

**ARCHAEOLOGICAL INVESTIGATION OF THE
JOHN ORTH BREWING COMPANY (21HE318),
CITY OF MINNEAPOLIS,
HENNEPIN COUNTY, MINNESOTA**



Orth Brewery, c. 1880 (MHS Neg. No. 15946)

Prepared for:
City of Minneapolis
Community Planning and Economic Development



Prepared by:

Two Pines Resource Group, LLC

17711 260th Street
Shafer, MN 55074

July 2011

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MANAGEMENT SUMMARY

In May of 2006, Two Pines Resource Group, LLC (Two Pines) performed an archaeological investigation within the boundary of the John Orth Brewing Company site (21HE0318) in Minneapolis, Hennepin County, Minnesota. Because the City of Minneapolis (the City) anticipated receiving funds from the U.S. Department of Housing and Urban Development (HUD) for the Grain Belt Redevelopment Project (GBRP), the project had to comply with Section 106 of the National Historic Preservation Act of 1966, as amended. In 2000, the City entered into a Programmatic Agreement (PA) with the Minnesota State Historic Preservation Office (SHPO) to facilitate the Section 106 consultation process for the multi-phase, multi-year, GBRP project. The 2006 archaeological fieldwork was undertaken at the request of the Minneapolis Heritage Preservation Commission (HPC) in keeping with the stipulations of the PA, and as a condition of the Certificate of Appropriateness (COA) for the then-planned Grain Belt Premium Lofts development, which was ultimately not constructed.

The City of Minneapolis is seeking new proposals for the purchase and development of a housing/mixed-use project on the Grain Belt Marshall Street Site (1215-1219 Marshall Street NE). As the PA for the GBRP has since expired, the Grain Belt Marshall Street Site project will undergo cultural resources review as a stand-alone undertaking. Two Pines has been contracted by the City of Minneapolis' Department of Community Planning and Economic Development (CPED) to prepare a technical report describing the results of the 2006 fieldwork in order to provide the information necessary for the City and other agencies to review and comment on the potential effects of development proposals on the John Orth Brewing Company archaeological site (21HE0318). Additional significant archaeological features may be located within other portions of 21HE0318, but are outside the scope of the current study. The study area is located in the SE ¼ of the NE ¼ of Section 15, Township 29N, Range 24W, and within the Central Lakes Deciduous East archaeological sub-region. Dr. Michelle Terrell served as the Principal Investigator.

Archaeological site 21HE0318 (John Orth Brewing Company, 1850-1890) is located within the boundaries of the Minneapolis Brewing Company Historic District and is recognized as a contributing element to the district. The 2006 archaeological investigations indicate that the Grain Belt Marshall Street study area contains portions of 21HE0318, namely the remains of the John Orth Brewing Company's main brewery complex, which exhibit excellent archaeological integrity and preservation in keeping with a site that has been capped since its demolition. Not only are the foundations of the brewery complex well preserved, but the presence of *in situ* structural materials, artifacts, and kiln deposits were also noted. Intact soils and living surfaces were also documented proximate to the remains of the buildings. Furthermore, these findings combined with historical research suggest that the entirety of the study area has the potential to contain significant intact archaeological features and deposits associated with the brewery. Per the SHPO, "project development in this area should avoid impacting the historical elements of this site" (Dennis Gimmestad, SHPO – Review and Compliance Officer, to Jerry LePage, MCDA, letter, April 23, 2001, on file at the SHPO).

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INTRODUCTION

In May of 2006, Two Pines Resource Group, LLC (Two Pines) performed an archaeological investigation within the boundary of the John Orth Brewing Company site (21HE0318) in Minneapolis, Hennepin County, Minnesota. Because the City of Minneapolis (the City) anticipated receiving funds from the U.S. Department of Housing and Urban Development (HUD) for the Grain Belt Redevelopment Project (GBRP), the project had to comply with Section 106 of the National Historic Preservation Act of 1966, as amended. In 2000, the City entered into a Programmatic Agreement (PA) with the Minnesota State Historic Preservation Office (SHPO) to facilitate the Section 106 consultation process for the multi-phase, multi-year, GBRP project. The 2006 archaeological fieldwork was conducted at the request of the Minneapolis Heritage Preservation Commission (HPC) in keeping with the stipulations of the PA, and as a condition of the Certificate of Appropriateness (COA) for the then-planned Grain Belt Premium Lofts development, which was ultimately not constructed.

