

**APPENDIX**  
**A. SCOPE OF WORK AND ASSOCIATED DOCUMENTS**

**CONTRACT  
FOR  
ARCHAEOLOGICAL SERVICES**

**THIS AGREEMENT** is entered into by and between the CITY OF MANDAN, hereinafter referred to as Owner, and PALEOCULTURAL RESEARCH GROUP, hereinafter referred to as Contractor. Owner and Contractor are collectively referred to as "the Parties".

**WHEREAS**, Owner has an agreement with Kadmas, Lee and Jackson, PC to perform engineering and archaeological services with Metcalf Archaeological Consultants, Inc., operating as the archaeological subcontractor, and with PaleoCultural Research Group operating as a subcontractor to Metcalf Archaeological Consultants, Inc.; and,

**WHEREAS**, the scale and scope of the original project has changed so that it is beneficial, beginning on July 23, 1998, to divide the required archaeological services into two work parts; and,

**WHEREAS**, the first such work part deals with the completion of all remaining archaeological field services to be performed between July 23, 1998 and September 11, 1998, in which work part Contractor will continue to operate as a subcontractor to Metcalf Archaeological Consultants, Inc.; and,

**WHEREAS**, the second such work part deals with archaeological laboratory analysis and reporting services which will begin on September 1, 1998; and

**WHEREAS**, it is beneficial for the Owner to contract directly with the Contractor for archaeological laboratory analysis and reporting services; and,

**WHEREAS**, Contractor possesses the skills and experience to provide archaeological laboratory analysis and reporting services pursuant to such a contract; and

**WHEREAS**, Owner desires to have such archaeological services performed by Contractor;

**NOW, THEREFORE**, and in consideration of the mutual covenants expressed herein, the Parties hereby agree as follows:

1. Contractor agrees to perform all archaeological services described and outlined in work orders provided by Owner; all work will be performed in accordance with the Scope of Work attached hereto as "Exhibit A".
2. Owner hereby agrees to make payment for such services in accordance with the Cost Schedule attached hereto as "Exhibit B".

3. Understanding that time is of the essence for this project, Contractor hereby agrees to initiate laboratory analysis activities as soon as possible after completion of field work; such completion is presently scheduled for August 31, 1998, with reasonable allowances granted to Contractor for substantiated weather-related delays and regulatory agency related delays.

4. Contractor agrees to complete all archaeological laboratory analysis and reporting by August 31, 2001.

5. Contractor hereby acknowledges that it is an independent entity and not an employee of Owner. Contractor agrees to maintain in effect worker's compensation insurance and liability insurance for all employees and subcontractors performing services under this contract

6. The terms of this contract may be changed only by a modification or amendment agreed to in writing by both Parties.

7. Both Parties reserve the right to terminate this contract with 15 days written notice.

By our hands hereon, this 4th day of August 1998, we acknowledge our understanding of and agreement with all above terms and conditions.

CITY OF MANDAN

By: Robert Johnson  
Title: Mayor

By: Phyllis Graner  
Title: Acting City Auditor

PALEOCULTURAL RESEARCH GROUP

By: Bob Allen  
Title: President

By: Erin Fails  
Title: Secretary

**Exhibit A  
Scope of Work**

For

**Archaeological Laboratory Analysis and Reporting  
For the Mandan First Street Project**

**Background**

In June 1998 an archaeological discovery was made during the course of construction activities on the Mandan First Street Project. Archaeological site 32MO31, known both as Scattered Village and Crying Hill Village, is identified as being impacted by this project. This archaeological site has been determined by archaeologists from the North Dakota Department of Transportation (NDDOT) and the State Historical Society of North Dakota (SHSND) to be significant according to criteria for nomination to the National Register of Historic Places. Accordingly, a Data Recovery Plan dated June 30, 1998 has been approved and placed in effect, and the field investigation portion of the Data Recovery Plan is now in progress. This Data Recovery Plan is the guiding document for all archaeological field, laboratory, and reporting investigations to be conducted on the project, and it is incorporated herein as **Attachment 1**.

