the documentation and study of mounds was driven by the belief (or lack thereof) that the mounds could not have been produced by existing American Indian groups but rather had been produced by a vanished, superior race of beings termed 'moundbuilders'. This point of view provided some particularly colorful speculation on who this vanished race of people might have been (cf. Silverberg 1968) and candidates ranged from vanished Welshmen to beings from lost Atlantis.

In 1894, Cyrus Thomas of the Bureau of American Ethnology (Smithsonian Institution) published his massive work on the Bureau's program of mound exploration in eastern North America and demonstrated clearly that the mounds were the products of the ancestors of existing American Indian peoples. It is of interest that this conclusion was published at almost the same time that Frederick Jackson Turner pronounced the American frontier closed and when the Battle of Wounded Knee had put to a brutal and final end any widespread military resistance of Indian people to the United States government.

Throughout the first six decades of the twentieth century, earthwork investigations focused on the careful excavation of mounds in many different areas. The results of these studies provided a great deal of information on the material culture of American Indian people during the previous two millennia, as well as data on mortuary practices. In point of fact, much of the culture historical framework of pre-contact North America is based on the initial studies of mounds and their contents.

By the early 1960's, the focus in archaeology was shifting away from the "archaeology of the dead" and toward concerns with "the archaeology of the living" where the excavation of village sites, environmental factors, and settlement studies were the dominant methods of inquiry. At the same time, American Indians themselves began to be increasingly vocal in their concern for the preservation of mounds and burial sites and what they viewed as 'desecration' of graves by the dominant culture. Again, much like the period at the end of the nineteenth century, this shift in attitudes corresponded with significant underlying changes in the American social and political landscape. After more than two decades of intense debate and political action, a series of federal and state laws have been passed defining more clearly the treatment and protection of American Indian burials.

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The shifts in the public perception and attitudes toward mounds and other earthworks has consistently been paralleled by changes in the field and analytical methods used by scientists to study this particular class of cultural properties. One dominant approach, which remains important today, is the study of mounds as the repository of objects and information about mortuary practices and behavior. This approach is not unique to North America, but rather is a key element in the study of past cultures throughout the world. Information on objects contained in mounds can be used to date their construction, evaluate contact and interaction between people across space, interpret the changing role and treatment of the dead through time, and evaluate the social status of the individuals interred.

A second approach, which grows out of the increasing concern with process and function in the study of human culture, approaches earthworks as the material result of a constellation of belief systems and practices which change through time. This approach may be implemented using settlement pattern and systems analysis and through other methods which use the study of symbols and metaphor to articulate the various cultural systems that produced earthworks in the past. These approaches are, in some ways, particularly desirable since they do not involve actual excavation or destruction of earthworks and mounds themselves.

It is unlikely that the popular fascination with mounds, their importance to American Indian people, or their pivotal role in the studies of past settlements and cultures in North America will fade. Unfortunately, earthworks themselves remain an 'endangered species.' While precise estimates are difficult to obtain, it appears that more than 90% of the earthworks present in eastern North America two hundred years ago have been obliterated or very badly damaged. Of the remaining intact earthworks, only a handful are held in the public trust for preservation. Looting of mounds, like the looting of other archaeological properties, continues and trade shows of looted artifacts remain an unsavory aspect of American culture in certain parts of the country.

The study and documentation of earthworks in Minnesota

The study of earthworks in Minnesota dates to the earliest exploration of the region. However, our knowledge of earthworks rests principally on the work of a few individuals during the closing years of the nineteenth century.

The Northwestern Archaeological Survey (NWAAS) was the brainchild of Alfred J. Hill of St. Paul, Minnesota. Hill was both a scholar and a visionary and the NWAAS grew out of his lifelong fascination with and study of the antiquities of the Midwest. Born in London in 1833, Hill was trained as a civil engineer and emigrated to the United States in 1854. He lived first in Red Wing, Minnesota and in 1855 moved to St. Paul where he worked as a draftsman, spending much of his career in the state land office.

Hill's position in the land office put him in contact with many surveyors working throughout Minnesota and he developed an active correspondence with any and all individuals who could provide him with information on the location of mounds and other antiquities. During the Civil War, he served in the office of topographical engineers in Washington, D.C. and after the war joined the Minnesota Historical Society, where he served as a member of the Committee on Archaeology and subsequently as Treasurer.

After the Historical Society discontinued its Committee on Archaeology, Hill continued to collect and collate information on antiquities from throughout the 'Great Northwest'. Hill's hope was to find an appropriate individual with whom he could collaborate to conduct an extensive program of surveying and mapping of earthworks in the region, since he perceived that these antiquities were rapidly being destroyed.

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In 1881, Hill discovered an appropriate partner in Theodore Hayes Lewis, a trained surveyor whose passion for mounds and archaeology equalled his own. In that year, Hill and Lewis outlined a program for a systematic survey of all the remaining artificial earthworks of Minnesota, and to include also such portions of the adjoining states, territories, and provinces as might be practical. Hill was to fund the project and draft the maps, while Lewis was to be responsible for identifying and mapping groups of mounds and other earthworks in the field.

During the next fourteen years Lewis travelled more than 54,000 miles and documented more than 2,000 sites containing more than 17,000 individual mounds in eleven states. The results of these investigations were carefully documented in a series of 36 field notebooks and a voluminous correspondence between Hill and Lewis.

In June of 1895, Hill unexpectedly died of typhoid, bringing the NWS to an abrupt halt. Although funds to support the final organization and publication of the Survey had supposedly been set aside by Hill, no will for his estate could be found. The subsequent history of Lewis and the NWS dataset are convoluted and Lewis left St. Paul sometime after 1905 and never returned. The NWS manuscripts, through the efforts of J.V. Brower, were purchased from Hill's estate and ultimately donated to the Minnesota Historical Society. The complete results of the Survey have yet to be published.

The NWS was the largest privately funded archaeological project ever to take place in North America. However, while it was underway there were other individuals in Minnesota involved in mound study who also made noteworthy contributions, including Dr. William Sweney, William Schmidt, Warren Upham, and J.V. Brower.

Jacob V. Brower was an avid antiquarian and documented mound and village sites throughout Minnesota. In many cases, Brower worked on sites which were not mapped by Lewis and their work complements one another, although Brower's notes are never as precise as those of Lewis. Brower published the results of his historical studies in a series of volumes (e.g. Brower 1900, 1901, 1902, 1903). Brower was also politically astute and it was due to his efforts and independent means that the NWS manuscripts were preserved.

After Brower's death, both his notes and the NWS documents were transferred to the Minnesota Historical Society. The results of these surveys, along with additional information obtained by the Society, were collated by Upham and ultimately published under the direction of Newton Winchell in a volume titled The Aborigines of Minnesota (1911). This volume remains today the most comprehensive reference on earthworks in the state.

The publication of The Aborigines of Minnesota marks the end of a key chapter in the study of Minnesota earthworks. Until 1900, the principal focus of investigations had been to locate and map these properties. Hill, Lewis, Brower, and the others were able to see and record groups of earthworks before they were destroyed by modern development. The records that these scholars left behind constitute a picture of a landscape that has vanished forever and which could not be recreated without the information that they collected.

During the twentieth century, the emphasis in the study of earthworks shifted from discovery and mapping to excavation. A.E. Jenks (University of Minnesota) investigated a variety of sites, including mounds, in the 1920's. Lloyd Wilford (University of Minnesota) initiated a systematic study of the archaeology of Minnesota, of which the excavation of mounds was a key element. Although Wilford maintained careful field notes and laboratory reports, he did not publish most of his results. In the 1960's, Elden Johnson (University of Minnesota) organized much of Wilford's work, and published the important results on the Red River Valley, central Minnesota, the Arvilla complex, and other areas (Johnson, 1973; Wilford et al., 1969; Wilford, 1970).

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Students of Johnson have continued his synthetic and analytical approach to both the archaeology of the state and the problem of mounds and earthworks. Lothson (1967) prepared an encyclopedic account of the mounds and sites at Mille Lacs. Anfinson (1984) prepared a study of the cultural and natural aspects of mound distribution in Minnesota. Birk (1986) is exploring the character of mounds, particularly their orientation, in northern Minnesota. Dobbs (1993) has been pursuing both the re-creation of vanished mound groups and methods of incorporating the distribution and structure of earthwork sites into a broader evaluation of settlement archaeology.

Since 1980, the State Archaeologist's Office, Hamline University, and the Minnesota Indian Affairs Council have been involved in the authentication, preservation, and study of mounds in the state.

Distribution and types

There is a general perception that earthworks, especially mounds, are relatively the same throughout eastern North America. However, Thomas (1894) clearly demonstrated that within this broad category of cultural properties, there is extensive spatial and temporal variation. Thomas (1894) suggested that mounds in eastern North America could be broadly divided into a northern and southern section, with the dividing line running from Kansas City east to the confluence of the Missouri and Mississippi Rivers, then southeast putting most of Illinois, Kentucky, Tennessee (except the western one third) and North Carolina within the northern section. Within each section there were a series of districts that Thomas believed contained distinct and internally coherent patterns of mound form, size, and distribution.

The Dakota District, in Thomas' model, contained North and South Dakota, Minnesota, Wisconsin, Manitoba, the extreme northeastern corner of Iowa, and a narrow strip along the northern boundary of Illinois. The distinctive features of the district included effigy mounds (which Thomas noted were rare in Minnesota), elongate or wall-like mounds, connected series of low, conical mounds, and lines or rows of conical mounds.

Thomas' model for the Dakota District was based largely on the earlier work of Increase Lapham (Lapham 1885) and limited field investigations. Although members of Thomas' staff corresponded with Lewis, Lewis was unwilling to share the NWAS data with the Smithsonian. Nonetheless, Thomas' description of the characteristics of mounds and earthworks in this region were apt and may be tested and expanded using the NWAS dataset, which remains the most comprehensive inventory of these properties. Of the more than 17,000 mounds examined by the NWAS, 7,767 are in Minnesota.

