APPENDIX 3—CULTURAL RESOURCES ASSESSMENT (INCLUDING AVIENDA PHASE 1 ARCHEAOLOGICAL RECONNAISSANCE SURVEY)

CULTURAL RESOURCES ASSESSMENT FOR THE CHANHASSEN ALTERNATIVE URBAN AREAWIDE REVIEW (AUAR), CHANHASSEN, CARVER COUNTY, MINNESOTA

Submitted to:
Hoisington Koegler Group Inc.

Submitted by:
The 106 Group Ltd.

May 2003

CULTURAL RESOURCES ASSESSMENT FOR THE CHANHASSEN ALTERNATIVE URBAN AREAWIDE REVIEW (AUAR), CHANHASSEN, CARVER COUNTY, MINNESOTA

SHPO File No. Pending
The 106 Group Project No. 03-12

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May 2003

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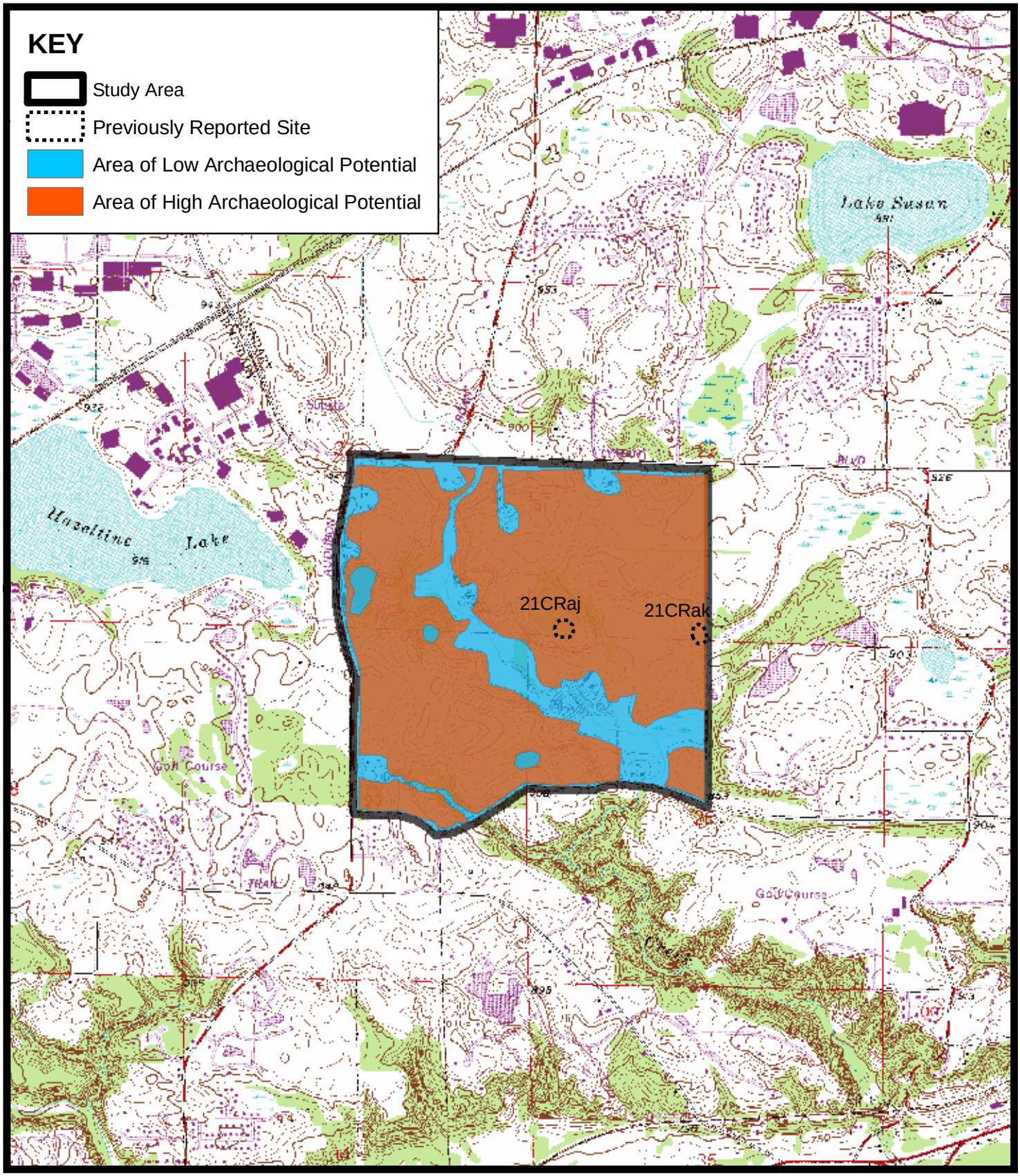
1.0 INTRODUCTION

On May 21, 2003, The 106 Group Ltd. (The 106 Group) conducted a cultural resources assessment for the Chanhassen Alternative Urban Areawide Review (AUAR) in Chanhassen, Carver County, Minnesota. The assessment was conducted under contract with Hoisington Koegler Group Inc. for the City of Chanhassen. The study area is located in Sections 22, 23, 26, and 27, T116N, R23W (Figure 1). This report is intended to provide preliminary cultural resources information for completion of the AUAR and to assist in future compliance requirements under federal and state law. If the regulatory review for this project is at the state or local level, consultation with the Minnesota State Historic Preservation Office (SHPO) is appropriate. If there will be any federal involvement in the future (for example, through funding or permitting), consultation with the applicable federal agency and SHPO is required.

The purpose of this cultural resources assessment was to identify any historic properties within the study area of the Chanhassen AUAR that require further investigation in order to determine their potential eligibility for listing on the National Register of Historic Places (NRHP) and to eliminate those properties that are clearly not eligible. In addition, the survey assessed the project area's potential for containing previously unidentified archaeological resources. Should the boundaries of the Chanhassen AUAR be altered from their current configuration, the study area for architecture-history and archaeological resources will need to be adjusted as appropriate.

The cultural resources assessment for the AUAR included background research, a visual reconnaissance of the entire study area, assessment of archaeological potentials within the study area, and photographic documentation of buildings and structures 50 years of age or older within the study area. The study area for archaeological and architecture-history resources was approximately 650 acres (263 hectares).



Source: USGS Quadrangles. 7.5 Minute Series. Shakopee, Minnesota 1993. Carver County

Chanhassen AUAR
Cultural Resources Assessment
Carver County, Minnesota

Study Area and
Archaeology Results

0 0.25 0.5 0.75 1 Miles

N
W E
S

Figure 1

2.0 METHODS

2.1 BACKGROUND RESEARCH METHODS

On May 16, 2003, prior to fieldwork, background research was conducted using the Minnesota State Historic Preservation Office (SHPO) site files for information on previously identified archaeological sites and architecture-history properties within one mile (1.6 kilometer [km]) of the study area and on cultural resources surveys previously conducted within the study area. In addition, researchers examined historical maps and aerial photographs of the study area.

2.2 ARCHAEOLOGY STUDY AREA

The study area for archaeology included all areas where construction or other ground-disturbing activities related to the project might take place. Based on construction plans available in May of 2003, the Chanhassen AUAR study area is approximately 27,878,400 square feet (ft.) (2,589,903 square meters [m]). The total survey area for archaeology is approximately 650 acres (263 hectares).

2.3 ARCHAEOLOGY FIELD METHODS

The project archaeologist conducted an assessment (windshield survey) of the study area to identify areas with moderate or high archaeological potential. Such areas were defined as the undisturbed portions of the study area:

- within 500 ft. (150 m) of an existing or former water source of 40 acres (19 hectares) or greater in extent, or within 500 ft. (150 m) of a former or existing perennial stream;
- located on topographically prominent landscape features;
- located within 300 ft. (100 m) of a previously reported site; or
- located within 300 ft. (100 m) of a former or existing historic structure or feature (such as a building foundation or cellar depression).