The City of Minneapolis is seeking new proposals for the purchase and development of a housing/mixed-use project on the Grain Belt Marshall Street Site (1215-1219 Marshall Street NE). As the PA for the GBRP has since expired, the Grain Belt Marshall Street Site project will undergo cultural resources review as a stand-alone undertaking. Two Pines has been contracted by the City of Minneapolis' Department of Community Planning and Economic Development (CPED) to prepare a technical report describing the results of the 2006 fieldwork in order to provide the information necessary for the City and other agencies to review and comment on the potential effects of development proposals on the John Orth Brewing Company archaeological site.

STUDY AREA

The area subject to archaeological investigations in 2006 was the site of a planned plaza, or "Brewery Square," per the Development Objectives of the GBRP. The study area, which is owned by the City of Minneapolis, is an asphalt-paved parking lot covering the westernmost 125 feet (ft.) of a 2.48-acre parcel (PID 1502924140111) located at 1219 Marshall Street NE (Figure 1). The south edge of the parking lot is defined by a grade change that separates it from the drive/access located to the immediate north of the extant office building. Adjacent areas surrounding the parking lot were not subject to the archaeological investigations; however the area to the immediate south of the study area has been disturbed by the drive/access, related utilities and the construction of the office building, while the area to the east of the study area was the former site of the Caswell Warehouse, which was removed in 2005. The study area is located within Block 1 of Orth's Addition to Minneapolis. Block 1, as platted, measured 231 ft. along 13th Avenue NE and 415.5 ft. along Marshall Street NE and was not subdivided into lots (Minneapolis Real Estate Board 1914:Plate 26). The project area is located in the SE ¼ of the NE ¼ of Section 15, Township 29N, Range 24W. The central UTM (NAD 83, Zone 15) coordinates of the study area are 476762 E and 4982973 N.