This study employed a database containing information on all earthworks documented by the NWAS. An initial evaluation of the database indicated that mound distribution across Minnesota is not homogeneous but tends to cluster in certain areas of the state (see also Anfinson 1984). The NWAS documents mounds in 64 counties of the state. However, five of these counties (Goodhue, Hennepin, Scott, Wabasha, and Otter Tail) contain more than 36% of all the groups documented and more than 50% of all individual mounds (Figure 1).

A variety of shapes and forms of mounds are found in Minnesota. By far the most common form are round or conical mounds ranging in height from a foot or less to more than 40 feet. Round mounds account for 83% (6,447) of all mound documented by the NWAS. Linear and elliptical mound forms are the next most common shape and account for 12.5% (967) of the mounds recorded. Circular mounds that are often flat-topped account for slightly more

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than 1% (80) of all mounds documented by NWS, while animal and bird forms account for .24% (19) and .23% (18) of all mounds respectively. 'Other' mound and earthwork types account for 2.7% (211) and this category includes embankments and other rare or miscellaneous forms, including the conical mounds linked by embankments noted by Thomas (Figure 2).

The distribution of earthwork forms, like the distribution of groups, is not even across the state but rather reflects distinct patterning. The few effigy mounds are concentrated in the southeastern portion of the state. Linear mounds, while found in many portions of Minnesota, are most common in the central portion of the state from Otter Tail county east to the St. Croix River. Circular mounds are found principally in the western, prairie regions of Minnesota. Enclosures are found most commonly in the west, with some occurrences in the southeast and central regions (Figure 3).

It should be noted that a cluster of mound groups along the Rainy River on the Canadian border was not documented in the NWS but represents an important northern focus of Middle Woodland (Laurel) mound building.

Historical overview

The first burial mounds in North America may appear in Labrador over 7,000 years ago (McGhee and Tuck 1977). In the Midcontinent, small conical mounds dating to late Middle Archaic times (ca. 4000 B.C.) have been found in the central Mississippi River region (Charles and Buikstra 1983). By Late Archaic times, there are scattered uses of mounds in various areas of the eastern Woodlands, but mound construction does not become intensive and widespread until the advent of the Woodland Period. Early Woodland is distinguished from Archaic based on three principal elements: the widespread use of ceramics, horticulture, and mounds and earthworks. In some areas, such as southwestern Minnesota, only ceramics appear at the beginning of the Woodland Period.

In the Midwest, mound construction seems to grow out of the emerging complex ceremonial and mortuary activity of the Late Archaic in the Ohio River valley. It is in this region, perhaps 2,500 years ago, that the first Midwestern mounds appear. The complex ceremonial and mortuary activity which began in the Late Archaic reaches a climax during the Middle Woodland. Mounds and other earthworks of this period may be associated with burial activity but also display a broad range of effigy and embankment construction that are obviously not linked to mortuary activity. The broad range of regional connections during the Middle Woodland are apparent in the types of raw materials and goods that have been found in the Middle Woodland mounds of Ohio and Illinois. These goods include obsidian, shell, mica, copper, varieties of pipestone, and other materials. The presence of copper demonstrates a link between the Ohio Valley and the Upper Midwest, while the presence of obsidian suggests a similar link between the lower Midwest and the Plains region that may have traversed Minnesota.

Early Woodland mounds are rare and poorly documented in Minnesota. The only radiocarbon date associated with a mound burial of Early Woodland age is 800 B.C. (dendro-corrected) from the Morrison Mounds (21OT2) in west central Minnesota (Johnson 1964); this date appears to be too early and may be anomalous. The next oldest mound date is 180 B.C. from the Anderson Mound (21ML4) in the east central part of the state. Mounds associated with the Middle Woodland are much better known in Minnesota and may represent, at least in part, the northern movement of Middle Woodland ideas and beliefs into this region. The mound complex at the Howard Lake Site (21AN1) is perhaps the best known of the southern Middle Woodland complexes in the state and shows strong Havana affiliations.

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In northern Minnesota, the first mounds are probably built around 200 B.C. The Rainy River mounds are associated with Laurel, which is often viewed as a northern manifestation of the complex ceremonialism typified by Ohio Hopewell and the Illinois Havana Hopewell cultures. In the Headwaters Lakes Region, the earliest mound-building may be associated with Brainerd ceramics and may also date as early as 200 B.C.

In east-central and southeastern Minnesota, the first period of extensive earthwork construction is associated with Havana Related cultures in early Middle Woodland times. These cultures use Malmo ceramics in the Lake Mille Lacs area, Howard Lake ceramics in the southern portion of east-central Minnesota, and Sorg ceramics in northern southeastern Minnesota. The Havana Related complexes of southern southeastern Minnesota have yet to be defined. The Mounds Park site (21RA10) in St. Paul is the only currently recognized Middle Woodland site in Minnesota showing strong Hopewell affiliation.

The Middle Woodland florescence ends approximately 1,700 years ago, and after this period an increasingly distinctive regional character begins to appear in the type and distribution of earthworks and mounds that are seen in the Upper Midwest. In northern Minnesota, mounds are associated with the Late Woodland Blackduck context. In central Minnesota, a Transitional Woodland context has been recognized associated with St. Croix and Onamia ceramics. These are followed by earthworks associated with the early Late Woodland Kathio and late Late Woodland Psinomani (Sandy Lake) contexts.

Lloyd Wilford (1941b) defined the Arvilla Focus of the Red River Aspect based on mound excavations (32GF1) at Arvilla, North Dakota and several sites in northwestern Minnesota (21KT1, 21MA1, 21PL13, 21RL1). Elden Johnson (1973) re-defined Arvilla as a "complex" typified by a recurring burial pattern featuring primary and secondary burials in round and linear mounds. The burials were accompanied with grave goods some of which were exotic (e.g., marine shell pendants). Ceramics resemble St. Croix and related Woodland wares. Johnson dated the Arvilla Complex to A.D. 600 - 900 and extended the geographic distribution out of the Red River Valley across central Minnesota. Because Arvilla is a burial complex which may have been shared by several Precontact cultures, it is not considered to be a historic context.

In southwestern Minnesota, the initial Woodland Fox Lake context (200 B.C. - 700 A.D.) does not appear to be associated with earthwork construction. The first documented mound building is during the Lake Benton context (A.D. 700 - 1200).

With regard to the state as a whole, groups of mounds consisting of conical and linear forms become common between roughly 1,600 and 1,290 years ago. This is followed by what appears to be the most intense period of mound building during the Late Woodland and initial stages of Oneota between ca. 1,200 and 700 years ago. To the south, this period is characterized by the emergence of the Mississippian tradition and the appearance of pyramidal, flat-topped mounds. In the Upper Mississippi Valley, however, it is characterized by a distinctive phenomenon focusing on the construction of effigy mounds, linear mounds, and groups of smaller conical and/or linear mounds and earthworks.

Mound construction as a cultural motif seems to peak in Minnesota between roughly 1,000 and 800 years ago associated with the Mississippian, Oneota, and Plains Village traditions. The dense concentration of mounds and earthworks in Goodhue, Hennepin, and Scott counties appear to be associated with this dramatic expansion of mound and earthwork construction. It is of note that this final florescence of the mound building tradition occurs in areas where there is relatively early evidence for the transition to maize horticulture and increasing population density. The high number of mounds in Wabasha and Otter Tail counties may be associated with this Late Woodland transition as well.

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The only true-Mississippian complex in Minnesota is associated with the Silvernale context (A.D. 1150 - 1250) in the Red Wing vicinity. The Red Wing Oneota context (A.D. 1100 - 1300) is also probably associated with the extensive mound building in the same area. In southeastern Minnesota, Late Prehistoric mounds are affiliated with the Orr Oneota context (A.D. 1200 - 1650). Late Prehistoric mounds in southwestern Minnesota have Plains Village associations affiliated with the Cambria, Great Oasis, and Big Stone contexts.

The character and pace of the construction of earthworks and mounds may change markedly after ca. 800 years ago. Non-mound earthworks seem to become more common and the pace of mound construction seems to slow. In fact, while some mounds were re-used for additional interments (cf. Anfinson 1984:27), relatively little new mound construction actually took place in the Midwest after perhaps 500 years ago. The reasons for these changes remain obscure, but are most probably linked to the cultural and climatic changes that dominated the Minnesota landscape between roughly A.D. 1400 and 1650.

There is a possibility that mound building survived in parts of Minnesota and adjacent areas longer than in other parts of the Midwest. The early historic Dakota appeared to have constructed several mounds at the Cooper site (21ML16) near Lake Mille Lacs (Lothson 1972). Catlin (1965:170) notes a recently constructed Dakota mound at Pipestone (21PP2).

Significance and research values

The construction of earthworks in eastern North America is closely linked to the emergence of regionally distinctive cultural traditions, growing population density, the increasing reliance on cultivated plants, and changing socio-economic and belief systems. Earthworks and their construction are most commonly associated with mortuary and ritual activity. However, the form, number, and distribution of earthworks, mounds, and mound groups provide information on changes in settlement activity, shifting alignments between family and larger social groups, changes in regional patterns and networks of trade, exchange, and interaction, territorial claims and delineations, and a host of other subjects. Some earthworks are associated with fortification and other aspects of village life, not ritual or mortuary activity. This type of earthwork first appears during the Middle Woodland but is most obvious after roughly 700 years ago.

The significance of earthworks and mounds as cultural properties lies in three intertwined themes: First, many (although not all) complexes of mounds and most other earthworks are linked to mortuary, burial, and ritual activities. Although it is outside the subject of this particular discussion, this aspect of earthwork stewardship must be carefully remembered and addressed.