In addition, archaeologists compared historical documentation, such as plat maps and aerial photographs, with current field conditions to assess the potential within the survey area for intact historical archaeological sites.

Areas defined as having a relatively low potential for containing intact archaeological resources included inundated areas, former or existing wetland areas, poorly drained areas, and areas with a 20 percent or greater slope. Low potential areas and areas in which Holocene (less than 10,000 years old) deposits have been significantly disturbed are defined as having little or no potential for containing intact archaeological resources.

2.4 ARCHITECTURE-HISTORY STUDY AREA

The study area for architecture-history took into account potential effects to historic resources, including physical alterations to buildings, increases in levels of noise or pollution, changes in visual or aesthetic qualities, or changes in traffic densities or patterns. The study area for architecture-history resources comprised the entire area of the Chanhassen AUAR, which is approximately 650 acres (263 hectares).

2.5 ARCHITECTURE-HISTORY FIELD METHODS

During the field survey, the project historian completed an inventory of the buildings and structures within the study area in order to identify properties that appeared to be 50 years of age or older. Those resources were photographed and assessed for historical integrity.

3.0 PREVIOUS INVESTIGATIONS

3.1 ARCHAEOLOGY

No archaeological surveys have been previously conducted within the Chanhassen AUAR study area.

Two reported (not field checked) archaeological sites (21CRaj, 21CRak) are located within the study area for the Chanhassen AUAR (Table 1; see Figure 1). There are seven additional previously recorded (confirmed) archaeological sites (21CR14, 21CR15, 21CR97, 21CR103, 21CR104, 21CR108, 21CR109) within a one-mile (1.6-km) radius of the study area (Table 2).

3.2 ARCHITECTURE-HISTORY

No previous surveys have been conducted within the project area, although two county-wide surveys help to establish the historical context for architecture-history resources. Carver County was surveyed in 1977 as part of a comprehensive county-by-county survey of the state for all cultural resource types. This survey provided a baseline inventory for the county's historical resources. As a follow-up to that survey, the Minnesota Historical Society published *Carver County: A Guide to Its Historic and*

TABLE 1. ARCHAEOLOGICAL SITES WITHIN STUDY AREA

Site No.	Site Name	T	R	S	¼ Sec.	Description	NRHP Status
21CRaj	unnamed	116N	23W	23	SE-SW-SW-SW	Reported mound group	Not evaluated
21CRak	unnamed	116N	23W	23	SE-SE-SE-SW	Reported burial	Not evaluated

TABLE 2. ARCHAEOLOGICAL SITES WITHIN ONE MILE OF STUDY AREA

Site No.	Site Name	T	R	S	¼ Sec.	Description	NRHP Status
21CR14	unnamed	116N	23W	22	N-SW-SW-SW	Artifact scatter	Not evaluated
21CR15	unnamed	116N	23W	22	W-NE-SE-SW	Lithic scatter	Not evaluated
21CR97	unnamed	116N	23W	21	NW-NW-NE-SE	Single flake	Not evaluated
21CR103	unnamed	116N	23W	27	SE-NW-SE	Lithic scatter	Determined not eligible
21CR104	unnamed	116N	23W	27	SW-NE-NE-SE	Lithic scatter	Not evaluated
21CR108	Lake Susan-Riley Creek	116N	23W	14	N-NW-NE-SE and S-SW-SE-NE	Lithic scatter	Not evaluated
21CR109	Lake Susan SW Shore	116N	23W	14/23	C-S-S-SE/ NE-NW-NE	Lithic scatter and possible mound group	Not evaluated

Prehistoric Places (Lofstrom and Spaeth n.d.). This document provides a guide "to the landscape of the county, to its prehistoric settlers, to the European immigrants who settled the county in the nineteenth century and to the residents of Carver County since that time" (Lofstrom and Spaeth n.d.:i).

No properties have been previously inventoried within the study area. A total of three farmsteads/houses have been inventoried within one mile (1.6 km) of the project area. These farmsteads, located just north of the project area on Audubon Rd., are indicative of the types of properties that may be considered to be significant within the study area. Each of the farmsteads (CR-CHC-004, CR-CHC-005, and CR-CHC-006) has a house made of Chaska brick and constructed circa 1890. Chaska brick is a locally manufactured brick known for its cream color. The Albertine and Fred Heck House (CR-CHC-006) is listed on the NRHP under Criterion A "as a well-preserved example of a building constructed of Chaska brick" (Albertine and Fred Heck House NRHP nomination, on file at the Minnesota SHPO, St. Paul). It is located adjacent to the project area.

4.0 RESULTS

4.1 ARCHAEOLOGY

The topography of the Chanhassen AUAR study area is comprised of several high ridges and knolls surrounding the lower-lying Bluff Creek and associated wetlands. Most of these high ridges and knolls are situated within cultivated fields or are wooded, and they have undergone minimal or no disturbance. A few of the more elevated portions of the study area, however, have been heavily disturbed through the previous establishment of farmsteads, including houses, outbuildings, and graded driveways. The areas directly adjacent to Audubon Road, Lyman Boulevard, and Pioneer Trail have been disturbed through the construction of those roads, and an area just south of Lyman Boulevard in the northwest portion of the project area has been disturbed by the previous construction of a city building. In addition, a low-lying location within the southeastern portion of the study area has been disturbed through the excavation of a sand or gravel pit, and a few of the areas adjacent to the creek are steeply sloped and/or eroded.

In general, those portions of the study area that are steeply sloped, eroded, or heavily disturbed are considered to have low potential for intact archaeological resources (see Figure 1).

The remaining portions of the study area consist of locations in proximity to Bluff Creek, to Hazeltine Lake to the west, and to wetlands connected to Lake Susan to the northeast by a stream, most of which are topographically prominent. These portions of the study area include the locations of two previously reported (not field checked) sites. Based, therefore, on their overall lack of disturbance, their proximity to significant water sources and previously reported sites, and their topographic prominence, the remaining portions of the study area are considered to have high potential for intact precontact archaeological resources (see Figure 1).

4.1.1 Historical Maps

Historical plat maps (Northwest Publishing Co. 1898; Hudson Map Company c. 1925) of the study area indicate that most of the early farmsteads within the study area remain standing. These farmsteads are addressed in the architecture-history section of this report. Two residential buildings that are no longer extant, however, were present as early as 1898 in the central portion of the study area, and the former Chanhassen Town Hall had also been constructed in the northeast corner of the study area by that year (Northwest Publishing Co. 1898). Due to the apparent lack of disturbance in the locations of these structures, these locations, which fall within areas considered to have high potential for precontact archaeological resources, are considered to have moderate to high potential for intact post-contact archaeological resources. The potential significance, however, of any post-contact archaeological resources that might exist within the study area is not known at this stage.