Initial field investigations have led to a more precise understanding of the most significant portions of the archaeological site which are being impacted as well as the most appropriate methods and schedule for execution of the Data Recovery Plan. Consequently, on July 23, 1998, the regulating agencies, North Dakota Department of Transportation (NDDOT), Federal Highway Administration (FHWA), and State Historical Society of North Dakota (SHSND) reached consensus on the necessity for a large-scale data recovery excavation at the site. FHWA and NDDOT agreed to provide \$500,000 funding on a match basis to the City of Mandan for execution of the Data Recovery Plan in the period beginning July 23, 1998 until archaeological project completion.

In addition, an Update regarding completed archaeological field investigations and a more specific statement about planned archaeological field investigations was developed on July 27, 1998 by the primary archaeological subcontractors, Metcalf Archaeological Consultants (MAC) and PaleoCultural Research Group (PCRG). NDDOT and SHSND archaeologists have concurred with this Update which provides additional guidance for archaeological field studies. This Update is included herein as **Attachment 2**.

It was further agreed by discussion between the City of Mandan (Owner for the First Street Project) and representatives from Kadrmas, Lee and Jackson, PC (KLJ) (prime contractor for the project), NDDOT, SHSND, MAC, and PCRG that starting July 23, 1998 execution of the Data Recovery Plan was best carried out under three separate contracts: (1) one between the City of Mandan and Metcalf Archaeological Consultants specifically for archaeological field

investigations, (2) a second between the City of Mandan and PaleoCultural Research Group specifically for archaeological laboratory analysis and reporting; and (3) a third between the City of Mandan and the engineering firm Kadrmas, Lee and Jackson in which KLJ will facilitate the smooth flow of information between the City of Mandan, archaeological contractors, and other involved parties. The remainder of this document describes Item 2 above -- archaeological laboratory analysis and reporting to be conducted by PCRG under contract to the City of Mandan.

**Work To Be Accomplished**

PCRG will conduct all aspects of laboratory analysis and reporting in accordance with sections labeled Radiocarbon Dating, Laboratory Analysis, and Reporting Standards in the Data Recovery Plan included as **Attachment 1**, herein. This work will involve (1) shipment of all field-recovered collections from Mandan to relevant places for analysis; (2) coordination with archaeologists at the SHSND regarding analysis and reporting of artifacts found in proximity to human remains; (3) all necessary sorting, processing, quantification, and detailed collection and artifact analysis work; (4) selection and oversight of studies performed by outside specialists such as radiocarbon dating, soils analysis, and artifact sourcing studies; (5) development of site maps and mapping data in a manner which is integrated with project construction maps through consultation with KLJ; (6) preparation of graphic and photographic illustrations; (7) writing of all sections of the report dealing with both field investigations and laboratory investigations; (8) assembling, editing, and submittal of the draft and final versions of the project technical report in the required number of copies; (9) labeling and packaging of all collections in accordance with required procedures; and (10) shipment of all project collections, samples, and records to the North Dakota Heritage Center for purposes of final storage and curation.

This work can be broken down into five partially overlapping phases, each of which can be briefly described.

**Phase 1** consists of initial Collection Sorting/Quantification and preparation of Draft Excavation Reports. In this phase PCRG will conduct, concurrently, both the initial processing of collections which must precede more intensive but selective analyses, as well as writing of report sections which describe the conduct and results of field work. Virtually all of this work will occur at the PCRG office and laboratory in Flagstaff, Arizona. Regarding collections, PCRG will size-grade, float as necessary, sort, and quantify all of the materials returned from the field. PCRG will isolate certain samples and artifacts (e.g., radiocarbon samples) most suitable for special analyses, and PCRG will make decisions regarding the most efficient sampling procedures for further, intensive analysis of specific artifact and data classes. At the same time PCRG staff will prepare draft written sections which describe the process and results of field work in the site as a whole and in each of the seven areas of focused field study. It will take approximately nine months for Phase 1 work to be completed.