Second, groups of mounds and earthworks are not homogeneous entities but rather are products of the complex patterns and processes of cultural evolution and change that were present throughout much of eastern North America. Minnesota lies astride both the prairie-forest border which divides the eastern woodlands from the plains, and a more complex north-south boundary dividing the lower Midwest from the Upper Great Lakes. Temporal and spatial variations in these patterns may often be seen more clearly at the edge of their range than in their heartlands. Moreover, the mechanisms and processes of change, as expressed in long-distance trade, exchange, and the fluid barriers to both interaction and isolation, can be tangibly evaluated by a careful study of earthwork groups. Such studies do not need to incorporate excavation of actual mounds and in fact, may well be more powerful if they focus on the symbolic and geographic aspects of these properties rather than the artifacts which they may contain.

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Third, groups of earthworks have potential to shed light on the complex processes involved in the formation of group identity, interaction, and community development in the past. The differences in distribution of earthwork types, forms, and density across the Minnesota landscape is far from coincidental. Careful analysis of the patterns both within and between groups of mounds and other earthworks has tremendous potential to provide insight into the beliefs, ethnicity, and community structure of those who created them. Moreover, it is probable that thoughtful analysis of different types of mound groups, and the fundamental reasons underlying these types, may provide insights into the past that go far beyond our current, rather simple models of ancient settlement and subsistence.

Another type of significance that a property may possess, and that may make it eligible for inclusion in the National Register, is *traditional cultural significance*. Traditional in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. It is unlikely that Precontact earthworks in general would be considered eligible under this rubric because they would be difficult to associate with current American Indian communities. The guidelines for evaluating and documenting traditional cultural properties are presented in National Register Bulletin 38.

Because many earthworks, especially mounds, are known to contain burials, there are instances when they may not be eligible for the National Register because they are considered to be graves or cemeteries. Graves and cemeteries are generally considered as being ineligible. Under National Register Criteria Considerations C (Graves) and D (Cemeteries), however, graves and cemeteries can be eligible if they are associated with important events, if they are the only known property associated with a person of outstanding importance, if they have distinctive design elements, or if they have potential to yield significant information about the past. They can also be eligible if they are part of a larger site or district that contains other types of properties (e.g., villages). Because most earthwork sites will be eligible under Criterion D (information potential) or will otherwise meet the guidelines of eligibility under Criteria Considerations C or D, the fact that they may be cemeteries or graves will generally not exclude them from the National Register.

It should be stressed, however, that state and federal laws generally prohibit the excavation of earthworks containing burials. A burial mound in Minnesota has not been excavated by professional archaeologists for purely scientific purposes for over 25 years. Research questions associated with National Register Criterion D do not imply that excavations must take place. Geophysical methods are being perfected to allow non-intrusive examinations of mound interiors. Other research questions involve external aspects of mound dimensions, shapes, and inter-site relationships.

The last truly comprehensive description of mounds were by Thomas (1894) and Winchell (1911). New technologies are now available in archaeology to allow us to study mounds without excavating them. Likewise, new theoretical insights and models are being developed to place earthworks within their broader social context in the past (e.g. Charles 1992). Combining these analytical tools with the rich documentary sources available on mounds and earthworks should allow modern scholars to begin a fresh and innovative approach to the study of the silent earth monuments left behind by two millennia of American Indian people.

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F. ASSOCIATED PROPERTY TYPES

Between 1880 and 1895, the Northwestern Archaeological Survey documented 727 groups of earthworks in Minnesota containing, at minimum, 7,767 individual earthworks. The survey identified and mapped perhaps 70% of the earthworks in the state and examined them at a time when these sites were largely undisturbed. The internal consistency of the NWAAS data is generally quite good, particularly when compared to later studies. Therefore, the NWAAS data was used as the principal set of information for developing and evaluating earthwork property types. At present, the SHPO database lists 1,320 individual mound groups and 11,518 individual mounds in the state. However, some of these are drawn from sources that have yet to be verified. The SHPO is presently editing all of their state site files.

Delineation of property types for earthworks was a difficult task for three specific reasons:

First, earthworks were constructed in Minnesota over a period of perhaps 2,000 years and were built to serve several different purposes. Individual groups of earthworks vary widely in terms of the number of earthworks present and the form of the earthwork (e.g. conical mound, ditch and embankment, effigy mound, linear earthwork, etc.). Further, groups of earthworks may have been constructed at one time during a single episode of construction or may have been expanded over extended periods of time by the addition of new and sometimes distinctive earthwork forms.

Second, evaluating the cultural affiliation of earthworks is troublesome. Although some have excavated information available, the great majority do not. In most cases, it is therefore difficult to firmly establish the cultural affiliation of the earthworks group or to assign it to a Historic Context.

Third, the way in which distinctive property types are delimited can be largely defined by the types of questions that are being asked. Developing property types based on an evaluation of the amount of labor required to construct the group relative to the subsistence base might yield very different types than would a typology based on the symbolic content and orientation of the earthworks.

For these reasons, the property types used here are broad-based and encompass a wide range of variability between individual earthwork groups. This approach is helpful in that it provides a clear basis for preparing National Register nominations based on obvious structural and functional differences between classes of earthwork groups while at the same time allowing for future, more fine-grained analysis of earthworks from a variety of theoretical perspectives.

Earthworks in Minnesota will generally be eligible for the National Register under Criteria A, C, and D. Because most (if not all) earthworks were constructed in prehistoric times, they will rarely be eligible under Criterion B. Any earthwork could be eligible under Criterion B if it is clearly associated with an obviously important individual, even if the name of the individual is not known. A mound could also be eligible under Criterion B if an important individual from the historic period is known to be interred there. Because the instances where earthworks will be eligible under

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Criterion B are relatively rare, the following discussions of integrity and property types will focus on Criteria A, C, and D.

Integrity Requirements:

Most groups of earthworks in Minnesota have been plowed or otherwise disturbed to some extent. Therefore, delineating clear criteria of integrity for earthwork sites is particularly important. National Register Bulletin 36 discusses the problem of integrity for archaeological sites and the following outlines how integrity is applied here to earthwork sites:

Location: By definition, earthwork sites possess integrity of location since they cannot be moved without being destroyed. If an earthwork is being nominated to the National Register, integrity of location is assumed.

Design: Design includes the combination of elements that create the form, plan, space, structure, and style of a property. In the case of earthwork sites, this includes the layout and plan of the earthworks; the form and style of the individual earthwork (conical, effigy, linear, ditchwork, etc.); and whether they are still physically present or have been plowed down or otherwise disturbed. To have integrity of design, at least some of the earthworks at the site must be clearly visible and convey the original sense of design and layout.

Setting: Setting includes elements such as topographic features, open-space, viewshed, landscape, vegetation, and manmade features, and the relationship between these features. For earthworks to have integrity of setting, the site area must by and large appear as it did during the site's period of significance. A broad rule of thumb would be to ask whether the site today would be recognizable to someone who lived at or visited the site at the time it was occupied.

Materials: Materials include the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. By definition, earthwork sites that have not been plowed or otherwise disturbed have integrity of materials. Even plowed or partially destroyed mounds may still contain intact deposits of materials. Soil staining, ditches, or faint topographic relief may be visible in aerial photography, allowing reconstruction of the site's plan. Artifacts may be scattered on the site's surface and intact sub-surface materials such as pits or chambers may also be present. Mounds which have been partially excavated in the past may still contain clearly defined stratigraphy or additional subsurface features. To possess integrity of materials, a site must have visible earthworks present and intact deposits of materials that are verifiable by a variety of methods of investigation, including aerial photography, geophysical study and imaging, and excavation or other form of sub-surface investigation.

Workmanship: Workmanship is the evidence of labor and skill of the individuals who built the earthwork. An earthwork site must retain enough integrity to demonstrate the construction methods used. Mounds which have been partially reconstructed may still retain integrity of materials. Mounds that have been largely or completely reconstructed do not. In general, workmanship of earthworks is not especially relevant to their

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significance since the same basic methods were used to construct them through time and space.

Feeling: As stated in Bulletin 36, page 20: integrity of feeling is present if an archaeological site's features in combination with its setting convey a historic sense of the property during its period of significance. Feeling may be especially important if an earthwork is considered a traditional cultural property, but in most cases feeling is much the same as setting.

Association: Integrity of association is present if a site is the place where an event or activity occurred and is sufficiently intact to convey that relationship. Integrity of association is especially important under Criterion A. This would apply to archaeological sites that are recognized 'type' sites for specific archaeological complexes or time periods. Because they define the archaeological complexes or cultures or time periods, type sites are directly associated with the events and broad patterns of history. In addition, archaeological sites that define the chronology of a region are directly associated with events that have made significant contributions to the broad patterns of our history. Under Criterion D, integrity of association is measured in terms of the strength of the relationship between the "data or information and the important research questions." Earthwork sites have integrity of association if they are recognized 'type' sites or have otherwise been significant in the development of archaeological method, theory, and interpretation OR contain intact deposits of cultural materials OR are directly associated with a village, habitation, or other type of site that is clearly related to the group of earthworks.

The problem of integrity for earthwork sites requires careful thought and judgement about the inter-relationship of the various elements of integrity as applied to particular criteria of significance. The following examples illustrate how this problem might be approached:

Site A was first mapped in 1885 and contains more than 60 mounds and earthworks. A village site appears to be immediately associated with the site. Several of the mounds have looter's holes in them but the site has never been plowed. The site is still wooded and there is no recent development on or near the site and it is essentially in pristine condition. This site has excellent integrity of design, setting, materials, feeling, and association, and could therefore be nominated to the National Register under Criteria A, C, and D (Figure 4).

Site B is part of an important Late Prehistoric Locality and originally contained more than 400 earthworks and mounds. Most of the site has been plowed, but a cluster of at least 50 of the mounds remain completely intact and unplowed. Another 120 are still visible to varying degrees in the cultivated field, and the remainder have been destroyed. Integrity of design is therefore acceptable to good. The surrounding landscape, except for cultivation, has been only slightly modified, and the setting and feeling of the site are good. There are several large village sites associated with the mounds that have intact deposits of cultural material. Therefore, although the site has been modified,

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including the destruction of some of the mounds, the combination of integrity of design, setting, materials, feeling, and association together are excellent, and the site could be nominated to the National Register.