4.2 ARCHITECTURE-HISTORY

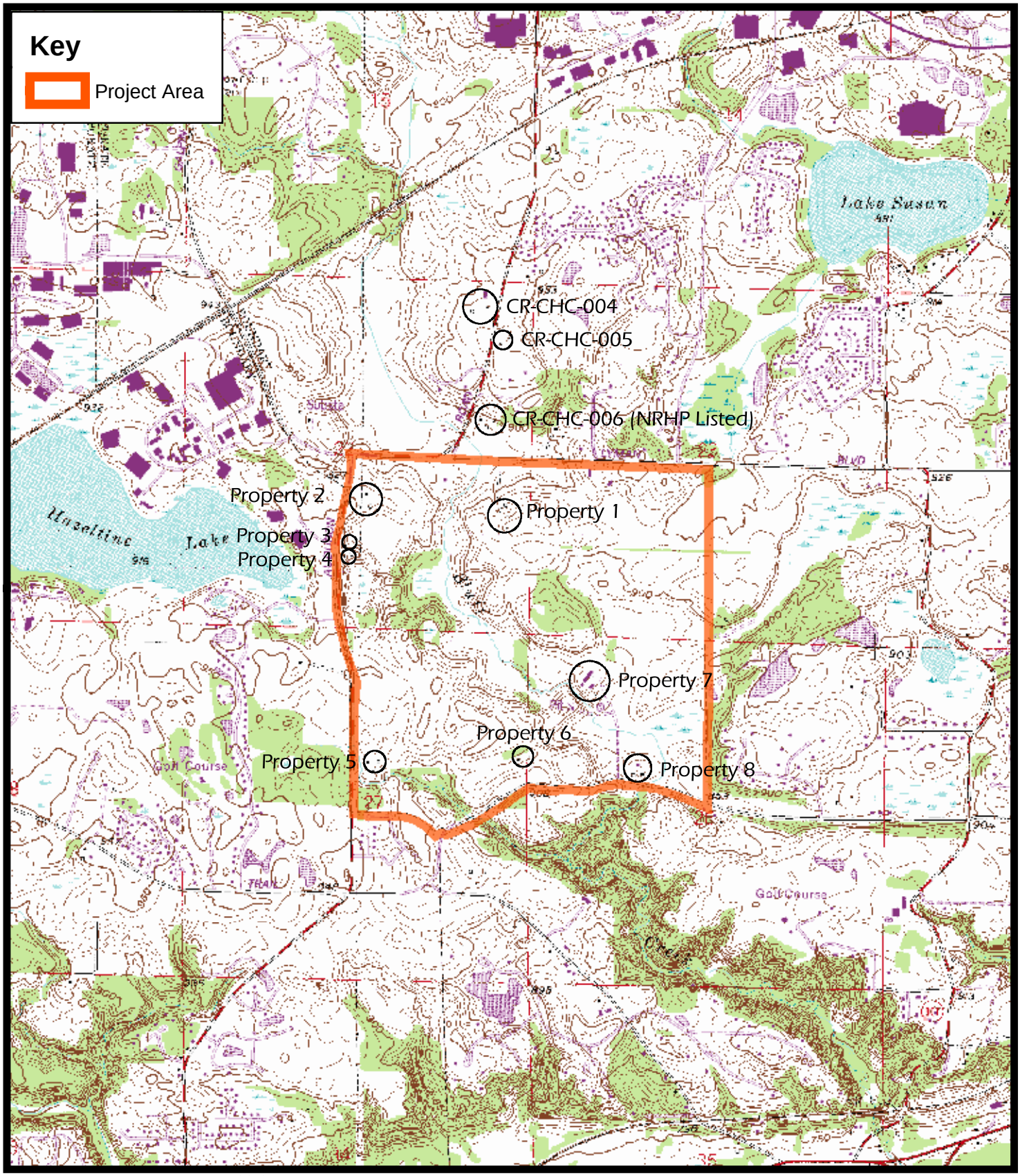
The 106 Group inventoried eight properties within the study area that contained buildings 50 years of age or older (Figure 2; Table 3). All of the properties are associated with farmsteads in this agricultural region. Building types include frame houses, barns, silos, granaries, chicken houses, and other outbuildings dating to the late nineteenth and early twentieth centuries. House styles include a Queen Anne, a Craftsman-style bungalow, and American Foursquares. Photos of the properties are located in Appendix A.

Due to its proximity to Chaska, this area is known for its houses constructed of Chaska brick, a distinctive cream-colored brick associated with the region. Three previously recorded properties constructed in the 1890s, located just north of the project area (see Figure 2), are examples of the use of Chaska brick. None of the properties located within the study area utilized this building material. Most farmsteads exhibit building types commonly constructed during the 1910s and 1920s. One exception is Property 6 (1600 Pioneer Trail), which features a Queen Anne style house, more typical of the late nineteenth century.

None of the farmsteads retain a complete complement of agricultural outbuildings typical of farms from this period, such as a granary, a chicken house, and other sheds. Some only retain the original house and barn. In some cases, the historical integrity of the primary buildings, such as the house or barn, have been significantly compromised. As a result, the farmsteads do not sufficiently convey their association with late nineteenth- and early twentieth-century farming practices.

Although several of the individual buildings retain good historical integrity, their styles are typical of the period and do not appear to be significant representations of architectural styles.

One property listed on the NRHP is located adjacent to the project area (CR-CHC-006; the Albertine and Fred Heck House). Should the Chanhassen AUAR project involve a federal agency in the future, this house should be considered when assessing effects to historical properties.



SOURCE: USGS QUADRANGLES. 7.5 MINUTE SERIES. SHAKOPEE, MINNESOTA 1993. CARVER COUNTY

CHANHASSEN AUAR
CULTURAL RESOURCES ASSESSMENT
CARVER COUNTY, MINNESOTA

ARCHITECTURE - HISTORY RESULTS

0 0.25 0.5 0.75 1 Miles

N W E S

FIGURE 2

TABLE 3. ARCHITECTURE-HISTORY PROPERTIES

Field Number	Address	Property Type	Building Types	Date (Estimate)	Description/Integrity
1	1630 Lyman Rd.	Farmstead	House, Dairy Barn, Granary, Garage	c. 1900	The house has been significantly altered with vinyl siding, replacement windows, and additions. The central bay barn has board and batten siding and retains good integrity. The granary, with drop siding, is partially demolished and in a dilapidated state.
2	9111 Audubon Rd.	Farmstead	House (c. 1950), Barn, Granary/Corncrib, Chicken House, Silo, Pole Barns	c. 1910	The house was constructed circa 1950. The gambrel roof dairy barn has board and batten siding and retains good integrity. The granary and corncrib also retain good integrity. The addition of pole barns and the house compromise the overall integrity of the farmstead.
3	9201 Audubon Rd.	House	House, Pole Barn	c. 1940	This small, side-gabled house has replacement windows and fair integrity. It is adjacent to Property 4 and includes a large, metal-sided pole barn.
4	9231 Audubon Rd.	Farmstead	House, Dairy Barn, Garages	c. 1920	The Craftsman-style bungalow retains most of the original architectural features and has a rear addition. The jerkinhead, gambrel dairy barn has board and batten siding, and a concrete block foundation has good integrity. A modern garage and a c. 1920 garage are also included with this property.
5	9715 Audubon	Farmstead	House, Barn (converted to house), Garage, Pole Barn	c. 1910	The one-and-a-half story, front-gabled house retains good integrity. Another house on the property appears to have been converted from a concrete block barn. Other buildings include a garage and a metal pole barn.

TABLE 3. ARCHITECTURE-HISTORY PROPERTIES

Field Number	Address	Property Type	Building Types	Date (Estimate)	Description/Integrity
6	1600 Pioneer Trail	Farmstead	House, Granary/Corncrib, Silos, Corncrib, Trailer Offices, Spring House (?)	c. 1890	The two-story house features massing and detailing of the Queen Anne style. Although some alterations have been made, it retains good integrity despite its dilapidated state. Other outbuildings, such as the garage, chicken house, granary, and corncrib retain good-to-fair integrity but are also dilapidated. The original barn has been demolished, with only the foundation and two adjacent silos remaining. A concrete block structure is believed to have been a springhouse. Modern trailer offices have been added to the site. The farmstead as a whole does not retain integrity.
7	1500 Pioneer Trail	Farmstead	House, Quonset Barn, Pole Barns, Butler Bins, Harvestore	c. 1910	The foursquare house has been clad with aluminum siding and has had other alterations, resulting in poor integrity. The original barn appears to have been replaced with the addition of a Quonset shed on the original foundations. Other metal pole barns, Butler bins, Harvestore silo have been added to the farmstead, resulting in poor overall historical integrity.
8	1370 Pioneer Trail	Farmstead	House, Dairy Barn, Granary, Pole Barn	c. 1910	The foursquare house has wooden clapboard siding and retains good integrity. The gambrel-roof dairy barn has board and batten siding and retains good integrity. Other buildings include a partially demolished granary and a metal pole barn.