**Phase 2** consists of intensive analysis of various classes of artifacts and data. In this phase PCRG staff will develop analytic units which will guide the integration of data from all aspects of analysis

(internal time units and spatial units for data study), and PCRG staff and various specialists in ceramic, faunal, lithic, botanical, radiocarbon, trace element studies, soils, and geology will collect the most specific data necessary to analyze and interpret each respective part of the recovered information and collection. PCRG staff will conduct many of these studies, and will oversee any studies to be conducted by outside specialists. During this work the collection will be further dispersed so that relevant specialists may conduct hands-on analytic work at the most suitable geographic location. This work will initiate approximately four months after the start of lab work and Phase 1 (on about January 1, 1999), and various parts of work under this phase will be ongoing until about June 30, 2000.

**Phase 3** consists of intensive analysis of information and writing of draft sections for the final report which deal with many different subsets of artifact and collection analysis. This work will flow directly from each of the specialized data collection tasks performed during Phase 2. Various analysts and writers will start this task by January 1, 2000, and all report contributors will submit drafts sections regarding their analytic contributions and written contributions to the final report editor by December 31, 2000.

**Phase 4** consists of integration of written contributions from all project writers and contributors into the draft final technical report and preparation of all collections and records for final storage and curation. This work will require interaction between the final report editor and all report contributors. At the close of this phase, by May 31, 2001, the draft final report will be submitted from PCRG to NDDOT for review.

**Phase 5** is the period for draft technical report review and revision. NDDOT archaeologists and others will review the draft final report and will provide comments to PCRG regarding revision. Revisions will be made, and the revised final report will be submitted at the end of this period, August 31, 2001. All collections will be assembled and shipped to the SHSND by the close of this period.

To summarize, the phase sequence for the project is as follows:

Phase 1. Sorting, Processing, and Writing About Field Work.	August 1, 1998 – May 31, 1999
Phase 2. Intensive Data Collection by Specialists.	January 1, 1999 – June 30, 2000
Phase 3. Final Analysis and Writing by All Contributors	January 1, 2000 – Dec. 31, 2000
Phase 4. Assembly and Editing, Draft Final Report Submittal	January 1, 2001 – May 31, 2001
Phase 5. Final Report Review, Revision, Submittal, Collection Return	June 1, 2001 – August 31, 2001

#### **Personnel**

PaleoCultural Research Group is a non-profit organization dedicated to conducting research and education in the field of archaeology and related natural sciences. Membership is open to the public and its participating members consist of both specialists and non-specialists who share interests in the goals of the organization. PCRG is an assembled team of individuals, many of whom have worked together in a collaborative manner, exceptionally qualified to carry out the

laboratory analysis and reporting tasks identified for the project.

All work performed under this agreement will be conducted under the direct supervision of Dr. Stanley A. Ahler, a Director of PCRG, who will serve as Principal Investigator for this project. Various participating members of PCRG holding special expertise will participate in this project. Other personnel and staff will be hired as necessary to conduct the work. Eric Feiler will manage the archaeological laboratory in Flagstaff, will oversee collection sorting and processing, and will conduct much of the writing regarding field studies. Feiler and Ahler will work together to conduct or oversee specialized analysis of lithic artifacts. PCRG member Carl R. Falk will coordinate analysis of vertebrate faunal remains, and it is anticipated that member Dr. Darcy Morey will conduct much of the analysis of larger mammal remains and shell remains. Dr. Michael Timpon will be the project geologist and soil scientist. Other PCRG members and staff will conduct studies of ceramic, botanical, and trade artifacts. The Desert Research Institute Radiocarbon Laboratory under the direction of Dr. Herbert Haas is the lab of choice for radiocarbon studies. Ahler will serve as the assembler and editor of the final project report.

## Data Recovery Plan Discovery of Scattered Village Archaeological Site Mandan First Street Project: SU-1-988(007)018

RC Christensen

June 30, 1998

**Background:**

The night of June 24, 1998, Bob Shannon (Kademas, Lee & Jackson Consulting Engineers KLJ) contacted Bob Christensen (NDDOT Archaeologist) and relayed that archaeological cultural material had been exposed on the one thousand block east of First Street in Mandan (project number SU-1-988(007)018). He indicated that the State Historical Society of North Dakota (SHSND) had been notified and that an on-site meeting was scheduled for June 25, 1998 at 8:00 A.M. I attended that meeting, where Fern Swenson and Paul Picha (both SHSND staff) and I surveyed the area and determined the extent of the cultural material.