Site C consisted of at least 225 earthworks and mounds and an associated village site. It is the type site for a Late Prehistoric context (Figures 5 and 6). However, the site has been extensively plowed, several factories have been built on it, and it is within an industrial park. Although the location of the mounds can be re-located using aerial photography and remote sensing, most have been destroyed. There is some evidence, however, that there are still some intact materials at the site. In this case, the site could not be nominated to the National Register under Criteria A and C because its integrity of design, setting, and feeling are very poor and integrity of materials and association are merely acceptable. However, it could be nominated to the National Register under Criterion D if the mound group and village are considered one site because together they still hold significant research potential.

Site D is located in a large city. It was first mapped in the mid-19th century and extensively excavated. Most of the mounds were destroyed or graded down in the late 19th century. Five of the original 18 mounds were reconstructed in the early 20th century. The mound site now lies in a residential neighborhood in an urban park. Site D may represent the northwesternmost occurrence of a Hopewell burial. There was a village site nearby that was presumably associated with the mound site, and the mound site is associated with several key figures in the history of Upper Midwestern archaeology. However, because the site has been completely excavated and the current mounds are reconstructions, the site does not have integrity of location, design, workmanship, setting, or materials. Integrity of feeling and association are poor to fair. This site could not be nominated to the National Register under Criterion A, C, or D under this multiple-property form. In many ways, this case is analogous to a historic structure that has been destroyed and reconstructed at its original location.

PROPERTY TYPE: Lone mounds

Description:

Single mounds or earthworks constitute the largest number of individual entries in the Minnesota portion of the NWAS data. The sites generally consist of a single, conical mound. Of the 727 sites documented by the NWAS, 228 represent lone mounds or earthworks. Of these, 203 contained round, conical mounds, five contained a single linear mound, eight contained elliptical mounds, ten contained circular (often flat-topped) mounds and two were effigy mounds (one bird and one animal). Lone mounds often tend to be more massive than similar mounds within larger groups and commonly are three to five feet in height. The topographic setting of these mounds varies, but most often they are found in prominent places overlooking the Mississippi or Minnesota River valleys or in prominent positions near lakes. The individual mounds that have been excavated indicate that these types of mounds may contain burials of one or more individuals. Based on ethnographic and historic records, it is possible that the setting of these mounds sometimes indicates that they were used for individuals of high social rank or who were held in particularly high regard.

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Significance:

The sample of lone mounds which have been carefully studied and dated is very small. It appears that these mounds were constructed throughout the principal period of mound building in Minnesota (ca. 2,500 b.p. - 500 b.p.). These properties are potentially eligible for listing on the National Register under Criteria A, C, and D.

Criterion A: The distribution of individual mounds in prominent and scenic locations across the landscape is a broad pattern within the pre-contact history of eastern North America. Historic and ethnographic evidence indicate that individuals who were highly respected, had made significant contributions, or were otherwise prominent in Native American society were often interred in prominent spots to honor and commemorate their lives. Although the nuances of this pattern may have changed through time and for particular cultures, the pattern itself is distinctive and persists throughout the period during which mounds were built in Minnesota. Lone mounds will be considered eligible under this criterion if their setting and size are consistent with broad patterns of mound distribution and placement, or if they can be associated with a defined Historic Context.

Criterion C: Most lone mounds are round or conical. However, in a few instances they are effigies or other unique forms. Effigies and other unusual forms embody material and ideological aspects of past cultures that are particularly distinctive and are generally associated with specific cultures and periods (e.g. Late Woodland). Similarly, exceptionally large conical mounds embody the special attributes associated with the ideological/mortuary complex of Middle Woodland cultures. Lone earthworks will be considered eligible under this criterion if they represent a rare and distinctive form.

Criterion D: Lone mounds have the potential to yield important historical information in a variety of ways. New methods of analyzing landscapes, viewsapes, and complex geographic inter-relationships are now available. Data on the precise size, form, and location of lone mounds can contribute significantly to these types of settlement and geographic studies. Geophysical methods of studying the construction and contents of mounds without excavation are also becoming increasingly sophisticated. These methods potentially allow scientists to evaluate the presence or absence of burials, artifacts, sub-surface excavations and vaults, and many other aspects of mound construction without actually disturbing any burials. Finally, the actual contents of mounds have the potential to yield important information on diet, demography, health of ancient populations, variation in burial practices and treatment, chronology, and artifactual assemblages. Mounds will be considered eligible under this criterion if they retain sufficient integrity to contain information relevant to one or more of the broad areas of investigation listed above.

Registration requirements:

For Criterion A: A lone mound is eligible if its setting and size are consistent with one or more broad patterns of mound distribution and placement defined for the Midwestern United States, if it can be associated with a specific Historic Context, if it is associated with a habitation or other type of site, or if it is the type site for a particular culture or is otherwise associated with a key event in the history and development of archaeological research and interpretation.

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For Criterion C: A lone mound is eligible if it represents an unusual form, shape, or size. Conical mounds are not generally eligible under this criterion, but effigy mounds and other rare forms would be. Mounds that typify a particular cultural expression (e.g. Middle Woodland) would be eligible under both this criterion and the historic context for that culture.

For Criterion D: A lone mound is eligible under this criterion if it has the potential to contain significant information as determined by excavations, geophysical examination or other surveying techniques.

Integrity Requirements:

To be eligible for inclusion in the National Register under Criterion A or C, a lone mound must possess integrity of design, setting, materials, workmanship, and association. Thus the mound must be largely intact and clearly visible. To be eligible for inclusion in the National Register under Criterion D, a lone mound must possess, at minimum, integrity of materials and association.

PROPERTY TYPE: Groups of earthworks and mounds

Description: Groups of earthworks and mounds are ubiquitous and are found in many areas of Minnesota. The most dense concentrations of mounds are found along the Mississippi and Minnesota Rivers, in the Lake Mille Lacs region and along the Otter Tail chain of lakes, although earthwork sites may occur in almost any portion of the state.

The number of earthworks in each group varies dramatically, ranging from 2 to 225 earthworks. There is an inverse relationship between the number of individual earthwork sites and the total number of earthworks present. Thus, sites with 100 or more earthworks occur infrequently but contain the majority of individual earthworks. In general, sites with between 2 and 5 individual earthworks occur most frequently, groups with between 5 and 99 individual earthworks are relatively common, and groups containing more than 100 individual earthworks are rare.

There also may be a variety of earthwork forms present within each group. Site 21GD52 is an example of this property type (Figure 7). By far the most common form are conical mounds, but linear, effigy, and other forms also occur. The design of these groups is complex. Some mounds are almost completely composed of conicals, while in others a mixture of conical, linear, effigy, and other forms occurs. In general, earthwork groups are found either on bluffs or terraces overlooking major streams and rivers or immediately adjacent to lakes. However, there is considerable variability in the physical setting of earthwork groups that may be linked to both environmental and cultural factors.

The origin of earthwork construction in Minnesota remains poorly known, but presumably dates to around 2,500 years ago. Groups of earthworks were constructed primarily between 2,500 and 600 years ago, although some earthworks continued to be constructed until the time of European contact. There is evidence that earthwork construction was most intense during particular periods and that certain cultures invested far more in the earthwork construction process than others.

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It is apparent that there are distinctive differences in the location, character, size, and function of earthwork groups in different regions of Minnesota. Groups dominated by linear mounds, for example, are more common in northern Minnesota or western Minnesota than they are in southern Minnesota. Although the reasons underlying these regional differences have yet to be fully explored, it is clear that they represent significant patterns of human behavior and interaction in the past.

Significance:

Groups of earthworks are potentially eligible for inclusion in the National Register under Criteria A, C, and D. Earthwork construction is one of the pre-eminent hallmarks of American Indian culture and history throughout most of the second millennium A.D., and their significance falls within several broad categories:

First, groups of earthworks were an important element of the original landscape encountered by European explorers and settlers in the 18th and 19th century. The presence of earthwork groups and their origins were a critical element in shaping the intellectual climate out of which contemporary archaeology emerged and reflects changing attitudes toward American Indian peoples. Thus, the few remaining intact groups of earthworks are part of the 18th and 19th century landscape which has by and large been completely altered.

Second, many groups of earthworks are associated with burial, mortuary, or ceremonial activities. Although these types of activity represent only one aspect of ancient cultures, they are particularly important elements of ancient life.

Third, earthwork construction involved a significant investment of time and energy. Investigation of the roles that earthwork groups played within the broader social context of ancient American Indian cultures, and the inter-relationship between earthwork construction and subsistence, settlement, seasonal scheduling, and so on, are questions that are only now beginning to be explored.

Finally, the character of earthwork construction changed through time, presumably in response to changes in key elements within the broader social and cultural rubric of American Indian life. Earthwork groups, in their many forms and permutations, are key elements in understanding the evolution of earthwork construction and the groups that constructed individual mound groups.

Criterion A: The distribution of earthwork groups at strategic places across the landscape is a broad pattern within the pre-contact history of eastern North America. Similarly, the character and distribution of these groups changed through time and these temporal and geographic differences are of particular importance in evaluating the character of social and cultural change. Groups of earthworks will be considered eligible under this criterion if their setting and size are consistent with broad patterns of mound distribution and placement, if they can be associated with a defined Historic Context, if they represent the type site for a specific culture, or if they are associated with a key event in the history and development of archaeological method and theory.

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Criterion C: Most earthwork groups are dominated by conical or linear mounds. However, in a few instances they contain effigies or other unique forms. Effigies and other unusual forms embody material and ideological aspects of past cultures that are particularly distinctive and are generally associated with specific cultures and periods (e.g. Late Woodland). Similarly, exceptionally large conical mounds embody the special attributes associated with the ideological/mortuary complex of Middle Woodland cultures. Earthwork groups will be considered eligible under this criterion if they contain or represent a rare and distinctive form.

