PHASE I ARCHAEOLOGICAL SURVEY FOR THE

BEMIDJI GENE DILLON UPPER ELEMENTARY SCHOOL,

BELTRAMI COUNTY, MINNESOTA

OSA License No. 16-022

Report Prepared for Karvakko, PA

for the Bemidji School District

Report Prepared by: Stephen L. Mulholland, co-Principal Investigator and Susan C. Mulholland, Principal Investigator

Duluth Archaeology Center 5910 Fremont Street, Suite 1, Duluth, MN 55807 Duluth Archaeology Center Report No. 17-01

January 2017

MANAGEMENT SUMMARY

Phase I archaeological survey was conducted for the proposed location of the Bemidji Gene Dillon Upper Elementary School construction project in Bemidji, Beltrami County, Minnesota. The project APE is owned by the City of Bemidji. No previously reported sites were recorded within or immediately adjacent to the project area. Walkover and shovel testing of the project APE did not identify any historic properties but did identify extensive disturbances from past building construction and agricultural activities associated with a modern farmstead. Based on the results of the Phase I survey a No Historic Properties Affected determination for the project is recommended and no additional archaeological work is needed.

PERSONNEL

Susan C. Mulholland - Principal Investigator and Project Director Stephen L. Mulholland - co-Principal Investigator Hollie Lincoln - Crew Supervisor Kate Hagsten - computer graphics technician

ACKNOWLEDGMENTS

Many people assisted with this project. Keith Kinnen (Project Manager, Landscape Architect, and Environmental Specialist) provided direct assistance and direction in the implementation of the project, including providing maps and the definition of the project Area of Potential Effects (APE). Amanda Gronhovd (State Archaeologist) provided the Minnesota archaeology license. In addition, Tom Cinadr of the SHPO conducted a search of the site file database.

COPIES SENT TO:

Keith Kinnen, Karvakko, PA, 2300 Bemidji Avenue N., Suite 101, Bemidji, MN 5660. Amanda Gronhovd, State Archaeologist, Ft. Snelling History Center, St. Paul, MN 55111.

Table of Contents

MANAGEMENT SUMMARY ii
BACKGROUND INFORMATION1
INTRODUCTION: PHASE I SURVEY 1
LOCATION AND SETTING 1
ARCHAEOLOGICAL BACKGROUND
Literature Review
Historic Contexts
Area Archaeology7
ARCHAEOLOGICAL PHASE I SURVEY
METHODOLOGY
Phase I Field Survey
Laboratory Analysis11
Vegetation and Water11
Soils and Geomorphology 11
RESULTS
CONCLUSIONS AND RECOMMENDATIONS
REFERENCES

List of Figures

Figure 1. Location of the project area, Cass Lake Quad (1:100,000).	. 2
Figure 2. Location of the project area, Bemidji West Quad (1:24,000)	. 3
Figure 3. Aerial photograph with project area outlined	. 4
Figure 4. Location of the project area, Bemidji West (1:24,000).	. 9

Tables

Fable 1. Project Location Data		5
--------------------------------	--	---

List of Appendices

Appendix I. Phase	e I Survey State	Archaeology License.		
-------------------	------------------	----------------------	--	--

BACKGROUND INFORMATION

INTRODUCTION: PHASE I SURVEY

A Phase I archaeological survey was conducted for the proposed construction of the Gene Dillon Upper Elementary School in Bemidji, Beltrami County, Minnesota (Figures 1, 2, 3). The project Area of Potential Effects (APE) is approximately 60 acres in size and consists of a woodlot on the northern end of the project area, an agricultural field, and a modern farmstead where the structures have been removed. The property is owned by the Bemidji School District. The legal description for the survey area is T146N, R34W, parts of S1/2 of Section 12. The APE of the project was defined on maps provided by Keith Kinnen (Project Manager).

The presence of pre-Contact sites associated with the upland terrain in the area, especially those overlooking waterways and wetlands, suggests the possibility that additional sites may exist within the proposed APE. In Minnesota, sites are frequently located near water resources (Hudak et al. 2002). Therefore, the proximity of water resources to the project area, primarily the Mississippi River, Grass Lake, and small wetlands, suggests a potential for pre-Contact sites.

The Phase I archaeological survey was conducted on October 26 and 27, 2016 under Minnesota State License 16-022 (Appendix I). The Phase I survey was conducted to satisfy State of Minnesota regulations including the Field Archaeology Act (MnST 138) and the Private Cemeteries Act (MnST 307.08). The Guidelines for Archaeological Projects in Minnesota (Anfinson 2011) set by the State Historic Preservation Office (SHPO) were followed.