The cultural material was exposed in the back slopes of the project, where sidewalk and retaining wall had been removed. In these areas, scraping of several inches to several feet had already been done. A dense scatter of late prehistoric cultural material including animal bone fragments, bone tools, chipped stone tools, flakes, pottery, charcoal and fire-cracked rock was identified along both the north and south back slope (sidewalk and retaining wall areas) from the intersection of 8<sup>th</sup> Ave NE to the intersection of 11<sup>th</sup> Ave NE. The densest concentration of artifacts was noted in the one thousand block on the north side of the street. In this area an old retaining wall was removed. This area has been disturbed less by landscaping than most of the surrounding blocks (at least within the street ROW).

Three features were identified during the survey. Two of these are on the north side of the one thousand block. Another possible feature was identified on the south side of the 900 block.

This site is believed to be Scattered Village (32MO31), the archaeological remains of what was originally a Hidatsa and later a Mandan earthlodge village site. Will and Hecker (1944:101-102) describe the site as occupying at least 30 acres in the southeast quarter of section 27, township 139 north, range 81 west. The cultural material and features identified on the First Street project are in the northwest quarter of section 26, adjacent to the Will and Hecker location.

**Previous Work:**

Jeani Borchert and Bob Christensen (NDDOT Archaeologists) and Fern Swenson and Paul Picha (SHSND Archaeologists) conducted a partial surface collection of tools and

temporally diagnostic artifacts during the afternoon and evening of June 25<sup>th</sup>. The purpose of this collection was to remove the artifacts that have the greatest collector value before they were removed by local residents. The position of each artifact was recorded by placing a numbered pin that will later be surveyed in.

**Data Recovery Plan:**

This site appears to be the remains of Scattered Village (32MO31). This site is recorded as covering over 30 acres. But the recorded location of Scattered Village is just west of the location of the current discovery. Scattered Village was recorded in the southeast quarter of section 27 (T139N, R81W). The current discovery is in the southwest quarter of section 26 (T139N, R81W). A primary goal of this data recovery is to establish if the current discovery is part of Scattered Village.

Scattered Village is thought to contain remains from the time period when the Crow split from the Hidatsa. Will and Hecker (1944:101) state that "This is one of the few villages where Mandan ceramic culture shows the entire progression during the occupation of the Upper Missouri River valley." Clearly this is an important site in the cultural history and the cultural dynamics of the region. Another primary goal of this data recovery is to determine the period of occupation, and the cultural affiliation of the group or groups that occupied the site.

Scattered Village is likely to be an exceedingly complex archaeological site. This is due to the long occupation and the fact that both Hidatsa and Mandan occupied the site. It will be necessary to characterize the deposits that were discovered during the First Street project to accurately interpret the site.

Surface Collection:

Surface collection of artifacts must first be conducted. Each surface visible temporally or culturally diagnostic artifact, or patterned tool must be piece plotted and collected, noting if they were in a disturbed context. During this phase of work, any surface visible features should be identified and mapped.

Shovel-Skimming:

Much of the area within the three block zone between 8<sup>th</sup> Ave NE and 11<sup>th</sup> Ave NE has been extensively disturbed by house construction, landscaping, road and sidewalk construction, and utility installation. There are a series of relatively intact blocks between the curb edge and the outside edge of the ROW, between utility trenches that run from the mains beneath the street into each house (sometimes several into each house).

The intact areas must be defined and mapped (plans are available through KLJ). Then each intact area must be shovel skimmed to create a fresh surface. Any culturally or

block excavations, an on-site meeting shall be held including the State Historical Society of North Dakota and North Dakota Department of Transportation cultural resource staff and the archaeological contractor. This meeting will be to discuss excavation strategies.

Monitoring:

Once the surface visible features are excavated, and construction work is ready to resume, all work outside the curb area shall be monitored by a professional archaeologist. Any discovery of features (as defined above) shall be handled under the provisions set forth above (mapping and salvage). A detailed record (both photographic and written) shall be kept by the monitoring archaeologist detailing the earth removal process and the soils, artifacts and features recovered. This should be keyed into the overall site map, and should be sufficiently detailed to identified differences that are encountered between different blocks, and between individual lots within each block. Results of monitoring shall be incorporated into the final site report.