Criterion D: Earthwork groups have the potential to yield important historical information in a variety of ways. New methods of analyzing landscapes, views, and complex geographic inter-relationships are now available. Data on the precise size, form, and location of lone mounds can contribute significantly to these types of settlement and geographic studies. Geophysical methods of studying the construction and contents of mounds without excavation are also becoming increasingly sophisticated. These methods potentially allow scientists to evaluate the presence or absence of burials, artifacts, sub-surface excavations and vaults, and many other aspects of mound construction. Finally, the actual contents of mounds have the potential to yield important information on diet, demography, health of ancient populations, variation in burial practices and treatment, chronology, and artifactual assemblages. Mounds will be considered eligible under this criterion if they retain sufficient integrity to contain information relevant to one or more of the broad areas of investigation listed above.

Registration requirements:

For Criterion A: An earthwork group is eligible if its setting and size are consistent with one or more broad patterns of mound distribution and placement defined for the Midwestern United States, if it can be associated with a specific Historic Context, if it is associated with a habitation or other type of site, or if it is the type site for a particular culture or is otherwise associated with a key event in the history and development of archaeological research and interpretation.

For Criterion C: An earthwork group is eligible if it contains earthworks that are of an unusual form, shape, or size. Groups dominated by conical and linear mounds are not generally eligible under this criterion, but groups containing effigy mounds and other rare forms would be. The presence of earthworks that typify a particular cultural expression (e.g. Middle Woodland) would be eligible under both this criterion and the historic context for that culture.

For Criterion D: Earthwork groups are eligible under this criterion if they have the potential to contain significant information as defined by excavation, geophysical examination or other surveying techniques.

Integrity requirements:

To be eligible for inclusion in the National Register under Criterion A or C, earthwork groups must possess integrity of design, setting, materials, workmanship, and association. A significant number of the earthworks within the group must be clearly visible. Where all earthworks within the group are no longer present, elements of design, setting,

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workmanship, and association must counter-balance the loss of certain of the earthworks.

To be eligible for inclusion in the National Register under Criterion D, an earthwork group must possess, at minimum, integrity of materials and association.

PROPERTY TYPE: Ditchworks

Description:

Ditchworks represent a distinctively different class of earthworks from either lone mounds or groups of earthworks, and may be conceptualized as excavations forming trenches and enclosures. Thus, ditchworks subsume the more common category of enclosures. Ditchworks contain enclosures, which are relatively low, linear features ranging in height from one to three feet. In many cases, enclosures themselves are circular in form and enclose an area of ground that may be as large as several acres. Ditchworks and enclosures were not identified separately in the NWAS database, although many were mapped and are shown in the sketches prepared by T.H. Lewis.

Winchell (1911) in his comprehensive compilation of the work of Hill, Lewis, Brower, and others illustrates numerous ditchworks (enclosures and embankments) throughout Minnesota (e.g. Winchell 1911:91,108-109,116-117,119,125,137-138,139,169-170,189-190,191,194,213,217,219,237,249,286-289,294,298,301,302-303,305-306,308-309,323) and provides a very useful discussion of these features. Winchell (1911:407-408) comments that:

"Enclosures. The embankments, above mentioned, are usually higher than the enclosures here referred to, but the latter are probably the remains of the base of the palisades erected to surround and protect their villages. It is noteworthy that the enclosures that are here referred to are the most common in the western part of the state. It may be that they are more modern, and were used as a means of defense after the substantial abandonment of the earthen house, and when their skin lodges furnished but poor protection against the enemy. The skin lodges, and an occasional earth house seem to have been placed within such enclosures. These final remarks on the purpose of the mounds are, to the writer, quite insufficient and unsatisfactory, but they cannot be amplified nor corrected without further facts, and to obtain these facts would require time and expense for field-work which are not now available."

Since Winchell's compilation of information on embankments and enclosures, there has been very little work on these types of earthworks in Minnesota. The proposition that many of the enclosures are the remains of fortifications seems logical but has yet to be tested. More recent interpretations have suggested that at least some enclosures may represent other kinds of social activity as well. Enclosures are distributed non-randomly throughout the state with their highest frequency being in the western portions of Minnesota, suggesting that there are specific historical factors at work in the distribution of this property type. It has often been observed that fortifications around settlements seem to appear at or around the end of the 13th century throughout eastern North America, perhaps associated with increasing population pressures and competition for territory, resources, and so on. If enclosures do most often represent fortifications,

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then they should be associated with villages or settlements, and predominantly date to the period between 800 and 200 years ago.

Significance:

Ditchworks are potentially eligible for inclusion in the National Register under Criteria A, C, and D.

Earthwork construction is one of the pre-eminent hallmarks of American Indian culture and history throughout most of the second millennium A.D. and the construction of ditchworks marks a distinctive class of earthwork construction. Ditchworks are significant for at least three reasons:

First, ditchworks were an important element of the original landscape encountered by European explorers and settlers in the 18th and 19th century. The presence of earthworks and their origins were a critical element in shaping the intellectual climate out of which contemporary archaeology emerged and reflects changing attitudes toward American Indian peoples. Thus, the few remaining intact ditchworks are part of the 18th and 19th century landscape which has by and large been completely altered.

Second, ditchworks appear to have had several specific functions related to defense and/or fortification. Although these may not have been the sole functions for these features, they appear to have been the most common. Because of their association with defensive activities, ditchworks can provide a unique perspective on the frequency and evolution of warfare, resource competition, and other related matters in American Indian history.

Third, ditchworks appear to occur non-randomly, particularly in western, and with less frequency in southern Minnesota. This distribution suggests that these features may have been constructed by one or more related groups or in response to specific threats or problems in these portions of Minnesota.

Criterion A: The distribution of ditchworks at strategic places across the landscape is a broad pattern within the pre-contact history of eastern North America. Similarly, the character and distribution of ditchworks appears to be associated with a relatively restricted range of time and space. Ditchworks may be of particular importance in evaluating the character of social and cultural change. Ditchworks will be considered eligible under this criterion if their setting and size are consistent with this or other broad patterns of earthwork distribution and placement, if they can be associated with a defined Historic Context, if they represent the type site for a specific culture, or if they are associated with a key event in the history and development of archaeological method and theory.

Criterion C: Ditchworks most commonly occur as circular or semi-circular low enclosures associated with a ditch or excavation surrounding the enclosure. In some instances, more complex forms are identifiable which may include entrances, geometric forms, or other distinctive characteristics. Ditchworks will be considered eligible under this criterion if they represent a rare and distinctive form.

Criterion D: Ditchworks have the potential to yield important historical information in a variety of ways. New methods of analyzing landscapes, viewsapes, and complex geographic

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inter-relationships are now available. Data on the precise size, form, and location of ditchworks can contribute significantly to these types of settlement and geographic studies. Geophysical methods of studying the construction and contents of ditchworks without excavation are also becoming increasingly sophisticated. These methods potentially allow scientists to evaluate the associated palisade resource and many other aspects of ditchwork construction. Finally, the actual contents of ditchworks have the potential to yield important information on function, construction techniques, demography, chronology, and artifactual assemblages. Ditchworks will be considered eligible under this criterion if they retain sufficient integrity to contain information relevant to one or more of the broad areas of investigation listed above.

Registration requirements:

For Criterion A: A ditchwork is eligible if its setting and size are consistent with one or more broad patterns of earthwork construction defined for the Midwestern United States, if it can be associated with a specific Historic Context, if it is associated with a mound or other type of site, or if it is the type site for a particular culture or is otherwise associated with a key event in the history and development of archaeological research and interpretation.

For Criterion C: Ditchworks will be considered eligible under this criterion if they represent a rare or distinctive form of ditch and/or enclosures.

For Criterion D: Ditchworks are eligible under this criterion if they have the potential to contain significant information as defined by excavation, geophysical examination or other surveying techniques.

Integrity Requirements:

To be eligible for inclusion in the National Register under Criterion A and C, ditchworks must possess integrity of design, setting, materials, workmanship, and association. A significant portion of the ditchwork must be intact and clearly visible.

To be eligible for inclusion in the National Register under Criterion D, a ditchwork must possess, at minimum, integrity of materials and association.

PROPERTY TYPE: Earthwork complex

Description:

Mounds and ditchworks represent clearly definable classes of sites with apparent and distinctive differences in function and construction. However, there is another class of earthwork sites that combines the elements of both mound groups and ditchworks, and sometimes may also include earthen embankments. This class of sites is here termed earthwork complexes.

Earthwork complexes are characterized by the presence of both ditchworks and/or embankments and a small number of other mounds.

Ditchworks and mound groups have been described above.

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Embankments, although similar to ditchworks, are somewhat different. Winchell (1911) in his comprehensive compilation of the work of Hill, Lewis, Brower, and others illustrates numerous enclosures and embankments throughout Minnesota (e.g. Winchell 1911: 91,108-109, 116-117,119,125,137-138,139,169-170,189-190,191,194,213,217,219, 237,249,286-289,294,298, 301,302-303,305-306,308-309,323) and provides a very useful discussion of these features. Winchell (1911:407-408) comments that:

"The Embankments: Throughout the most of the state the earth structures are also characterized by the existence of a low, long embankments, the object of which until recently was entirely unknown. The reader has only to consult the foregoing chapter and its illustrations to learn how numerous these embankments are. Some of them are three or four hundred feet in length, the longest being 878 feet, but some are less than twenty. When short, they often are connected with tumuli and seem to be merely appendages to the tumuli. They are almost always exactly straight, but occasionally they abruptly change direction with a small angle, and very rarely they are curved, and still more rarely they depart wholly from the class of embankments here spoken of and form enclosures. They are about two feet high but sometimes are hardly perceptible for some distances, or are wholly wanting, rising to sight again a little further on in the same direction. Sometimes several are grouped so as to run parallel, slightly overlapping or alternating, but very seldom so arranged so as to suggest a 'fort' or enclosure for defense. There are distinct circular, or sub-circular, defensive enclosures, or forts, which were doubtless palisaded, but the *embankments*, as a class, are straight and isolated.