LOCATION AND SETTING

The project area consists of an approximate 60 acre parcel located north and east of the intersection of Becida Road and County Highway 7/Division Street West (Figures 2, 3). The project APE is located on the western side of the City of Bemidji in Beltrami County, Minnesota. Most of the APE, approximately 90%, is comprised of old agricultural fields and a modern farmstead where the structures have been removed, with the remaining 10% a wood lot on the north end of the project area. The farmstead structures were removed at least 5 years ago and was probably 40 to 50 years old (Keith Kinnen, personal communication, October 8, 2016). Sediments within the agricultural portion of the project area show sandy soils at the surface with little to no 'A' horizon visible. The



Figure 1. Location of the project area, Cass Lake (1977) quadrangle (1:100,000) USGS topographic map.



Figure 2. Location of the project area, Bemidji West, 1968 (1994) quadrangle (1:24,000) USGS topographic map.



Figure 3. Aerial photograph with project area outlined. Map provided by KARVAKKO Engineering.

lack of 'A' horizon is indicative of extensive surface erosion. The legal description of the project parcel and the UTM coordinates for the parcel corners are listed in Table 1.

Table 1. Project Location Data

T146N, R34W, Sections 12 S1/2 Northwestern Extent: UTM*: 353768E/5259511N Northeastern Extent: UTM*: 354358E/5259637N Southwestern Extent: UTM*: 353807E/5259101N Southeastern Extent: UTM*: 354348E/5259072N *Universal Transverse Mercator coordinates, Zone 15, 1983 North American Datum (NAD)

The project area is located in the Bemidji Sand Plain geomorphic area (University of Minnesota 1980:50-51) and the Bemidji Area physiographic province (Wright 1972:570-571). The Bemidji Sand Plain geomorphic area is primarily level to very gently sloping topography. The terrain in this geomorphic region was formed by glacial ice and outwash from the Wadena ice lobe with the later incursion of the St. Louis sub-lobe of the Late Wisconsin glaciation (Wright 1972:571).

The vegetation of the area has likely changed several times during the time of possible human occupation. The pre-settlement vegetation in the project area from the General Land Office Survey records indicate that the APE is located in an area of jack pine barrens with openings (Marschner 1974). The vegetation today was primarily a jack pine plantation with oak, aspen, hazel, and occasional Norway (red) pine. Currently the area is primarily grasses and brush within the old farm field and oaks, aspen, and occasional pines in the woodlot.

The project area is located within the drainage area of the upper part of the Mississippi River (Waters 1977:195-215). This waterway formed a major transportation route during the Contact and post-Contact periods. It is likely to have served a similar function during the pre-Contact period.

ARCHAEOLOGICAL BACKGROUND

The project area is located within the eastern part of the Central Coniferous Lakes archaeological region of Minnesota as defined by Anfinson (1990). Anfinson bases the archaeological regions on lake/water types and vegetation differences. The central part of this archaeological region is designated as Region 5c in the SHPO system This region includes most of the upper Mississippi River drainage area. The Minnesota pre-Contact (prehistoric) contexts are based on a somewhat different system of districts (Dobbs 1988a:19-24). This system uses geomorphic data with some county borders to define boundaries. In this system the project area is in the Mississippi Headwaters District (3). In general, the two classifications fit reasonably well in terms of archaeological districts.

Literature Review

Just prior to and during the Phase I field survey, an examination was conducted of the literature and other documents pertaining to the project area. Prior to the field work, the SHPO site databases (Cinadr, personal communication, 2016) were consulted for the presence of known sites in the area. No archaeological sites were identified within or near the APE. In addition, no architectural properties have been recorded within or near the project APE. The Trygg Maps sheet 19 for the project area did not show any early Native American trails running through section 12 of T146N, R34W (Trygg 1967).

Historic Contexts

The major stages in which the pre-Contact historic contexts are grouped are most commonly considered to be Paleoindian, Archaic, and Woodland although later, more complex contexts are recognized as well (Minnesota Historical Society 1999:24). Dobbs (1988a) splits the Paleoindian into Fluted (Early) and Lanceolate (Late) segments, as well as dividing the Woodland into Ceramic/Mound and Late Prehistoric. Individual historic contexts are considered in relation to the regional differences in the archaeological record. District 3 contains evidence of the three major stages but not all historic contexts within those stages.