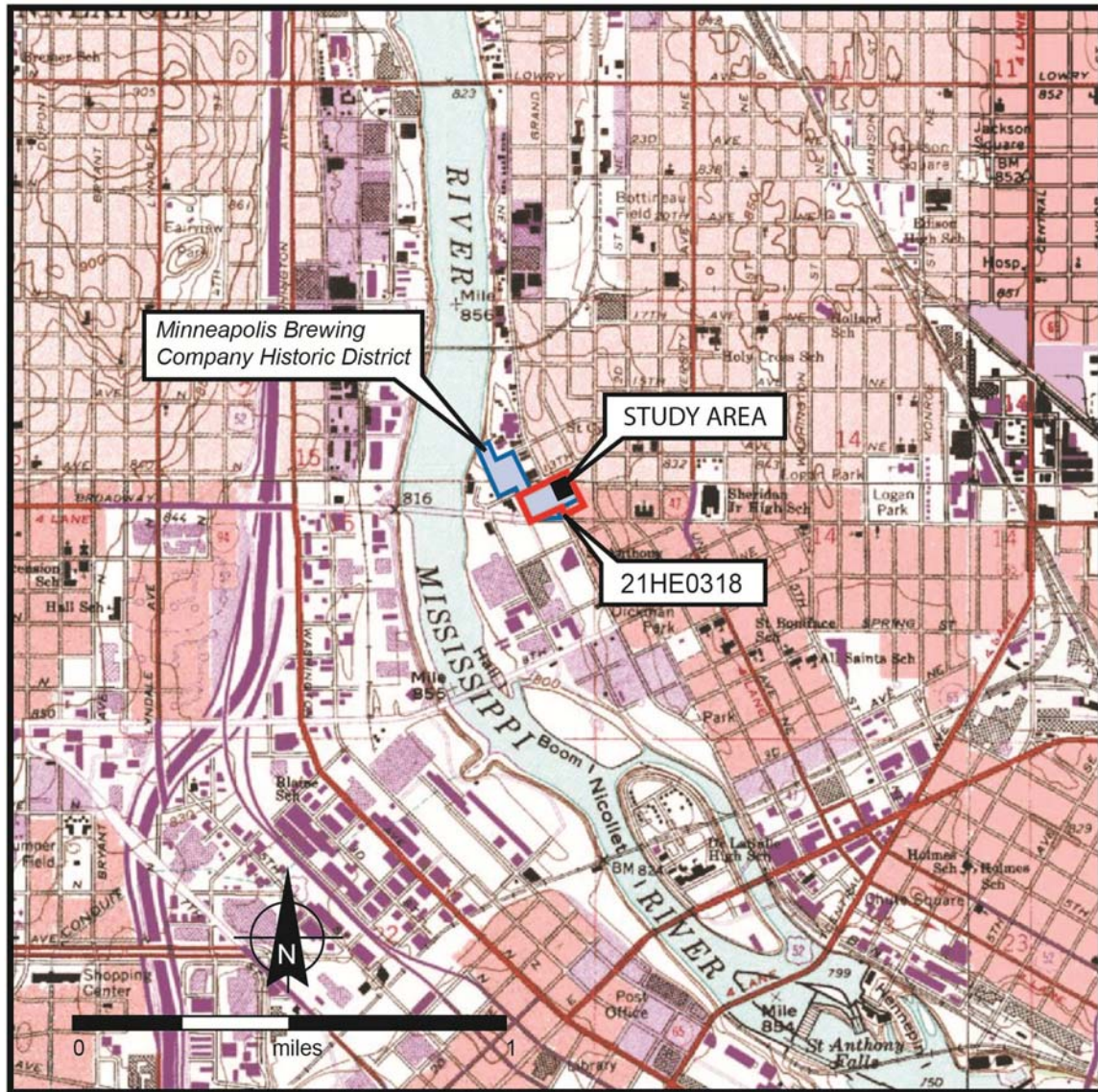


FIGURE 1. PROJECT LOCATION

(PORTIONS OF MINNEAPOLIS NORTH [1993], MINNEAPOLIS SOUTH [1993], NEW BRIGHTON [1999], SAINT PAUL WEST [1993], 7.5' USGS QUADRANGLES)

SITE 21HE0318 (JOHN ORTH BREWING COMPANY)

The Grain Belt Marshall Street study area located at 1219 Marshall Street NE is situated within the boundary of 21HE0318 (John Orth Brewing Company, 1850-1890) (see Figure 1). The boundary of the archaeological site encompasses the main brewery complex located on the southeast corner of the intersection of Marshall Street NE and 13th Avenue NE, and the site of Orth's second malt house and kiln (later modified into an ice house and blacksmith/carpenter shop) located to the west of Marshall Street NE, as well as the locations of two of the Orth family's former residences.

EXISTING HISTORIC AND CULTURAL DESIGNATIONS

The majority of the John Orth Brewing Company site (21HE0318) is situated within the Minneapolis Brewing Company (or Grain Belt Brewery) Historic District (1891-1927) (HE-MPC-2244) (see Figure 1). The Grain Belt Brewery was initially placed on the "Minnesota Inventory of Historic and Prehistoric Places" on October 19, 1972 (Charles Nelson, SHPO Architectural Historian, to William Scott, Minneapolis HPC Chairman, letter, March 24, 1977, on file at the SHPO). Local designation of the Minneapolis Brewing and Malting Company as a historic landmark followed in 1977. The local historic landmark designation is for the brew house at 1220 Marshall Street NE and the office building at 1215 Marshall Street NE. Both of these structures are encompassed within the larger boundary of the Minneapolis Brewing Company (or Grain Belt Brewery) Historic District, which was listed in the National Register of Historic Places (National Register) in 1990 (Koop 1988).

The John Orth Brewing Company site (21HE0318) is located within the boundaries of the Minneapolis Brewing Company Historic District and is recognized as a contributing element to the district. Per the SHPO, "project development in this area should avoid impacting the historical elements of this site" (Dennis Gimmestad, SHPO, to Jerry LePage, MCDA, letter, April 23, 2001, on file at the SHPO).

RESEARCH DESIGN

OBJECTIVE

The area subject to archaeological investigations in 2006 was an asphalt-paved parking lot, which is the site of a planned plaza, or “Brewery Square,” per the Development Objectives of the GBRP. The study area was known to contain portions of the John Orth Brewing Company site (21HE0318), a contributing element to the Minneapolis Brewing Company Historic District, and the SHPO stated that project development in this area should avoid impacting the historical elements of the brewery site. The Minneapolis HPC therefore requested that a licensed archaeologist document the exact location, depth below grade, and dimensions of the Orth Brewery foundation to assess whether the project’s proposed plaza design would have any adverse effect on the site (Greg Mathis, CPED, to Ross Fefercorn, Sheridan Development Company, letter, March 28, 2006). To that end, the primary objective of the archaeological investigations was to relocate and document the extent of the Orth Brewery foundations in the area to the north of the extant Minneapolis Brewing Company office building. Particular emphasis was placed on locating the eastern wall of the brewery which was most proximate to proposed development activities and which was not exposed during previous archaeological testing.