Radiocarbon Dating:

Provisions for at least one radiocarbon date from each feature shall be budgeted, with a minimum of 25 radiocarbon dates for the site. Many of these dates will require AMS technique. This should be taken into account. Short-lived organic materials (e.g., carbonized seeds, corn, other food plants, grasses, and twigs and small diameter branches) should be used for dating samples. AMS samples should consist of charred seeds or maize cob and cupule fragments.

**Laboratory Analysis:**

1) The processed waterscreened samples should be floated in water to separate buoyant material (the light fraction) from other remains (the heavy fraction). This saves considerable time in that the light fraction does not have to be picked from the heavy fraction during the sorting process.

2) Process each sample from each provenience unit (feature and level) into size grades (G1-5). Size-grading serves several purposes, including (1) to segregate the materials into subsamples of uniform size which facilitates later sorting; (2) to provide information on the relative degree of fragmentation of the sample; and (3) to provide consistent, arbitrary cut-off points at which to cease sorting materials too small to be of use in analysis. Size-grading artifacts (and thus sorting objects of similar size) greatly increases the accuracy and efficiency of the sorting process.

3) Sort the size-graded samples by artifact and material classes. Below is a list of typical heavy fraction samples with the cut-off point for each material class. The size grade 1-3 samples are separated completely into some specific, named material class, while the grade 4-5 samples were sorted much more selectively, yielding a residual category of

unsorted materials of all kinds.

Modified Stone	Stone Tools	G1-4
	Chipped Stone Flaking Debris	G1-4
Pottery	Rim Sherds	G1-3
	Body Sherds	G1-3
Vertebrate Fauna	Modified Bone/Antler	G1-5
	Unmod. Identifiable Bone	G1-5
	Unmod. Unidentifiable Bone	G1-3
Shell	Modified Shell	G1-5
	Unmod. Identifiable Shell	G1-5
	Unmod. Unidentifiable Shell	G1-3
Fire-Cracked Rock	Check for Tools	G1-3
Unmodified Clinker	Check for Tools	G1-3
Burned Earth/Fired Clay	Burned Earth	G1-3
	Fired Clay without Temper	G1-3
	Fired Clay with Temper	G1-3
	Fired Clay Objects	G1-3
Ash	Ash	G1-3
Ochre/Pigment	Ochre/Pigment	G1-4
Metal	Recent Metal	G1-5
	Uncertain Metal	G1-5
	Trade Metal	G1-5
Glass Trade Beads	Glass Trade Beads	G1-5
Miscellaneous	Misc. Recent Historic	G1-4
	Other Glass	G1-5
	Leather	G1-5
	Coprolites	G1-3

All collected artifacts and records will be sorted, stored and labeled according to the Archeology Cataloging Instructions (State Historical Society of North Dakota Museum Division 1992)

Intensive analysis by specialists will be conducted on pottery, modified bone, patterned and unpatterned stone tools, modified shell, identifiable shell, identifiable bone, and seeds. Less intensive analysis will occur on unmodified flaking debris, ash, fired clay, ochre/pigment, unmodified clinker, unidentifiable unmodified bone, unidentifiable unmodified shell, charcoal, fire-cracked rock, and metal. At a minimum the following variables must be collected and discussed. For a more detailed discussion of artifact classes and analysis refer to Ahler (1988).

Stone Tools - variables such as technology, function, raw material, completeness, fracture patterns, heat treatment, burning, and other alterations.

Chipped stone flaking debris - raw material type; quantification of each material type by count and weight and cortex frequency by size grade. Summary data on weight and size distributions across size grades, or ratios of flake frequencies among size grades, are used for technological assessment of particular raw material types.

Ceramics - reconstruction of recent fractures, quantification of all sherd lots by count and weight by size grade, sorting of rim sherds from body sherds. Recorded variables for body sherds includes exterior surface treatment, thickness, temper, presence of residue. Recorded variables for rim sherds after being reassembled by vessel will follow Ahler and Swenson (1985).