The writer has taken opportunity to examine some of these low embankments - viz.: in Aitkin, Goodhue and Sherburne counties, and in seven out of eight instances he has found human remains, sometimes plainly in the form of bundles. In the eighth case no remains of any kind were discovered. He has been inclined, therefore, to look upon these ridges as cemeteries, containing the bones of several generations."

Embankments, like enclosures (ditchworks) represent an unusual phenomena which have not been carefully or fully explored and interpreted since the initial work on this subject by the NWAS and Brower was published by Winchell.

Earthwork complexes represent groupings of the various elements described above. Common combinations include ditchworks and conical mounds, ditchworks and flat-topped mounds, ditchworks with associated conical mounds and embankments, or embankments and mounds.

Examples of this property type include the Shady Dell Site (21TR6), the Tenny Site (21TR11) and the Bunker Hill Site (21TR12). Other examples in many regions of the state have been identified (Figures 8 and 9).

The function of earthwork complexes remains problematic and may vary among different groupings of sites. Clearly these property types represent multi-function sites which may have incorporated habitation, defense, and cemeteries in a single area. The role of embankments remains poorly known, and the combination of embankments and mounds may also represent a distinctive multiple purpose site type.

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Significance:

Earthwork complexes are potentially eligible for inclusion in the National Register under Criteria A, C, and D.

Earthwork construction is one of the pre-eminent hallmarks of American Indian culture and history throughout most of the second millennium A.D. and the construction of earthwork complexes marks a distinctive class of construction. Earthwork complexes are significant for at least two broad reasons:

First, earthwork complexes were an important element of the original landscape encountered by European explorers and settlers in the 18th and 19th century. The presence of earthworks and their origins were a critical element in shaping the intellectual climate out of which contemporary archaeology emerged and reflects changing attitudes toward American Indian peoples. Thus, the few remaining intact earthwork complexes are part of the 18th and 19th century landscape which has by and large been completely altered.

Second, earthwork complexes include elements (ditchworks) which appear to have had several specific functions, of which some are related to defense and/or fortification. Although these may not have been the sole functions for these features, they appear to have been the most common. Earthworks associated with defensive activities can provide a unique perspective on the frequency and evolution of warfare, resource competition, and other related matters in American Indian history. The role of ditchworks and embankments have yet to be fully explored or comprehended.

Criterion A: The distribution of earthwork complexes at strategic places across the landscape is a broad pattern within the pre-contact history of eastern North America. Similarly, the character and distribution of earthwork complexes appears to be associated with a relatively restricted range of time and space. Earthwork complexes may be of particular importance in evaluating the character of social and cultural change. Earthwork complexes will be considered eligible under this criterion if their setting and size are related to broad patterns of mound distribution and placement, if they can be associated with a defined Historic Context, if they represent the type site for a specific culture, or if they are associated with a key event in the history and development of archaeological method and theory.

Criterion C: Earthwork complexes contain combinations of ditchworks, mounds, embankments, and other earthwork forms. In many cases, the elements present at a site and the combination of their forms represent unusual or distinctive architectural layouts or site plans. Earthwork complexes will be considered eligible under this criterion if they represent a rare and distinctive form.

Criterion D: Earthwork complexes have the potential to yield important historical information in a variety of ways. New methods of analyzing landscapes, viewscales, and complex geographic inter-relationships are now available. Data on the precise size, form, and location of earthwork complexes can contribute significantly to these types of settlement and geographic studies. Geophysical methods of studying the construction and contents of earthworks without excavation are also becoming increasingly sophisticated. These methods potentially allow scientists to evaluate the presence or absence of burials,

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artifacts, sub-surface excavations and vaults, and many other aspects of earthwork construction. Finally, the actual contents of earthworks have the potential to yield important information on function, construction techniques, diet, demography, health of ancient populations, variation in burial practices and treatment, chronology, and artifactual assemblages. Earthwork complexes will be considered eligible under this criterion if they retain sufficient integrity to contain information relevant to one or more of the broad areas of investigation listed above.

Registration Requirements:

For Criterion A: An earthwork complex is eligible if its setting and size are consistent with one or more broad patterns of earthwork construction defined for the Midwestern United States, if it can be associated with a specific Historic Context, if it is associated with a habitation or other type of site, or if it is the type site for a particular culture or is otherwise associated with a key event in the history and development of archaeological research and interpretation.

For Criterion C: Earthwork complexes are eligible under this criterion if they contain rare or distinctive forms, or combinations of forms which represent distinctive site plans or architecture.

For Criterion D: Earthwork complexes are eligible under this criterion if they possess sufficient integrity to have the potential to contain significant information as defined by excavation, geophysical examination or other surveying techniques.

Integrity Requirements:

To be eligible for inclusion in the National Register under Criterion A and C, earthwork complexes must possess integrity of design, setting, materials, workmanship, and association. A significant portion of the earthwork within the complex must be intact and clearly visible.

To be eligible for inclusion in the National Register under Criterion D, earthwork complexes must possess, at minimum, integrity of materials and association.

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G. GEOGRAPHICAL DATA

The State of Minnesota

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H. SUMMARY OF IDENTIFICATION AND EVALUATION METHODS

The multiple property listing of Pre-Contact American Indian Earthworks is based upon extensive archival review of the records and notebooks of the Northwestern Archaeological Survey (NWAAS; 1880 - 1895), the work of J.V. Brower, Newton Winchell's compilation of the work of these various investigators entitled The Aborigines of Minnesota (Winchell 1911), the current state archaeological site files, and other published and unpublished research on file at the State Historic Preservation Office and The Institute for Minnesota Archaeology. The primary source for the study was the NWAAS data since it is the most consistent, comprehensive, and represents the primary source documentation for most earthwork groups in the state. The NWAAS data describes 727 separate earthwork groups containing, at minimum, 7,767 individual earthworks.

Because earthworks were constructed throughout an extended period of time, they cross-cut many of the existing Historic Contexts already prepared for the Pre-Contact period in Minnesota. Therefore, the existing context framework was employed. Unfortunately, it is generally difficult or impossible to directly associate an earthwork group with a specific Historic Context unless diagnostic artifacts are found in direct association.

There are a variety of ways in which property types could be developed for earthworks defined in large measure by the kinds of questions that are being asked about the earthworks themselves. Some of these possible approaches include function, age, cultural affiliation (e.g. historic context), form and profile (e.g. number of conical, effigy, linear etc. earthworks present), number of earthworks per groups, physical setting, and so on. While intellectually appealing, many of these approaches were discarded because the available information is inadequate to address them. A careful graphic and numeric analysis of the NWAAS suggested that there are regularities in the number and form of earthworks per group that might be helpful. This approach was also set aside since it would require additional field testing.

Ultimately, the four property types were defined on the basis of broad differences in construction methods, inferred function, number of earthworks in each group, and the character of these earthworks. There are undoubtedly other property types that may be defined in the future within each of those four broad types. The utility of this approach lies in the fact that it allows us to group earthwork sites into larger meaningful classes while not foreclosing the opportunity to conduct research that will generate sub-types within these classes in the future.

The integrity requirements for this project were particularly challenging. Almost all earthwork sites in Minnesota have been disturbed by agricultural cultivation, erosion, logging, or vandalism during the last 150 years. Initially, an attempt was made to establish integrity requirements based on the absolute number of earthworks still intact. However, as we attempted to apply this approach to actual earthwork groups, it became clear that elements of setting, feeling, and association were often as important as the actual number of earthworks present. Therefore, we carefully reviewed each of the aspects of integrity listed in National Register Bulletin 36 and developed an integrated approach in applying them to individual earthwork sites. In this approach, the presence of intact materials is required at minimum to qualify for listing under Criterion D. However, the requirements for qualifying under Criterion A and C involve an evaluation of several aspects of integrity. The examples listed in the text above provide illustrations of how this approach may be applied.

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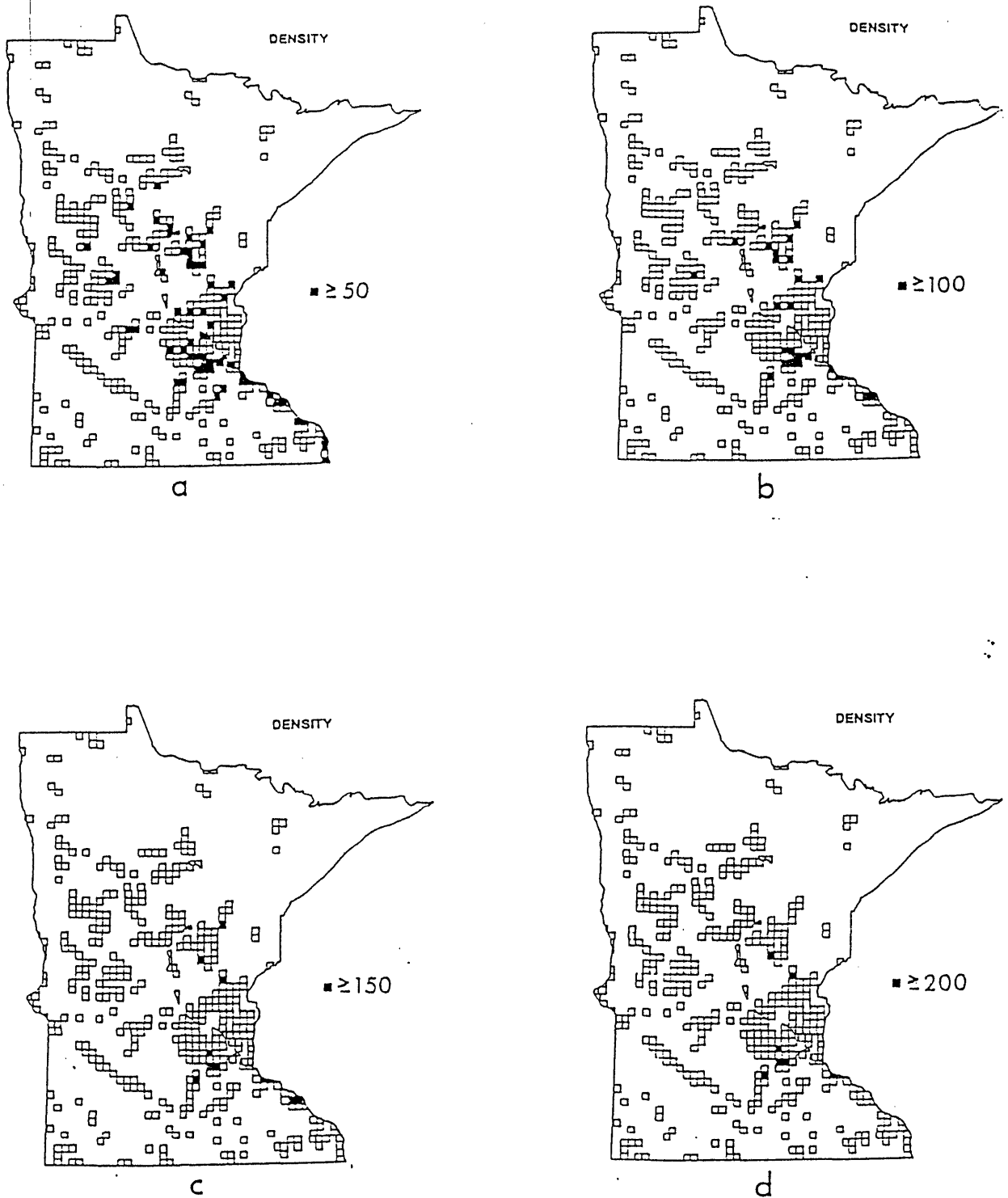