METHODS

All work was conducted in accordance with the *SHPO Manual for Archaeological Projects in Minnesota* (Anfinson 2005), and *The Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation* (National Park Service 2002).

BACKGROUND RESEARCH

Literature Search

Staff from Two Pines conducted background research at the SHPO, the Minnesota Historical Society (MHS), the Hennepin County Library, and the City of Minneapolis CPED office. Research at the SHPO focused on previously identified cultural resources, within and proximate to the project area, and the review of reports of previous investigations. The Minneapolis Brewing Company Historic District is documented in a National Register of Historic Places Nomination Form (Koop 1988).

A land-use history of the Grain Belt Marshall Street study area was compiled through the use of historical atlases (Cook 1861; Minneapolis Real Estate Board 1903 and 1914, Works Progress Administration 1940); fire insurance maps (Rascher Insurance Map Publishing Company 1906; Sanborn Map Company 1885, 1890; 1912, 1930, 1951, 1952); and aerial photographs (1938, 1947). Historical photographs of the area in the holdings of the MHS and the Hennepin County Library were also consulted. Building permit index cards were consulted at the CPED office. Additional research on John Orth

and the brewery was conducted in the holdings of the MHS, newspaper archives, and in available online sources.

Environmental Setting

The Grain Belt Marshall Street study area is located within the Central Lakes Deciduous East archaeological sub-region, which encompasses much of east-central Minnesota. The sub-region is bound to the west by the Mississippi River and to the east by the St. Croix River. The area between these two rivers contains numerous lakes, streams, and wetlands. The topography of the Central Lakes Deciduous East sub-region consists of glacial moraines, till plains, and outwash plains. The climate within this sub-region has an average annual precipitation range from 20 to 28 inches. Average January highs range from 12 to 24 degrees Fahrenheit (F), while average July highs range from 78 to 82 degrees F. The frost-free season lasts up to 160 days in the south and up to 140 days in the north (Gibbon et al. 2002).

Archaeological Sites Previously Identified Proximate to the Project Area

Background research conducted at the SHPO revealed that there are 10 recorded archaeological sites within a one mile (1.6 km) radius of the study area (Table 1). Many of these sites were identified during development projects along the Minneapolis riverfront. Sites 21HE112 through 21HE117 were excavated during 1983 and 1986 archaeological surveys of the proposed West River Parkway extension (Anfinson 1984; Tordoff 1984; Tordoff and Clouse 1987). Archaeological investigation of the Bridgehead area for the Federal Reserve Bank of Minneapolis resulted in the documentation of sites 21HE195 and 21HE196 (Rust et al. 1995). The development of the Mill Ruins Park led to the identification of sites 21HE272 through 21HE275 (Clouse 1996). The majority of these previously identified sites consist of foundations and structural remains associated with industries along the Minneapolis riverfront.

TABLE 1. PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES WITHIN ONE MILE OF THE PROJECT AREA

Site No.	T	R	S	Description
21HE112	29N	24W	22	Omaha R.R. Roundhouse
21HE113	29N	24W	22	North Star Sawmill
21HE114	29N	24W	22	West Side Power Plant
21HE115	29N	24W	22 & 23	Pacific Sawmill
21HE116	29N	24W	23	Hennepin Avenue Bridge Footings
21HE117	29N	24W	23	Gateway Residential District
21HE195	29N	24W	22	North Star Ironworks
21HE196	29N	24W	23	Bridgehead Area B
21HE349	29N	24W	15	St. Anthony of Padua Cemetery
21HE373	29N	24W	23	23-25 and 29 Grove Street

FIELDWORK METHODS

Two Pines' investigation of the Orth Brewery site commenced with a visual reconnaissance of the study area. The purpose of this inspection was to identify the location of test trenches excavated by Hemisphere Field Services in 2001.

Fieldwork techniques consisted of the excavation of backhoe trenches using a toothed backhoe bucket to remove the asphalt and a Class 5 sub-layer, and a smooth bucket to remove subsequent layers. As foundations were exposed, further clearing was accomplished through hand excavation using shovels and trowels. Excavations generally did not go deeper than what was necessary to expose and record the foundations so as to not disturb any intact cultural deposits surrounding the foundations. Exposed foundations were mapped in plan and profile and photographed, and their locations recorded with a GPS unit. Loucks Associates surveyed in the elevations of the foundations. Upon completion of the mapping, the trenches were backfilled to original grade.