REFERENCES CITED

Hudson Map Company
c. 1925 *Plat Book of Carver County, Minnesota.* Hudson Map Company, Minneapolis.

Lofstrom, T. and L. V. Spaeth
n.d. *Carver County: A Guide to Its Historic Places and Prehistoric Places.* Minnesota Historical Society.

Northwest Publishing Co.
1898 *Plat Book of Carver County, Minnesota.* Northwest Publishing Co., Minneapolis.

APPENDIX A

PHOTOGRAPHS

Property 1, House

Property 1, Barn

Property 1, Granary

Property 2, House

Property 2, Barn

Property 2, Granary/Corncrib

Property 3, House

Property 4, House

Property 4, Barn

Property 5, House

Property 5, Barn/House

Property 6, House

Property 6, Granary/Corncrib

Property 6, Corncrib

Property 7, House

Property 7, Barn

Property 8, House

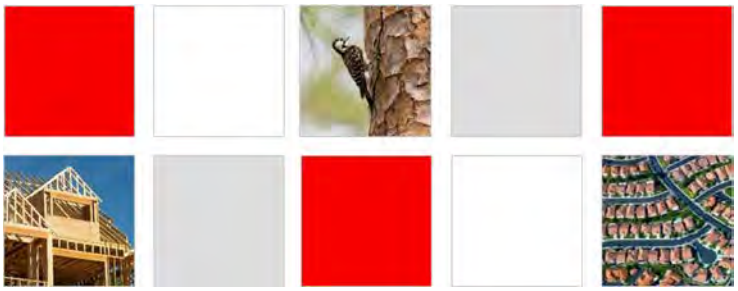
Property 8, Barn

APPENDIX B

LIST OF PERSONNEL

LIST OF PERSONNEL

Project Manager	Anne Ketz, M.A., RPA
Principal Investigators	
Archaeology	Andrea C. Vermeer, M.A., RPA
Architecture-History	William E. Stark, M.A.
Graphics	Matt Schillerberg



Avienda Development Project

Phase I Archaeological Reconnaissance Survey of the Level 7 Development/Landform "Avienda" Development Project, Carver County, Minnesota

PREPARED BY

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Dean T. Sather, M.A., R.P.A, Principal Investigator

Under Contract to
Level 7 Development

November 2016

merjent

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1.0 EXECUTIVE SUMMARY

In October of 2016 Merjent, Inc. (Merjent) conducted a Phase I Archaeological Reconnaissance Survey of the route for the Level 7 Development/Landform “Avienda” development Project (Project). The archaeological survey consisted of the pedestrian and subsurface archaeological investigation of an approximately 113 acre parcel of land located within the City of Chanhassen, Minnesota, proposed to be developed for commercial use. During the field survey Merjent relocated and delineated one previously documented site. No previously undocumented archaeological sites were identified.

2.0 INTRODUCTION AND PROJECT DESCRIPTION

Level 7 Development is proposing to develop the "Avienda" commercial center in Chanhassen, Minnesota. The proposed Project is located on approximately 113 acres of land located on previously undeveloped agricultural fields (Figure 1). A Phase I Archaeological Reconnaissance Survey of the Project was conducted due to the presence of previously documented cultural resource sites within and near the perimeter of the defined Project boundary, in compliance with the Minnesota Field Archaeology Act (MN 138.31-42). Merjent was contacted in October of 2016 by Landform to conduct the Phase I Archaeological Reconnaissance Survey.

Project activities will occur in the legal locations shown in **Table 1**, which served as the basis for the Phase I Archaeological Reconnaissance Survey area.

Table 1: Township, Range, and Section of Lands Included in Avienda Project

County	Township	Range	Sections
Carver	116N	23W	NE 23

Between October 24th and October 26th, 2016, Merjent cultural resource staff conducted a Phase I Archaeological Reconnaissance Survey of the Project. The Phase I Archaeological Reconnaissance Survey relocated and delineated one previously documented archaeological site.

3.0 SCOPE OF WORK AND METHODOLOGY

3.1 SCOPE OF WORK

The Phase I Archaeological Reconnaissance Survey was conducted to determine if archaeological resources were present within the Project's Area of Potential Effect (APE). The APE for this segment included all surface and subsurface locations that would potentially experience direct physical disturbance as a result of the construction within the defined Project area segment (**Figure 2**). Subsurface testing was limited to the wooded area in the southwestern portion of the Project area.

3.2 METHODOLOGY

Field investigations for the current Phase I Survey were conducted according to guidelines prepared by the Minnesota State Historic Preservation Office (Anfinson, 2005). A literature review was conducted to determine the scope and results of previous archaeological and historic property inventories conducted in the region. Data files maintained by both the State Historic Preservation Office (SHPO) and the Office of the State Archaeologist (OSA) provided information regarding recorded cultural resources and previous survey activities within the Project area. Previously published synthesis reports provided a majority of the background information regarding regional cultural contexts and environmental history. The environmental background and historic contexts were examined to assess the probability of sites and what types of sites might be identified.

Field investigations executed during a Phase I Archaeological Reconnaissance provide a means of determining if cultural deposits exist within a defined Project area and to assess the vertical and horizontal boundaries of any discovered deposits. Investigative techniques for Phase I survey may include pedestrian survey, shovel testing, and deep testing.

Pedestrian survey consists of controlled visual inspection of the ground surface. Visual inspection is conducted on ground surfaces exhibiting exposed soils such as cultivated fields. Field personnel conducting pedestrian surveys are spaced 5 meters (m) apart and traverse the field in parallel transects inspecting the exposed surface for evidence of cultural deposits. Positive findings consist of historic or prehistoric artifact concentrations and/or evidence of larger, intact cultural features such as structural remains or earthworks. Generally, pedestrian survey is not recommended for areas where surface visibility is less than 25 percent.

Shovel testing, when required, consists of a hand dug excavation unit between 30 and 40 centimeters (cm) in diameter at 15 meter intervals. The depth of the excavated shovel test varies, depending on the depth of subsurface deposits and the presence or absence of intact cultural material. Shovel tests are generally excavated to a depth where intact subsoil horizons are exposed. In locations where subsurface deposits extend beyond the capabilities of hand excavated shovel tests, deep testing may be conducted. All materials excavated from shovel tests or deep tests are screened through one-quarter inch hardware mesh. Detailed field notes are recorded during field investigations for both positive and negative results.

With regard to potentially deeply buried sites, a desktop review is first conducted to identify the landforms and soils present in a Project area. If there is the potential for deeply buried living surfaces that might contain archaeological materials, field testing such as auger coring or mechanical trenching is done.

4.0 RESULTS OF INVESTIGATIONS

4.1 ENVIRONMENTAL BACKGROUND

The Project is located in the Eastern Broadleaf Forest ecological province of central Minnesota. Historic vegetation in the area consisted of oak woodland and maple-basswood forests. Large game animals were dominated by white-tailed deer, while small game resources were also abundant. The environmental survey corridor traverses Minnesota State Historic Preservation Office ("SHPO") sub-region Central Lakes Deciduous South, 4S. The following discussion of pre-contact archaeological periods follows Gibbon 2012 unless otherwise noted.

4.2 PRE-CONTACT OVERVIEW

Pre-contact cultural traditions and development are defined primarily by the material culture present at a site and the subsistence patterns being utilized at that time. Material culture includes artifacts and features, and subsistence patterns include hunting/gathering and horticulture. Further, within pre-contact periods there are often subdivisions based on geographical location, projectile point typologies, and ceramic typologies. Gibbon divides Pre-contact cultures in southern Minnesota into six cultural periods as shown in **Table 2**.