Unmodified Vertebrate remains - quantified by weight by size grade for each catalog lot, and burned remains in the unmodified sample in each grade will be weighed separately. Taxonomically identifiable specimens in size grades 1-5 will be studied more intensively.

Modified bone/antler - classify and describe individually.

Unmodified Shell - size grades 1-4 will be quantified by weight by size grade; identifiable specimens will be counted by size grade. Taxonomic identifications will be made when possible and will be studied more intensively. Naturally, this does not include highly fragmented unidentifiable G4 and G5 mussel shell.

Modified shell - counted, weighed, and individually described. All fossil shells will be included here based on the assumption they were collected by site inhabitants. All marine shell will likewise be treated under this category.

Fire-cracked rock (FCR) - quantify by weight and raw material type by size grade (G1-3).

Clinker - Unmodified clinker will be counted and weighed by size grade. Modified clinker will be included in the stone tool class and analyzed in greater detail.

Burned earth/fired clay - count and weigh by size grade for each catalog number. Fired clay objects will be individually described.

Ash - weight by size grade for each catalog number.

Ochre/pigment - quantify by count and weight by size grade for each catalog number.

Metal - origin, degree of patterning, and metal type.

Glass beads - size, method of manufacture, shape, structure, and color.

Charcoal/wood - quantified by weight by size grade; wood identification if possible.

Botanical - identification and quantification.

Natural Rock/Residue - will be retained until the report has been accepted by the SHSND, then it will be discarded.

#### Reporting Standards:

The results of the excavations and laboratory analysis should be described in a professionally acceptable report that meets or exceeds the Department of Interior's Recovery of Scientific, Prehistoric, Historic, and Archeological Data: Methods, Standards, and Reporting Requirements [36 CFR Part 66] and Archeology and Historic Preservation; The Secretary of Interior's Standards and Guidelines [FR 48(190):44716-44742].

The report shall minimally contain the following sections:

##### 1. Title Page

Include title of report, principal investigator, sponsor, where work occurred, author of report [if different from above], address of vendor, and date of report.

##### 2. Abstract

This section should summarize the contents of the report.

##### 3. Introduction

Descriptions of the sites, site settings, and previous work.

##### 4. Fieldwork

A description of the fieldwork.

##### 5. Research Design

Description of the project goals, methods, and analytical procedures.

##### 6. Results and Interpretation

The results should be reported in several chapters and minimally include the following by site:

A. Summarize the results of the data recovery. Discuss any problems encountered.

B. Include stratigraphic descriptions, unit profiles, soil descriptions, component relationships. Include interpretation of architectural building episodes, if any can be documented by the excavation.

C. Provide the results and a discussion of the radiocarbon dating chronology.

D. Count, weight, and size grade data will be presented for all general debris classes organized by midden, feature, and analytical unit. More detailed descriptive data must be provided for the following artifact classes, also organized by midden area, feature, and analytical unit: pottery, stone tools, flaking debris, bone tools, identifiable bone, modified shell, metal, and beads. For each material class there must be a discussion of the data collection and analytical procedures. If specialized analyses (e.g., sourcing studies, organic residue analysis, radiocarbon dating) are appended to the report summarize the results in the artifact description and cross-reference the relevant appendix.

E. Describe and quantify features. Include planview and profiles of features and illustrate a representative sample of features.

F. Summarize the results of artifact, feature, and sample analyses.

#### 8. Conclusion

Provide a summary of each site, culture-historic placement, new things learned from the collection, comparison with other collections, problems for future research, and interpretative ideas and potentials.

#### 9. References cited

References shall be in the American Antiquity format.

#### 10. Tables

Include tables, as appropriate to quantify distribution of materials in the site and artifact analyses.

#### 11. Figures

The report shall include clear black and white photographs of overall excavations, significant features, excavation profiles, and representative artifacts. Maps must clearly label true north, contain a scale and a key which explains all symbols. Photographs must indicate the subject and the direction of the view (where appropriate).

The draft and final reports shall be printed/typewritten, professionally edited, of publishable quality, and adhere to the format established above. The final report shall be virtually free of typographical errors and inconsistencies. All maps shall be drafted in ink. Photographs and drawings must be clear.