No projectile points indicative of Early Paleoindian (Fluted) occupation have been reported in Beltrami County (Higgenbottom 1996, Buhta et al. 2011). The Late Paleoindian (or Lanceolate) historic context is only slightly better documented in Beltrami County with one point. However, the surrounding counties offer much more extensive evidence with 5 from Lake of the Woods, 31 from Koochiching, 29 from Roseau, 8 from Marshall, and 3 each from Clearwater and Cass Counties (Florin 1996:191). The Archaic Tradition is represented by Lake-Forest and Prairie Archaic to the south (Dobbs 1988a:91, 96). The Woodland Tradition (Ceramic/Mound) is well represented in the general area, especially in the Mississippi River valley. This includes both Laurel and Brainerd ware ceramics (Anfinson 1979). The Late Prehistoric includes Blackduck, Selkirk, and Sandy Lake.

Most or all of the Contact period contexts are likely represented in the project area (Dobbs 1988b). Both Dakota and Ojibwe were in Northern Minnesota during Contact times. Euro-American contexts could include French, British, and Initial United States since the major water route in the area, the Mississippi River, was a heavily used travel route. Explorers and traders commonly passed along the Mississippi River in travels recorded in journals, diaries, and other documents.

Post-Contact contexts include both period and thematic contexts (Minnesota Historical Society 1999). Northern Minnesota Logging (1870-1930s) is directly applicable to this area. Other historic contexts include Tourism, Civilian Conservation Corps, 19th and 20th Century Railroads, and Early 20th Century Agriculture.

Area Archaeology

Review of the SHPO database did not identified any previously recorded archaeological sites within one mile of the project area (Cinadr, personal communication, 2016).

ARCHAEOLOGICAL PHASE I SURVEY

METHODOLOGY

Prior to the start of the archaeological field survey, pertinent data from topographic and historic maps, geologic, and soil information sources were reviewed to better acquaint the field supervisor with the area under investigation. From the APE information provided by Keith Kinnen, Project Manager, a pre-field determination of survey strategies and methodologies was formulated. These pre-field determinations were then either confirmed or modified as warranted by actual conditions observed during the initial field visit.

The pre-field analysis of the project data provided by the Project Manager indicated that a standard Phase I survey methodology would be appropriate for this archaeological investigation (Figures 1, 2, 3). The project area consists of an approximate 60 acre parcel located north and east of the intersection of Becida Road and County Highway 7/Division Street West in Bemidji, Beltrami County, Minnesota. The standard survey methodology examines the entire area using either walkover or shovel testing methodologies.

Phase I Field Survey

The initial field visit by personnel from the Duluth Archaeology Center (DAC) took place on October 26 and 27, 2016. Observations during the initial visit confirmed that walkover methodology was appropriate for the entire project APE. Shovel testing would be limited to undisturbed areas and those associated with water related features. Walkover survey methodology for the project area consisted of multiple transects with widths between transects dependent on the terrain and surface conditions. At a maximum, the interval between walkover transects was 10 meters.

The use of the shovel testing methodology employed for this project consisted of placing approximately 30 to 40 cm (12 to 16 inch) wide test holes at 7.5 to 15 meter intervals where feasible. Shovel testing was limited to the woodlot area along the southern shore of the unnamed lake in the northern part of the APE (Figure 4). Sediment matrix removed from each hole was screened through one-quarter inch hardware cloth with the retained items examined for cultural materials. Testing in each hole continued until glacial deposits or an approximate one meter depth was attained. Once



9

topographic map.

these depth parameters were attained, the testing ceased and measurements and observations on sediments and deposits within the test hole were recorded. These recorded data would also include information on the approximate depth(s) from which any cultural materials were recovered. Upon completion of the recorded data, the test was back-filled.

While the methodology outlined above works well to locate both pre- and post-Contact archaeological cultural materials, the determination whether the items recovered represent a distinctive cultural entity or site is vital. Localities with any pre-Contact materials are for the most part assigned site status. However, post-Contact materials in some cases may represent isolated or random pieces of roadside or other scattered trash, traditionally not assigned site status, and need to be separated from those deposited during an occupation or from activities associated with special use areas. Though this may appear on the surface a simple task, in reality it may be more difficult than it first appears. In some instances the field survey is examining areas occupied or used historically for well over 150 years, including old farmsteads and roads that have had little alteration in their location or route over that time span. A broken glass fragment from a bottle discarded 100 years ago looks the same whether it is directly associated with a farmstead, is roadside trash, or some other type of random garbage scatter. Therefore, the context and association in which the artifact(s) are recovered becomes vital.