Table 2: Pre-Contact Archaeological Periods in Southern Minnesota

Periods	Year
Early Paleo-Indian	11200 to 10500 BC
Late Paleo-Indian/ Early Eastern Archaic	10500 to 7500 BC
Middle Archaic	7500 to 3000 BC
Late Archaic	3000 to 500 BC
Woodland: Initial, Terminal	500 BC to AD 1200
Oneota Tradition	AD 1200 to AD 1650

4.2.1 Early Paleo-Indian Period (11200 to 10500 BC)

Paleo-Indians were likely the first people to populate the North American continent. Communities were comprised of small bands of highly nomadic hunter-gathers, primarily focused on the exploitation of mega-fauna, including mammoths and mastodons. Paleo-Indian sites tend to be small and are commonly identified by the recovery of large, distinctive lanceolate projectile points.

4.2.2 Late Paleo-Indian/ Early Eastern Archaic (10500 to 7500 BC)

The transition from the Early Paleo-Indian to Late Paleo-Indian in the central Minnesota is evidenced in the archaeological record by the replacement of fluted points with stemmed points and some heavy stone tool construction. Tool types of Late Paleo-Indian/Early Eastern Archaic peoples occur in much greater numbers than those of their predecessors, the Early Paleo-Indians. Tool characteristic of this period show a high quality of workmanship and include projectile points with a lanceolate shape, lack of fluting, ground and thin edges, and fine oblique or collateral flaking across the blade face. Types of Late Paleo-Indians identified in Minnesota include Agate Basin, Alberta, Angostura, Browns Valley, Eden, Frederick, Hell Gap, Midland, Plainview, and Scottsbluff.

Early Eastern Archaic points are notched or stemmed forms, often constructed of heavily reworked lanceolate points with a concave base, basal ears, and fluting on some specimens. Although the point types differ from those of Late Paleo-Indians, the Early Eastern Archaic was contemporary in part with the Late Paleo-Indian period, sharing a nomadic, animal hunting lifeway.

The majority of identified Late Paleo-Indian Sites in Minnesota occur along lake edges and rivers, with most lake edge sites located along smaller, non-glacial lakes. Sites identified from this period are typically find spots of points, lithic workshops, and temporary camps. Long term habitation sites, burial locations, and kill sites are rare and underrepresented in the archaeological record.

4.2.3 Middle Archaic (7500 to 3000 BC)

Middle Archaic projectile points typically are smaller and less well made than during the preceding phases and suggest a general decline in high quality stone working outside of the Paleo-Indian tradition. Characteristics of Archaic points that separate themselves from Paleo-Indian projectile points include smaller size and beveled and resharpened edges designed for cutting and penetration. An expansion of tool technology begins to appear during the late Middle Archaic with a new suite of ground stone tools including banner stones, plummets, and grooved axes. The utilization of copper artifacts also appears for the first time.

Known Middle Archaic sites in central Minnesota remain sparse, typically consisting of surface scatters of stone artifacts in small, shallow components with minimal midden buildup. Site types include short term camps, kill sites, lithic workshops, quarries, and burials. The features and minimal number of artifacts suggest a small population of highly mobile hunters and foragers with single use to short term habitation sites.

4.2.4 Late Archaic (3000 to 500 BC)

The expansion of tool technology that starts to appear in the Middle Archaic period flourishes in the Late Archaic. New sets of side stemmed and side-notched projectile points, ground stone tools, and the first clearly identifiable fishing implements in the archaeological record of Minnesota originate in the Late Archaic. Utilization of raw materials like native copper and marine shell and creation of unusual artifacts like birdstones, gorgets, and Turkey Tail bifaces are defining characteristics of the period, as well as communal burial sites and the continuing absence of pottery from the archaeological record.

Late Archaic sites in Minnesota are mostly characterized by the presence of hammered copper artifacts, as well as ground and polished stone artifacts. The lithic tool assemblage located at the Fish Lake West site near Duluth consists mostly of choppers, adzes, and bifaces; tools adapted to working in an environment dominated by timber. The lithic styles and hammered copper artifacts found at the Fish Lake West site are also present in Late Archaic sites farther south at sites such as the Petaga Point site near Lake Mille Lacs.

4.2.5 Woodland: Initial, Terminal (500 BC to AD 1200)

Gibbon (2012) separates the archaeological record of Initial Woodland period in South Eastern Minnesota (a resource region that coincides with the portion of the state located south and east of the City of Saint Cloud) into three periods: the Early Woodland (500 to 200 BC), Middle Woodland (200 BC to AD 200), and Late Middle Woodland (AD 200 to 500).

Pottery remains are the most representative artifacts from the Initial Woodland tradition. Pottery styles from the period are usually typified by a thick walled jar with cordage markings on both the exterior and interior faces of the pottery. The construction and shape of the pottery typically consist of strait rims, slightly constricted necks, somewhat rounded shoulders, and subconoidal bottoms resembling varieties of pottery from the Havana-Hopewell complexes in Illinois. Lithic assemblages show continuity with earlier Archaic and Woodland assemblages typical of highly mobile groups of hunters and foragers. The greatest artifact concentration in the region appears in the rivers, lakes, wetlands, and wet prairies of southern Minnesota. In addition to the presence of pottery in the archaeological record, Woodland sites from this period are also exemplified by the presence of conical shaped burial mounds (Gibbon 2012). By the Late Middle Woodland phase of the Initial Woodland tradition, cultural practices of the Late Middle Woodland people seem less elaborate than during the previous phases. Burial mounds became simpler, often lacking diagnostic grave goods. Pottery styles at this later stage are described by more globular bodies, thinner walls, and finer temper with more complex rim profiles.

The transformation from Initial Woodland complexes to Terminal Woodland complexes after AD 500 remains poorly understood (Gibbon, 2012). What is clear is that the Terminal Woodland period represents a time of technological and cultural change. The bow and arrow replaced the atlatl, earlier pottery traits disappeared, and elaborate mortuary rituals associated with large earthwork construction began. Long distance acquisition of materials, ritual pipe smoking, and possibly the presence of socially ranked societies were descriptive of cultures with a great reliance on domesticated plants and larger populations within groups.

Known Late Woodland sites, while evident in some areas of southwestern Wisconsin and eastern Iowa, are sparse in southeastern Minnesota. One reason may be that the lack of real sites as large scale surveys in the region have failed to identify a strong Late Woodland presence, suggesting a population density much lower than those areas farther south and east

(Gibbon 2012). Because of sparse number of Late Woodland sites in the region, examples must be borrowed from the surrounding states of Iowa and Wisconsin. Initial Late Woodland (AD 500 to 700) in southwestern Wisconsin and northeastern Iowa consist of components most recognized by the presence of Lane Farm Cord-Impressed pottery, a jar with a somewhat rounded base and constricted neck. The small and corner notched projectile points of the period may represent the first arrow head points in the region. Small conical and elongated linear mounds containing limited grave goods and primary flexed burials are evident.

Defined by Gibbon (2012) as the Mature Late (Terminal) Woodland period in the Upper Mississippi River Valley, AD 700 to 1000 represents the time period defined by the Effigy Mound Complex. Effigy Mound people constructed earthen conical and linear mounds similar to previous cultural phases as well as mounds designed in the shape of wildlife, including avian, mammalian, and reptile. Grave goods are typically utilitarian objects such as ceramic vessels and projectile points. Material culture of the Effigy culture includes the near absence on non-utilitarian “luxury” items intended for the elite, simple unnotched triangular points, thinner and finer tempered ceramics with more complex shapes, and a shared cultural identity that covered a large geographic region for over 600 years.