Figure 1: Distribution of earthworks in Minnesota Townships with at least 50, 100, 150, and 200 mounds. From: Anfinson 1984:12.

MOUND TYPES RECORDED IN THE NORTHWESTERN ARCHAEOLOGICAL SURVEY

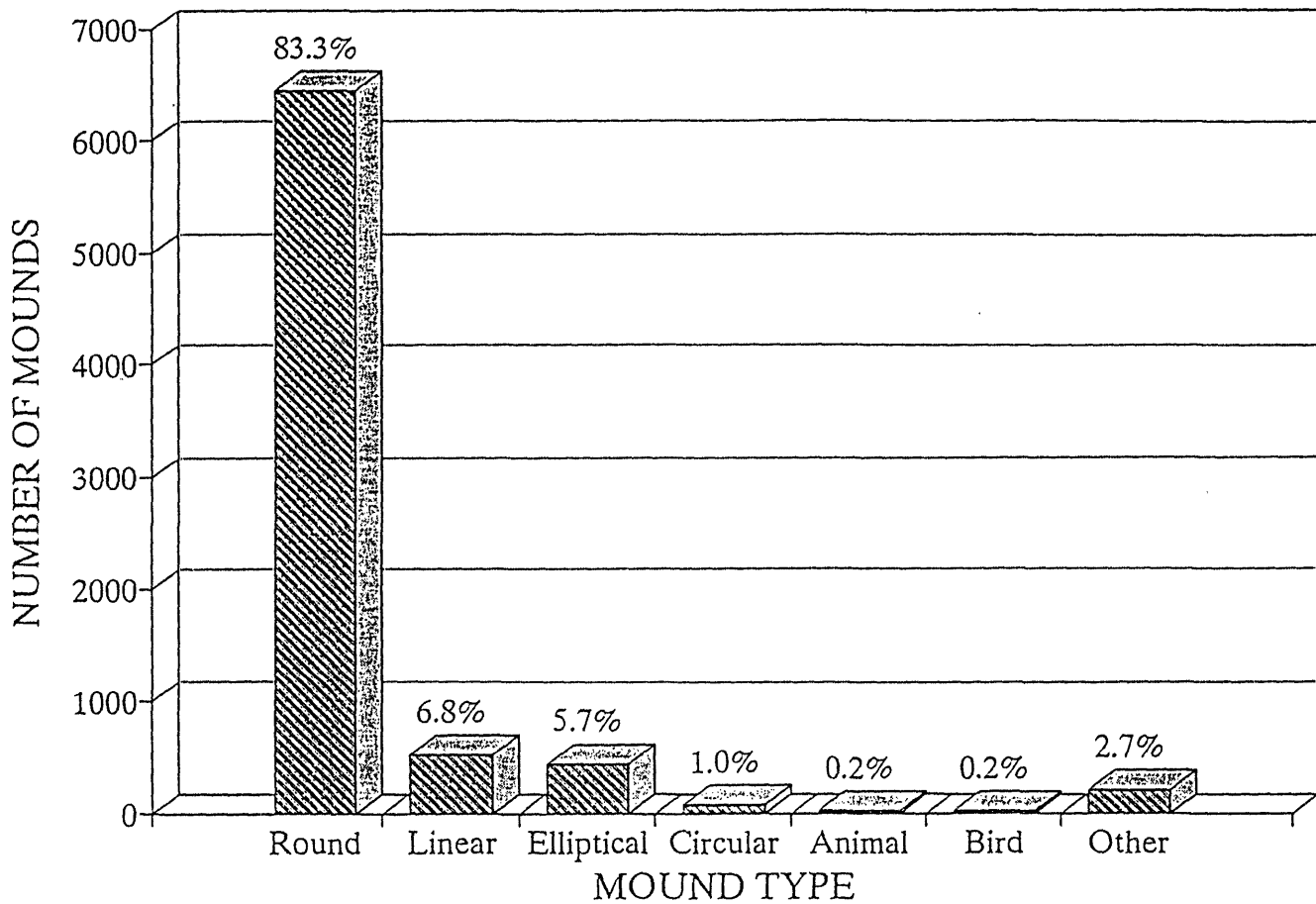


Figure 2

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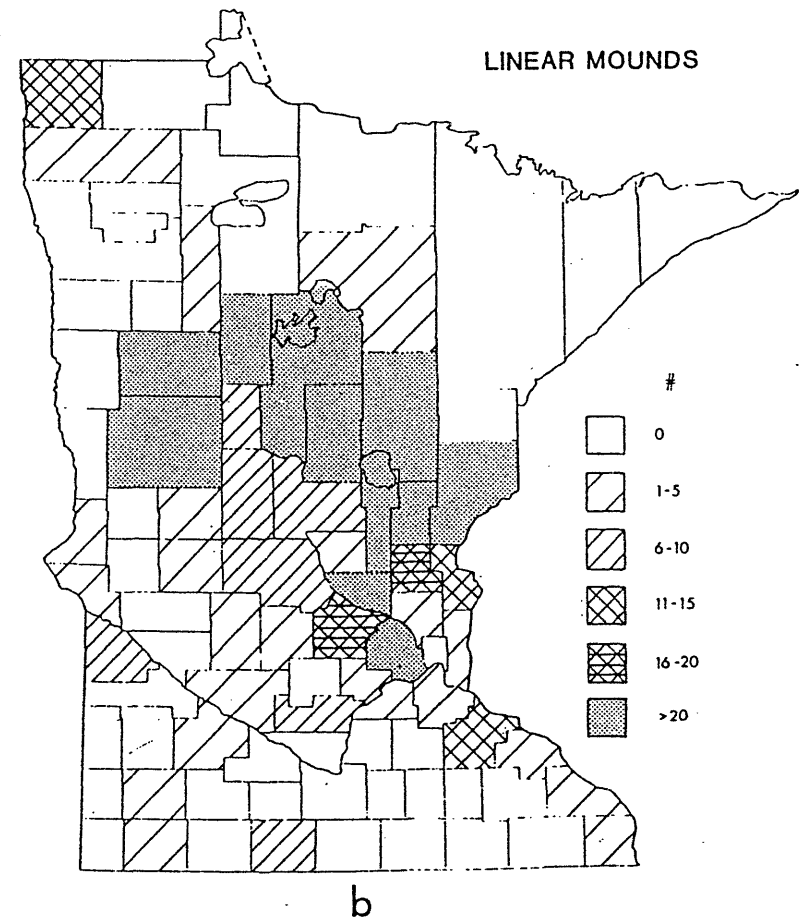
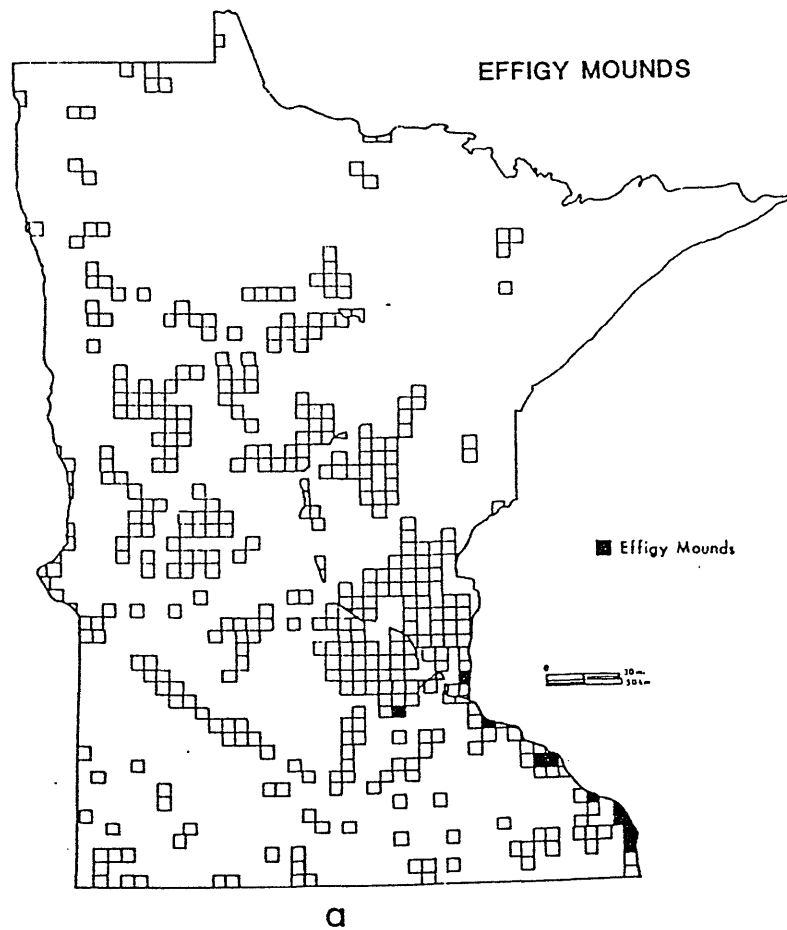


Figure 3: The distribution of effigy mounds by township
and linear mounds by county From: Anfinson 1984:13.