The determination of whether or not post-Contact artifacts are part of a site or represent trash disposal is based on the presence of definable site boundaries, or by the association with either structural remains or a definable activity use area. Site determination based on artifacts (from the surface or shovel tests) requires that an association be made either with a visible structural remnant or with a definable artifact concentration. The logic to these stringent site determination criteria is based on the known fact that most areas have had extensive and continuous occupation during the recent post-Contact period, and that culturally derived materials from this general temporal period often litter a project area. These limitations were established to eliminate site designations based on post-Contact trash dispersal patterns, especially those from the more recent periods.

After determination that the post-Contact cultural materials represent a definable entity with boundaries outlined, a plan map of all pertinent features associated with the site is made. Items mapped include any structural remnants, physical features, debris determined to be associated with the function of the site (excluding recent roadside trash), and natural surface expressions, all plotted using compass readings with either paced or taped measurements. All site locations are placed on a USGS map using both physical landmarks and UTM readings obtained from a handheld GPS unit. The mapping of pre-Contact sites is similar but concentrates on site boundaries, artifact concentrations, associated shovel tests (both positive and negative), and the relationship of these items with the existing terrain.

No indications of human internment were observed or encountered during the survey. The absence of surface topographic expressions and lack of subsurface indications such as soil staining form the basis for this observation.

Laboratory Analysis

No artifacts were recovered during work on this project. Therefore, no laboratory methods were employed.

Vegetation and Water

Vegetation within the survey area is that commonly associated with a northern Minnesota forested environment and associated grasslands (University of Minnesota 1980). The area consists of sandy till plains situated on flat to slightly rolling terrain. The existing vegetation within the APE is primarily grass and brush in the old agricultural fields with the woodlot comprised of oak, aspen, occasional pines, and other deciduous vegetation. The lowlands within the drainage consist of reeds, small willows, and alder. One unnamed lake and an associated wetland drainage border on the project APE to the north and west (Figure 2).

Soils and Geomorphology

The project area is located in the Bemidji Sand Plain geomorphic area (University of Minnesota 1980:48-51) and the Bemidji Area physiographic province (Wright 1972:570-571). The project area is dominated by a nearly flat plain. The soils in the APE are dominated by medium grained sands with some gravel and rock content.

RESULTS

The focus of the Phase I survey was the examination of the APE for proposed construction

of the Gene Dillon Upper Elementary School in Bemidji, Beltrami County, Minnesota (Figures 1, 2, 3). The APE consists of a parcel approximately 60 acres in size, most of it an abandoned agricultural field with the remainder a small woodlot along the southern bank of an unnamed lake on the northern edge of the APE. The project APE received primarily walkover examination with limited shovel testing conducted with the woodlot along the shoreline of the small lake.

During the walkover survey it was observed that no 'A' horizon materials were present at the surface within the agricultural field, indicative of extensive surface erosion. Only subsoil sediments, primarily sands were present at the surface. No sites or artifacts were observed during the walkover survey examination. Ten shovel tests were placed within the woodlot along the shoreline of the unnamed lake (Figure 4). All sediments were sands of varying shades of dark brown near the surface that graded to light tans and yellow browns with depth. Each test contained varying amounts of gravel. All ten shovel tests were negative.

CONCLUSIONS AND RECOMMENDATIONS

A standard Phase I archaeological walkover and shovel test survey was conducted within the project APE on October 26 and 27, 2016. Ten shovel tests were placed within the APE to test the shoreline along an unnamed lake that bordered the project APE. No artifacts or sites were identified during the Phase I examination of the project APE. The farmstead observed in the southeastern corner of the project APE has had the superstructures above the foundation elements removed along with substantial damage to the concrete foundations. In addition, the dumping of modern debris onto the location makes it difficult to determine what may have been original materials associated with the farmstead versus what was brought in at a later date. Therefore, it is recommended that the farmstead be determined not eligible for the National Register of Historic Places. Based on the Phase I survey results, a No Historic Properties Affected determination for the project is recommended and no additional archaeological work is needed.

REFERENCES

Anfinson, S. F.

- 1990 Archaeological Regions in Minnesota and the Woodland Period. In *The Woodland Tradition in the Western Great Lakes: Papers Presented to Elden Johnson*, edited by G. E. Gibbon, pp. 135-166. University of Minnesota Publications in Anthropology No. 4, Minneapolis.
- 2011 *State Archaeologist's Manual for Archaeological Projects in Minnesota*. Office of the State Archaeologist, Ft. Snelling History Center, St. Paul.