Mound building would disappear from the archaeological record during the Final Late (Terminal) Woodland period from AD 100 to 1200. Pure Late Woodland sites become rare and are replaced with stockade sites exhibiting both Late Woodland and Middle Mississippian characteristics. Ceramics from this period belong to the Grant Series with design features including grit tempering, cord roughened jars that may have squared orifices, prominent castellations, and special rim treatment that raises the height of the rim. Decorations, when present, generally consist of single cord impressions forming zigzag and chevrons over plain or cord roughened rim surfaces. Lithic technology from this period includes simple unnotched Maddison triangular arrow points and Cahokia Site Notched cluster points.

4.2.6 Oneota Tradition (AD 1200 to 1650)

The transition from the Woodland-dominated cultural landscape to the Upper Mississippian contexts in southern Minnesota saw a shift from long established lifeways of Woodland peoples to the appearance of societies with new material cultures, settlement patterns, social organization, and ideology. Groups of people were less mobile and more dependent on the cultivation of maize, living within more permanent and often fortified settlements. The construction and artistic techniques used to produce ceramics evolved to vessels with shoulder decorated rims, smoothed rather than cordmarked exterior surfaces, shell temper rather than grit temper, and handles in place of collars or castellations.

Oneota Sites are distributed throughout the forests and prairie of southern Minnesota with regional variations of Oneota pottery identified in the northeastern prairie region and in the north woods. Oneota village sites are located along several rivers within southern Minnesota, specifically the Mississippi River near Red Wing, along the St. Croix north of Stillwater, the Blue Earth River and along the Upper Minnesota River. Oneota Pottery is also present in the upper layer of many sites as far west as the South Dakota border. Ceramics are shell tempered, round bottomed globular jars with high straight to slightly curving rims ranging in size from 0.5 to 5 gallons. Stone tools identified at Oneota village sites consist of unnotched triangular points, scrapers, knives, drills, wedges, choppers, and expedient flake tools.

4.3 CONTACT AND POST-CONTACT OVERVIEW

4.3.1 Contact Period (1650 to 1837 CE)

The Contact Period (1650 to 1837) includes American Indian and Euro-American contexts. The Minnesota OSA (MN OSA) subdivides the American Indian context into “Indeterminate” or “Eastern Dakota”, and the Euro-American context into “Indeterminate”, “French”, “British”, and “Initial US” (MN OSA, 2009).

4.3.2 Eastern Dakota

The Eastern Dakota, along with the Western Dakota and the Lakota, comprise the ethnic group of the Sioux people. The Eastern Dakota lived in “village-centered tribal world societies” throughout Minnesota during the 17th century and were in an alliance with French fur traders and merchants (Gibbon, 2012). The Dakota War of 1862 resulted in numerous attacks on settlements and trading posts along the Minnesota River and culminated in the mass hanging of 38 Eastern Dakota (MNHS, 2015). After the war, many families relocated to the western territories and Canada. There are currently four reservations in Minnesota inhabited by descendants of the Eastern Dakota people.

4.3.3 British

After the Treaty of Paris in 1763, the British quickly set up fur trading posts throughout Minnesota. The British fur trading economy was centered at Grand Portage, where traders would bring their furs and leave with other valuable trade goods. After the Revolutionary War of 1776, competition between the United States and British companies intensified throughout Minnesota. In 1803, the Louisiana land purchase established United States lands extending from the Atlantic to the Rocky Mountains. The War of 1812 saw a demise in the British fur traders due to the United States denying business licenses to British traders.

4.3.4 Initial United States

Early Americans conducted the first fully documented land survey of Minnesota in the mid-18th century and early 19th century. Jonathan Carver explored the upper Mississippi River in the 1760s, and by 1806 Zebulon Pike had explored portions of the river. Missionaries began to arrive in the early 19th century, primarily along the Minnesota River. The American Fur Company was founded by John Jacob Astor in 1811, after which numerous fur trading posts were quickly established throughout the state. At the confluence of the Minnesota and Mississippi Rivers, Fort Snelling was constructed in 1819 to protect the new United States investments in the area. Large-scale fur trade resulted in a major decline in native beaver populations, and by 1842 the fur trade in Minnesota had come to an end (Dobbs, 1989). After the passing of the fur trading industry, land was opened up to Euro-American settlers.

4.3.5 Post-contact Period (1837 to 1960 CE)

MN OSA subdivides the post-contact period into eight categories based on social and economic issues pertaining to different geographical locations and time frames (MN OSA, 2009):

- Indian Communities & Reservations (1837 to 1934)
- Early Agriculture & River Settlement (1840 to 1870)
- Northern MN Lumbering (1870 to 1930s)

- Tourism & Recreation (1870 to 1945)
- St. Croix Triangle Lumbering (1830s to 1900s)
- Railroads & Agricultural Development (1870 to 1940)
- Iron Ore Industry (1880s to 1945)
- Urban Centers (1870 to 1940)

Additionally, Euro-American Farms in Minnesota (1820 to 1960) have been divided into eight development periods (Terrell, 2006):

- Early Settlement (1820 to 1870)
- Development of a Wheat Monoculture (1860 to 1885)
- Diversification and the Rise of Dairying (1875 to 1900)
- Industrialization and Prosperity (1900 to 1920)
- Developing the Cutover (1900 to 1940)
- Development of Livestock Industries (1900 to 1940)
- Depression and the Interwar Period (1920 to 1940)
- World War II and the Postwar Period (1940 to 1960)

4.3.6 Early Agriculture & River Settlement (1840 to 1870)

This category is defined by subsistence farming and the transition to wheat monoculture. It is primarily focused on the southeastern portion of the state. Farmsteads within this context are represented by farm buildings and other types of structures, such as, dugouts, soddies, and "claim shacks" (Terrell, 2006). The Preemption Act of 1854 and the Homestead Act of 1862 brought many settlers to Minnesota and the railroads quickly followed. Many towns arose along major transportation routes and along important rivers. The large influx of settlers created ethnic communities that were centered on churches and schools. As the farms and towns grew, so did industries associated with agricultural activities (Terrell, 2006). This, in turn, gave rise to the next historical context: Railroads & Agricultural Development.

4.3.7 Railroads & Agricultural Development (1870 to 1940)

This category is characterized by larger and more diverse farms, primarily in the southern and western portions of the state. Farmsteads within this context also include subsistence farming and large scale bonanza farms (Terrell, 2006). As the earlier, smaller communities continued to grow, railroads were expanding to accommodate full-scale agricultural commerce. Towns located along railroad lines quickly became important to the local economies for the ease of transporting agricultural goods, as well as bringing in needed goods for the local populations. As the modern industrial era continued to expand and change, so did the local historical landscapes of the railroad towns. Urban sprawl, along with new technologies, industries, and railroads all led to changes within these communities that can still be seen today (Terrell, 2006).

4.4 BACKGROUND LITERATURE REVIEW

In October 2016, Merjent Senior Cultural Resource Specialist Dean T. Sather examined site files maintained at the OSA and the SHPO in St. Paul to update and supplement the Phase IA Background Literature Review conducted the previous year. The objective in reviewing cultural resources background literature is to identify previously recorded cultural resource sites and assess the potential for unrecorded sites to be located within the Project Area. The standard for considering a cultural property significant is whether it meets the criteria for listing on the NRHP. The initial criterion for such listing is an age of 50 or more years. Beyond age, a property must retain integrity and be associated with significant historic trends, historic persons, building styles and craftsmanship, or the property must have the potential to provide significant information about the past. Merjent staff inventoried previously executed cultural resource investigations for the townships included in the Project area and the greater Carver County region.

A total of 8 previously documented archaeological site and two inventoried standing structures were located within one-mile of the Project.

4.4.1 Previously Identified Archaeological Sites

Prior to conducting archaeological field investigations for the Project, Merjent retrieved information from the Minnesota Historical Society (MNHS) regarding previously documented archaeological site locations within a 1-mile-wide (1.6 km) study area including and surrounding the Project area. Merjent's review of the information obtained at MNHS identified seven previously reported archaeological sites within one mile (mi) (1.6 kilometers [km]) of the proposed Project area and one archaeological sites within the Project Area (**Figure 1, Table 3**).