Research questions posed in the North Dakota Comprehensive Plan for Historic Preservation: Archeological Component shall be addressed in the final report. The site must also be discussed in relation to other known earthlodge village sites in the area, and in terms of the cultural groups (Hidatsa and Mandan) that occupied the site. The draft report shall be reviewed by the SHSND and NDDOT staffs, and comments shall be addressed and any necessary changes incorporated into the final draft. Five original copies of the draft report shall be submitted to the NDDOT for review (we will submit the report to the SHSND). Ten original copies of the final report shall be submitted to the NDDOT (who will distribute them to all parties involved).

#### References Cited:

Ahler, Staley A.

1988 *Archeological Mitigation at Taylor Bluff Village (32ME366), Knife River Indian Villages National Historic Site*. Department of Anthropology, University of North Dakota, Grand Forks.

Ahler, Stanley A., and Anthony A. Swenson

1985 *Manual for Analysis of Knife-Heart Region Ceramic Collections*. Department of Anthropology and Archaeology, University of North Dakota, Grand Forks.

State Historical Society of North Dakota

1990 *North Dakota Comprehensive Plan for Historic Preservation: Archeological Component*. Archaeological and Historic Preservation Division, Bismarck.

1992 *Archeology Cataloging Instructions*. Museum Division, Bismarck.

Will, George, F., and Thad. C. Hecker

1944 Upper Missouri River Valley Aboriginal Culture in North Dakota. *North Dakota Historical Quarterly* Volume XI, State Historical Society of North Dakota.



## Update – Site 32MO31 – 7/27/98

During the first two weeks work consisted of:

- Testing and clearance of 10<sup>th</sup> to 11<sup>th</sup> Ave. block on the north and south sides
- Shovel skim exposure of several apparent midden areas
- Curb facing trenches along south side of 9<sup>th</sup> to 10<sup>th</sup> Ave. block and both sides of 8<sup>th</sup> to 9<sup>th</sup> Ave. block; cross trenches on the north side of 9<sup>th</sup> to 10<sup>th</sup> Ave. block.
- Preliminary soils reconnaissance
- Consultation with Native Americans on human remains.
- Formal excavation of two human burials by SHSND with our help
- Clearance for two of six street light locations
- Start of controlled excavations in two areas on the north side of the 9<sup>th</sup> to 10<sup>th</sup> Ave. block.

The overall result is a far greater understanding of the site elements that remain and their relative degree of preservation. Seven areas of focus have been identified which will yield the best data.

**North side, 9-10<sup>th</sup> Ave., east end (excavation Block 1).** A thick, rich midden deposit occurs on the backslope between the curb and house fronts. The area appears to contain at least 24 sq. m of intact deposit. We propose to excavate approximately 8 sq. m in a block, with part of the block reaching 2 m below surface, and with step-downs to allow safety at depth. The purpose is to sample the midden and record site stratigraphy. Ca. 9 cubic m.

**North side, 9-10<sup>th</sup> Ave., west end (excavation Block 2).** A stratified midden rich in spatial concentrations of shell, fire-cracked rock, and ash occurs between the curb and house fronts. It appears to contain at least 24 sq. m of intact deposits. We propose to excavate approximately 12 sq. m in a block, with part of the block reaching 2 m below surface, and with step-downs to allow safety at depth. The purpose is to sample the midden, isolate intra-midden and below-midden features, and record site stratigraphy. Ca. 9 cubic m.

**South side, 9-10<sup>th</sup> Ave. (excavation Block 3).** A long stretch in mid-block contains remains of one or more earthlodge structures (including two superimposed central hearth features), a bell-shaped storage pit, an ash-filled pit, and shallow midden deposits. Over 60 sq. m is probably intact in this area. We propose 40 sq. m of excavation in a block or checkerboard to expose earthlodge architecture and expose and remove sub-floor features within and near the lodge(s). Ca. 12 cubic m.