Anfinson, S. F., editor

- 1979 *A Handbook of Minnesota Prehistoric Ceramics*. Occasional Publications in Minnesota Archaeology No. 5., Minnesota Historical Society, St. Paul.
- Buhta, A. A., J. L. Hofman, E. C. Grimm, R. D. Mandel, and L. A. Hannus
 - 2011 Investigating the Earliest Human Occupation of Minnesota: A Multidisciplinary Approach to Modeling Landform Suitability & Site Distribution Probability for the States Early Paleoindian Resources. Archeological Contract Series 248, Archaeology Laboratory, Augustana College, Sioux Falls.

Cinadr, T.

2016 SHPO Archaeology Site Data Base Search of T146N, R34W conducted October 8, 2016. Thomas.Cinadr@MNHS.org.

Dobbs, C. A.

- 1988a Outline of Historic Contexts for the Prehistoric Period (ca. 12,000 B.P. A.D. 1700). Institute for Minnesota Archaeology, Reports of Investigations No. 37, Minneapolis.
- 1988b *Historic Context Outlines: The Contact Period Contexts (ca. 1630 A.D. 1820 A D.).* Institute for Minnesota Archaeology, Reports of Investigations No. 39, Minneapolis.

Florin, F.

1996 Late Paleo-Indians of Minnesota and Vegetation Changes from 10,500-8000 BP. Unpublished M.A. thesis, Department of Anthropology, University of Minnesota, Minneapolis.

Higginbottom, D. K.

1996 An Inventory of Fluted Projectile Points from Minnesota. Paper, 54th Annual Plains Conference, Iowa City, Iowa.

Hudak, G. J., E. Hobbs, A. Brooks, C. A. Sersland, and C. Phillips

2002 *Mn/Model: A Predictive Model of Precontact Archaeological Site Location for the State of Minnesota.* Final report, Minnesota Department of Transportation.

Marschner, F. J.

1974 *The Original Vegetation of Minnesota.* University of Minnesota, Agricultural Experiment Station.

Minnesota Historical Society

1999 *Historic Preservation, Field Services and Grants Department: 1998 Annual Report.* Minnesota Historical Society.

Trygg, J. W.

1967 *Composite Map of United States Land Surveyors Original Plats and Field Notes.* Sheet 19, Ely.

University of Minnesota

1980 *Minnesota Soil Atlas: Bemidji Sheet.* Miscellaneous Report 168, Agricultural Experiment Station, University of Minnesota, St. Paul.

Waters, T. F.

1977 The Streams and Waters of Minnesota. University of Minnesota, Minneapolis.

Wright, H. E., Jr.

1972 Physiography of Minnesota. In *Geology of Minnesota: A Centennial Volume*, edited by P. K. Sims and G. B. Morey, pp. 561-578. Minnesota Geological Survey, St. Paul.

APPENDIX I. Phase I Survey State Archaeology License:

APPLICATION FOR MINNESOTA ANNUAL ARCHAEOLOGICAL RECONNAISSANCE SURVEY LICENSE

This license only applies to reconnaissance (Phase I) surveys conducted under Minnesota Statutes 138.31-.42 during calendar year __2016____. Separate licenses must be obtained for site evaluation (Phase II) surveys, for major site investigations (Phase III), for burial site authentications under Minnesota statutes 307.08, and for survey work that will continue into another calendar year. Only the below listed individual is licensed as a Principal Investigator, not the institution/agency/company or others who work for that entity. The licensed individual is required to comply with all the conditions attached to this license form. Permission to enter land for the purposes of archaeological investigation must be obtained from the landowner or land manager.

Name: Susan Mulholland Institution/Agency/Company Affiliation: Duluth Archaeology Center Title/Position: President/Principal Investigator Address: 5910 Fremont St., Suite 1, Duluth MN 55807 Work Phone: 218-624-5489 E-Mail: archcenter@aol.com Name of Advanced Degree Institution: University of Minnesota Year: 1987 Name of Department: Interdisciplinary Archaeology Degree: MA MS PhD X Purpose: (check all that may apply) CRM X Academic Research X Institutional Field School X Type of Land: (check all that may apply) State Owned X County Owned X Township/City Owned X Other non-federal public X List: School District MHS Repository Agreement # 718 Other Approved Curation Facility: Previous License: Year 2015 Type annual Number 2015-029 Signed (applicant): ______ Jusan Mulholland ______ Date: _3-2-2016 _____ Required Attachments: Curriculum Vita and Documentation of Appropriate Experience for previously unlicensed individuals. Submit one copy of this form and attachments to: Office of the State Archaeologist, Ft. Snelling History Center, St. Paul, MN 55111 612-725-2411 612-725-2729 FAX 612-725-2427 email: mnosa@state.mn.us Minnesota Historical Society Approval: State Archaeologist Approval: XMM now CXMM h License Number: 16-022