Table 3: Previously Documented Archaeological Sites within One-Mile of the Project

Site Number/Site Name/Site Type	County, Location (TRS)	Site Significance	Location to Project Area
21CR 014/unnamed/Pre-contact artifact scatter	Carver, 116N/23W/22	Unevaluated	West of Project – external to Project boundary
21CR 015/unnamed/ Pre-contact Lithic Scatter	Carver, 116N/23W/22	Unevaluated	West of Project – external to Project boundary
21CR 103/unnamed/ Pre-contact Lithic Scatter	Carver, 116N/23W/27	Unevaluated	South and West of Project – external to Project boundary
21CR 104/unnamed/ Pre-contact Lithic Scatter	Carver, 116N/23W/27	Unevaluated	South and West of Project – external to Project boundary
21CR 109/Lake Susan SW Shore/Pre-contact Lithic Scatter	Cass, 116N/32W/14	Unevaluated	North and East of Project – external to Project boundary
21CR 140/unnamed/Historic artifact scatter	Cass, 116N/23W/27	Unknown	South and West of Project – external to Project boundary

21CR aj/unnamed/Pre-contact mounds	Cass, 116N/23W/23	Unknown	Within Project
21CR aj/unnamed/Historic Burial	Cass, 116N/23W/23	Unknown	East of Project – external to Project Boundary

As mentioned above, seven of the sites were located within the one-mile buffer surrounding the boundary of the Project Area (21CR014, 21CR015, 21CR103, 21CR104, 21CR109, 21CR140, and 21CRak). As these sites are situated external to the boundary of the proposed Project area, they will not be impacted by proposed construction activities associated with the Project. The remaining site, 21CRaj, is an informant documented pre-contact burial site comprised of two low conical mounds situated in a wooded area in the southern portion of the Project Area (**Figure 1 & 3**). These features were relocated and delineated during field investigations. Physical testing of the features was not undertaken at the time of the field survey as the current development plans indicate that this area will be maintained as green space and no construction activities will be occurring in this area. Therefore, while located within the proposed Project Area site 21CRaj is situated external to construction area and will not be impacted by proposed construction activities.

4.4.2 Previously Recorded Standing Historic Structures

A review of records at the MN SHPO indicated that no historic/architectural resources have been previously inventoried in the Project boundary. Two historic/architectural resources have been previously inventoried within one-mile of the Project area (**Figure 1**). One of these resources has been listed on the NRHP. The other resource has not been evaluated. The list of previously documented historic/architectural resources is summarized in **Table 4.**

Table 4: Previously Recorded Historic/Architectural Sites within One-Mile of the Project Area

Site Number/Site Name/Site Type	County, Location (TRS)	Site Significance	Location to Project Area
CR-CHC-004/Farmstead	Cass, 116N/23W/22	Unevaluated	North and East of Project – External to Project boundary - No Impact
CR-CHC-006/Albertine and Fred Heck House	Cass, 116N/23W/22	Evaluated – Listed on NRHP	North and East of Project – External to Project boundary - No Impact

Structure **CR-CHC-004** an unnamed farmstead located on the west side of County Road 17 approximately 0.5 miles north and west of the Project Area. This structure was inventoried during a 1980 survey. Its current status is unevaluated for National Register. As the structure is external to the Project Area it will not be impacted.

Structure **CR-CHC-006** is the National Register listed Albertine and Fred Heck home. The historic property is located approximately 0.2 miles north and west of the Project Area, near the intersection of Lyman Boulevard and Audubon Road in Chanhassen. The listing includes one contributing structure and one non-contributing structure. The contributing structure is a well preserved single residence constructed in 1895 of locally produced Chaska-brick. The non-

contributing structure is an unattached garage constructed of concrete block. The structures were originally part of a 105 acre farm settled by a German immigrant family. The listed structures are located external to the proposed Project Area and will not be impacted by the proposed construction.

5.0 FIELD INVESTIGATION

Field work was conducted between October 24th and October 26th, 2016. Merjent Cultural Resource Specialist Matthew Terry served as Field Director. The Project was considered of moderate to high potential for prehistoric archaeological deposits due to the proximity to both permanent water resources and the presence of previously documented cultural resources within one mile of the Project (**Figure 2**). The Phase I Archaeological Reconnaissance Survey was conducted to determine if unrecorded cultural resources were present within the Project's APE. Cultural resources could include archaeological sites or historic/architectural resources.

Field reconnaissance consisted of a combination of pedestrian survey and shovel test excavations with a focus on culturally viable landforms. Shovel testing consisted of hand dug excavation units between 30 and 40 centimeters in diameter. The depth of the excavated shovel test varied depending on the depth of subsurface deposits and the presence or absence of intact cultural material. Shovel tests were generally excavated to a depth where intact subsoil horizons were exposed.

All materials excavated from shovel tests or deep tests were screened through ¼" hardware mesh. Detailed field notes were recorded during field investigations along the individual landforms that were pedestrian surveyed, as well as the shovel tested areas. Pedestrian survey involved controlled visual inspection of the ground surface. Field personnel conducting pedestrian surveys were spaced a maximum of 5 m apart and traversed the segment in parallel transects inspecting the exposed surface for evidence of cultural deposits. The majority of the land surface investigated had excellent ground surface visibility.

All shovel tests excavated within the Project area were negative for cultural materials. No intact deposits containing cultural materials relating to the historic or prehistoric period were identified within the Project boundaries. The Project will have no adverse impact on any recorded, known, or suspected cultural resources.

6.0 RECOMMENDATIONS

Merjent recommends that there will be no adverse impact on known or suspected cultural resources as a result of this Project and that no additional cultural resource investigations are needed. Merjent recommends that if construction plans are altered to affect areas that were not previously surveyed or disturbed, these locations should be examined for cultural resources.

In the event that additional archaeological materials are identified during construction activities, Merjent recommends that construction in proximity to the discovery immediately cease and procedures be followed to notify the MN SHPO and other agencies, as required. Further, if human remains are encountered during construction activities, all ground disturbing activity must cease and local law enforcement must be notified. MS 307.08, the Private Cemeteries Act, prohibits the intentional disturbance of human burials. Work should not resume until all issues are resolved.