**South side, 8-9<sup>th</sup> Ave., east end (excavation Block 4).** A stratified midden more than 1 m in thickness extends from the west end of the 9<sup>th</sup>-10<sup>th</sup> Ave. block well into the 8<sup>th</sup>-9<sup>th</sup> Ave. block. Several deeper features are visible at the base of this midden. The total intact area not disturbed by utility trenches and 9<sup>th</sup> Ave. is probably 80 to 100 sq. m. We propose a small excavation in a block covering about 6 sq. m designed to sample

and record stratigraphy in an area which appears to contain concentrated midden in the deepest part of the section. A portion of the block will extend to 2 m below surface, with appropriate step-backs for safety at depth. Ca. 6 cubic m.

**South side, 8-9<sup>th</sup> Ave. Block, midblock (excavation Block 5).** A massive midden feature with large amounts of ash, pottery, and animal bone occurs in an area greater than 40 sq. m in extent, connecting with the thick midden directly to the east. We propose to excavate two short, 1 x 3 m trenches in different parts of this midden feature. The primary purpose will be to recover stratigraphic information in this hugely rich deposit for comparison with other deep midden areas farther east. Ca. 6 cubic m.

**South side, 8-9<sup>th</sup> Ave., farther west (excavation Block 6).** Just west of the deep, bone-rich midden, cultural deposits thin markedly, then deepen again, and then apparently disappear before 8<sup>th</sup> Ave. is reached to the west. A highly organic deposit containing exceptionally large pieces of bison bone occurs in this area. The area may contain evidence of a fortification ditch along what would have been the southwest margin of the village. We propose to use a backhoe to connect and slightly deepen several of our hand-dug trenches in this area to create a more continuous transect through the village margin, and to identify a fortification ditch if it exists. We propose similar trenching with mechanical equipment in the corresponding area on the north side of the same block. We propose to hand excavate up to 3 sq. m in the deepest part of this exposure (this will be excavation Block 6). The purpose is to sample deposits at the village margin and date the ditch feature if it is found. Ca. 3 cubic m.

**North side, 8-9<sup>th</sup> Ave., mid-block (excavation Block 7).** A burned earthlodge structure is visible in the facing trench along with ashy refuse dumped in basin-shaped features just east of and outside the house. The house floor lies above a 20-cm thick cultural layer. Part of the house interior is cut up by utility trenches, but approximately 50 sq. m remains intact within the house and over adjacent basin features. We propose about 30 sq. m of excavation in a block or checkerboard to expose the house floor, recover information about architecture, sample sub-floor features and deposits, and sample the outside-house activity and refuse disposal area to the east. Ca. 12 cu m.

Additional field studies will include profile descriptions and sampling by a soils specialist and an on-site visit by a paleoethnobotanist to characterize native vegetation and plant resources at nearby and less disturbed locations within the Heart/Missouri River valleys.

Excavation is presently occurring in Blocks 1, 2, and 3. We expect controlled excavation to be completed first in Blocks 1 and 2. Immediately thereafter, we expect utility connection work and grading work to commence on the highest ground on the north side of the 9<sup>th</sup> to 10<sup>th</sup> Ave. block. Grading work for sidewalk construction will occur in other areas as soon as our controlled excavations are completed. We will generally work from east to west in this process.

We will continuously monitor earth moving in all areas of the site. We will map the locations of all features and will salvage any features thought to contain information which can significantly add to the data base developed from more controlled block excavations. Features to be salvaged during monitoring and construction are expected to be primarily spatially discrete, contained units having an artifact sample size large enough to be individually placed within the site chronology. All human remains encountered during monitoring and construction will be removed under protocol specified by state regulations and ongoing consultation with Native Americans.

Feature and block excavation deposits removed through controlled excavation and salvage excavation will be processed through a combination of waterscreened recovery and flotation system recovery. For small features, the entire excavated sediment sample will be processed through the field flotation system. For larger feature and block excavation samples, we will float a constant volume sample of approximately 4 liters from each excavated provenience and will process the remaining sediment with fine-screen waterscreening.

We expect the controlled feature and block excavations identified above to involve removal of about 57 cubic meters of site sediment. Salvage excavation of features encountered during earth moving will add an estimated 3 to 8 cubic meters to this excavated volume.

All other aspects of the original project scope of work will be adhered to without change.