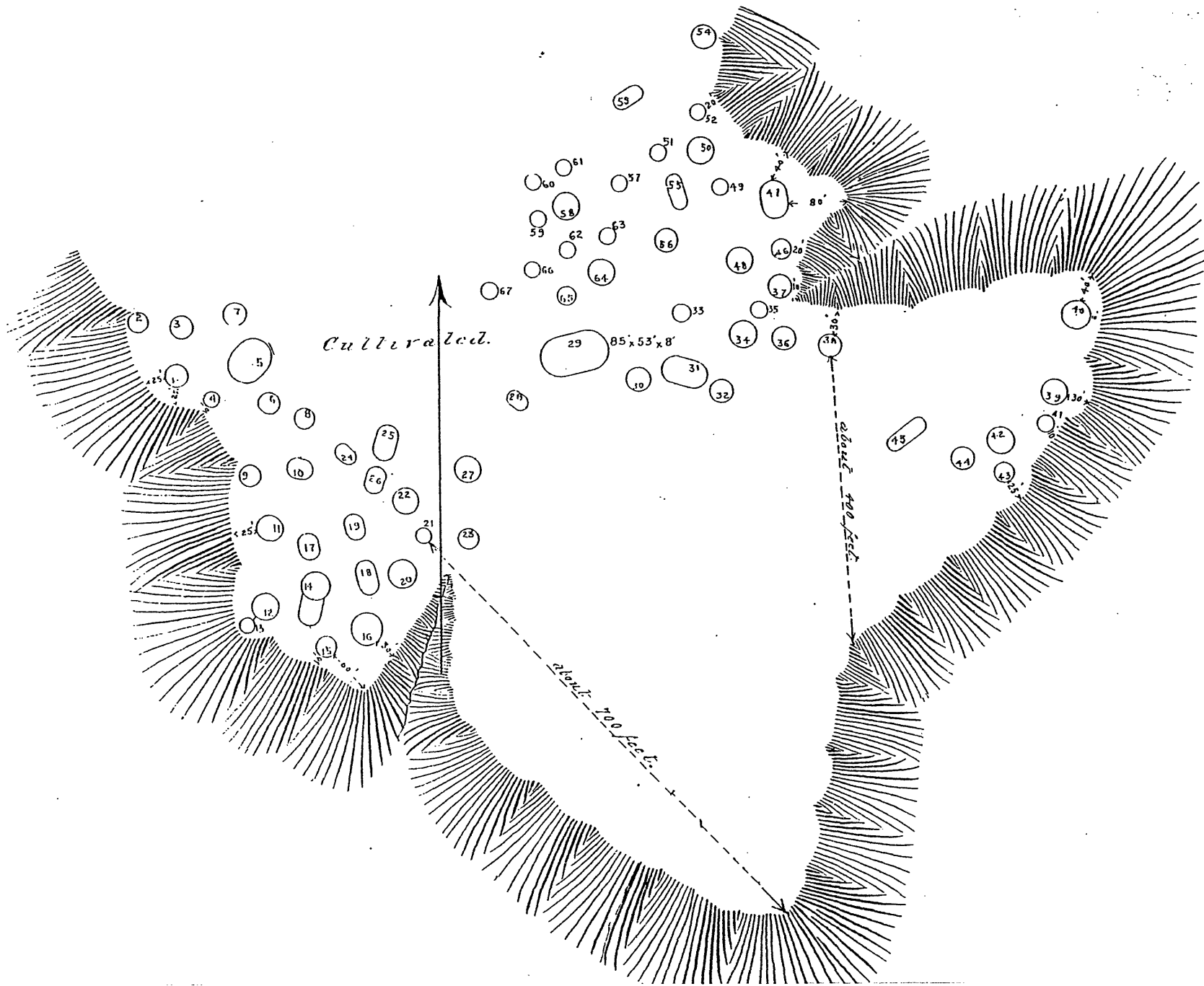


Figure 4: Example Site A from a drawing in Winchell (1911).

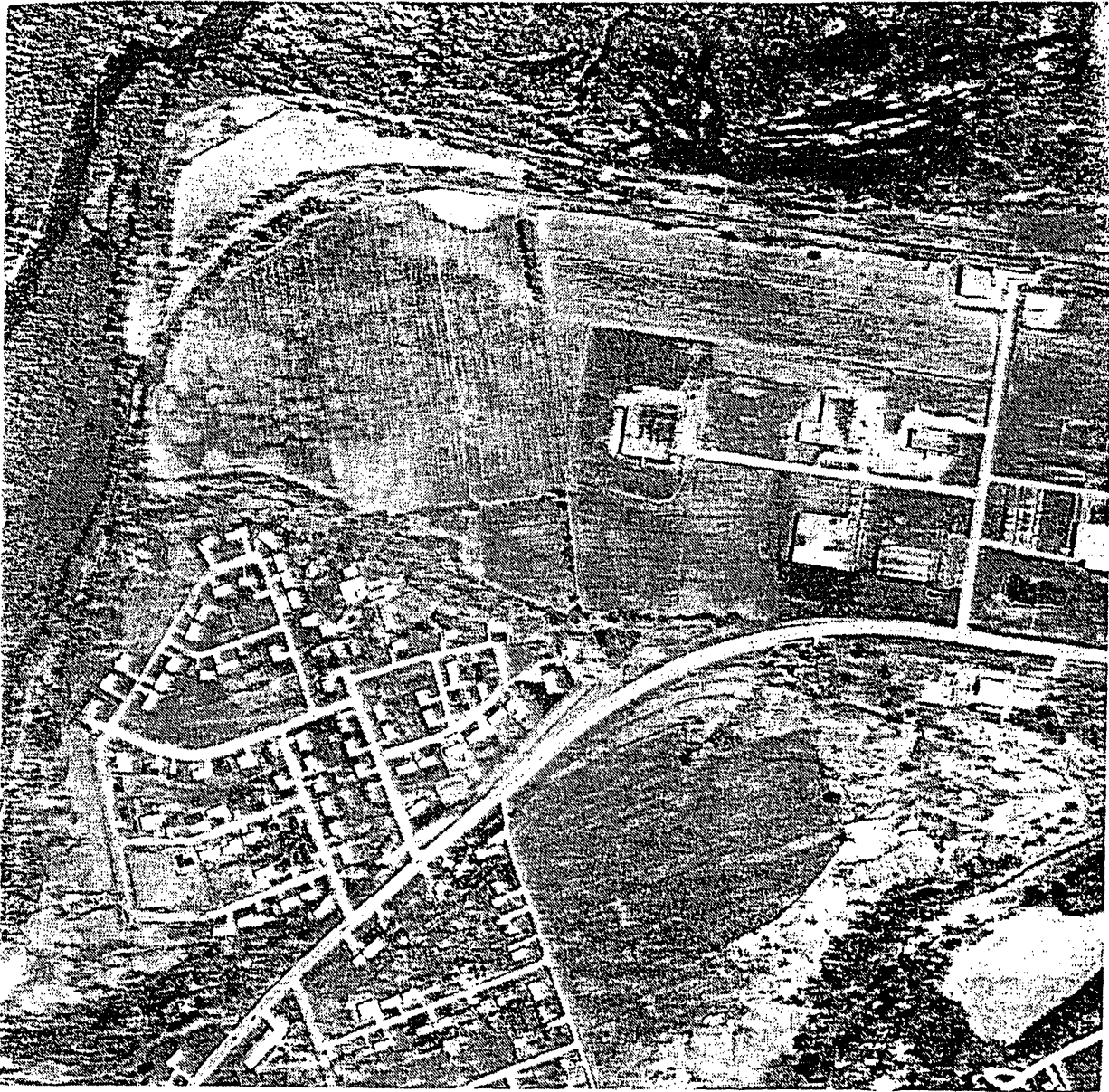


Figure 5: Aerial photograph (1967) of example Site C.

This map illustrates the distribution of mounds in the Cornfield area, comparing visible mound remnants with mounds from the Lewis map. The map includes a legend, a scale bar, and several annotations.

Legend:

- Visible mound remnant (represented by an open circle)
- Mound from Lewis map (represented by a solid black circle)
- Lewis' angle and distance between mounds (represented by a line with arrows)

Scale: 500 FEET

Annotations:

- Cornfield - mounds not mapped in 1885**: A label pointing to a cluster of mounds in the upper left.
- Railroad tracks**: A line running diagonally across the upper right portion of the map.
- should be here**: An arrow pointing to a location near the railroad tracks.
- This mound**: An arrow pointing to a specific mound near the railroad tracks.
- Mounds in this area do not align well at all with mound remnants.**: An arrow pointing to a cluster of mounds in the lower right.

400

Stand recent identified from aerial photography
Stand mapped in 1955 by T.H. Lewis and Associates Survey
Possible stand, visible in aerial photography, not mapped in 1955

200 Feet

The first summer estimate

This map was prepared by the U.S. Army Corps of Engineers, San Francisco District, for the purpose of showing the location of the various stands of the various species of trees and shrubs in the area. The map is based on aerial photography and ground surveys. The map is not to be used for navigation or other purposes. The map is the property of the U.S. Army Corps of Engineers and is loaned to you for your information only. It is not to be reproduced or distributed without the written permission of the U.S. Army Corps of Engineers.

Figure 6: Mound reconstruction of example Site C.