7.0 REFERENCES CITED

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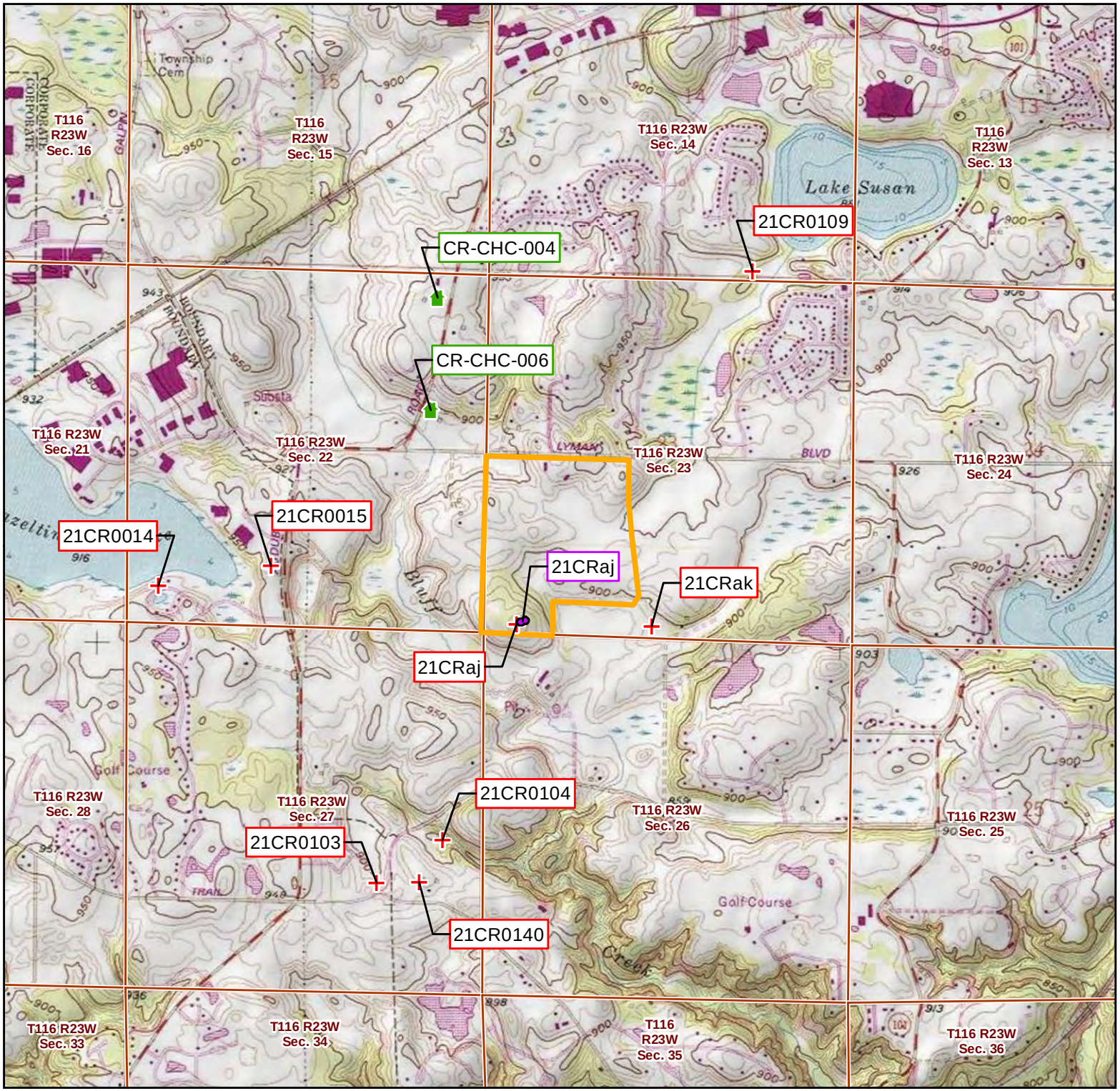

0 1,000 2,000 Feet

0 300 600 Meters

1 inch = 2,000 feet

- Previously Identified Architectural/Historic Resource
- Previously Identified Archaeological Site
- Field Verified Archaeological Site
- Project Area

Figure 1

Avienda Chanhassen Project
Topographic Overview
Carver County, Minnesota

USGS 7.5' Shakopee Quad, 1973

merjent

For Environmental Review Purposes Only

Source: Z:\Clients\1_L\Level_7_Development\Avienda\Field_Data\Cultural\Reports\SHPO\Figure_1_Avienda_Topographic_Overview.mxd

Date: (11/14/2016)

0 200 400 Feet
0 60 120 Meters
1 inch = 400 feet
Service Layer Credits:

- Project Area
- Previously Identified Archaeological Site
- Shovel Test Transect
- Field Verified Archaeological Site

Survey Coverage

- Field Verified - Disturbed
- Shovel Tested
- Surface Collection

Figure 2
Avienda Chanhassen Project
Archaeological Survey Coverage
Carver County, Minnesota

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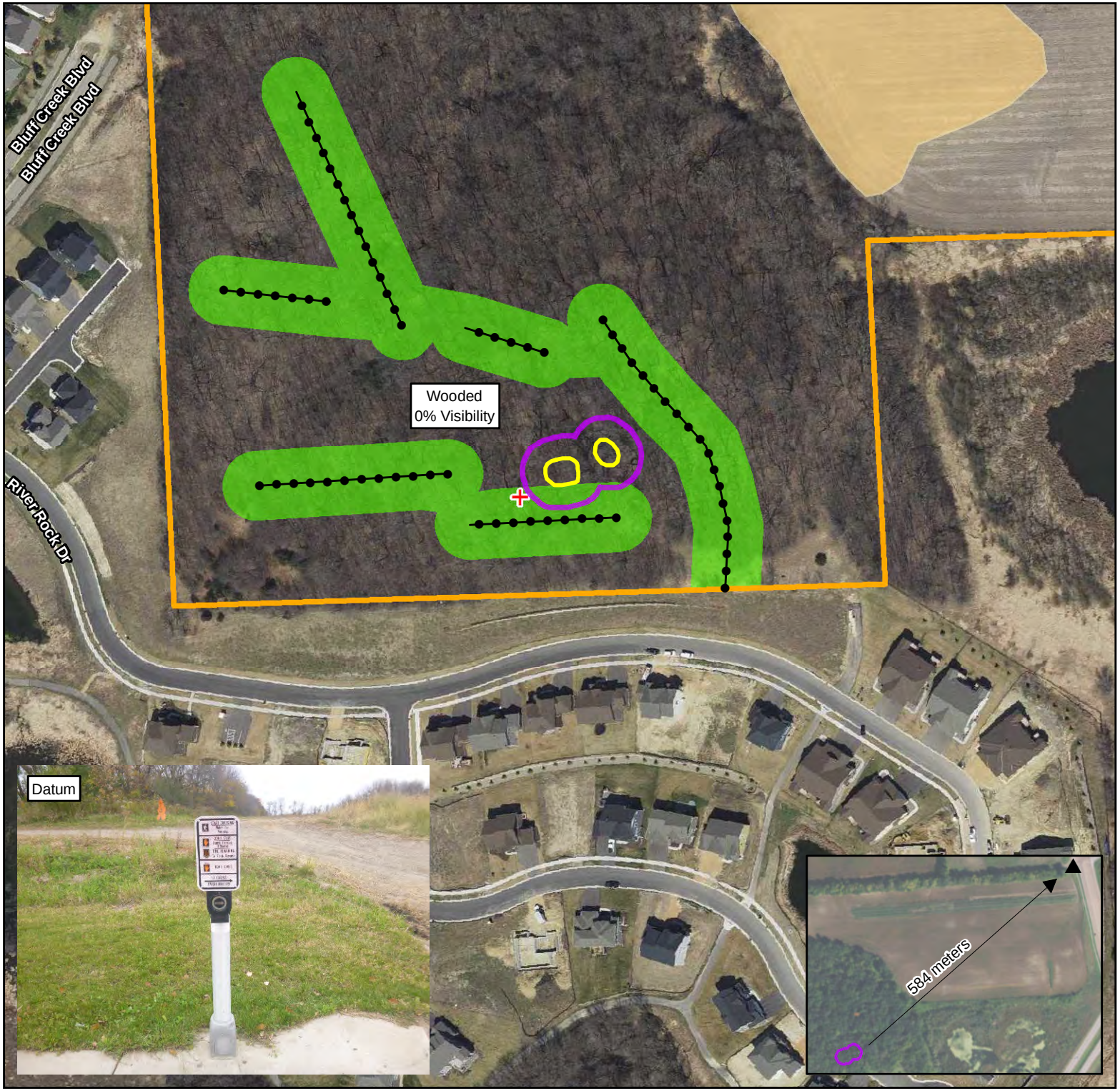

0 100 200 Feet

0 30 60 Meters

1 inch = 200 feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar

- Project Area
- Previously Identified Archaeological Site
- Negative Shovel Test Transect
- Mound Location
- Field Verified Archaeological Site

Survey Coverage

- Shovel Tested
- Surface Collection

Figure 3
Avienda Chanhassen Project
21CRaj Updated Site Map
Carver County, Minnesota

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For Environmental Review Purposes Only

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