Data gathered were recorded in the field notebook of the Principal Investigator. Items noted included: the location of survey areas; the depth of trenches and their associated soil profile; and the presence or absence of cultural materials and features within each test. Upon completion of backhoe testing, a plan view map was drawn and overview photographs were taken. Site stratigraphy was documented through a profile drawing that included information on soil textures, inclusions, and color.

GEOGRAPHIC INFORMATION SYSTEM DATA

A geographic information system (GIS) data layer was created during the course of the archaeological investigations. The location of backhoe trenches and features were recorded in the field using a Trimble ProXR GPS Unit. All data were differentially corrected using a National Geodetic Survey (NGS) continuously operating reference station (CORS) data. Trimble Pathfinder Office 3.10 was used to correct the data and export it as ESRI shapefiles. ESRI ArcGIS 3.2 was used to analyze and map the data.

HISTORICAL BACKGROUND

PRE-DEVELOPMENT ENVIRONMENTAL HISTORY

Located in the SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 15, Township 29N, Range 24W, the project area was initially located on the northern outskirts of the burgeoning community of St. Anthony (see Figure 1). When this area was initially surveyed in 1853, the only cultural feature of note in proximity to the project area was a trail running parallel to the river. As this trail crossed the SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 15, it passed just to the east of the study area, approximately following the alignment of present-day Grand Street NE. By 1861, the city had expanded northward from the Falls of St. Anthony, and the study area was platted by brewery owner John Orth as Orth's Addition (Cook 1861). Block 1 of the plat was reserved for Orth's Brewery, and 13th Avenue NE was originally platted as Brewery Street (Figure 2).

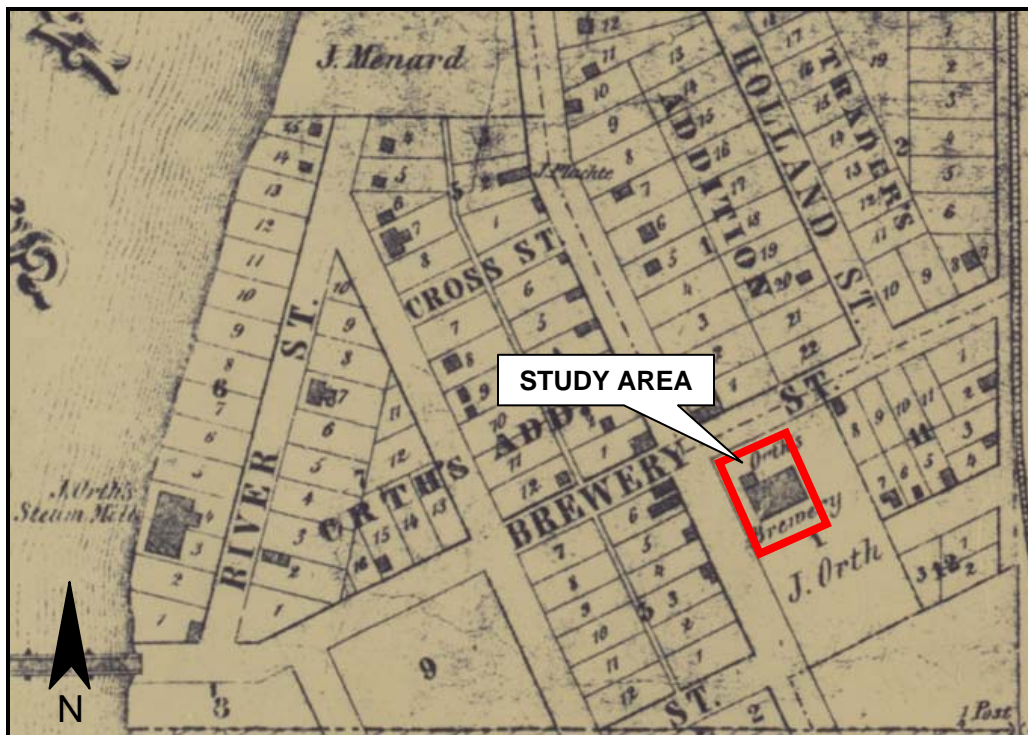


FIGURE 2. STUDY AREA OUTLINED ON DETAIL FROM COOK'S 1861 MAP

MINNEAPOLIS' EARLY BREWING INDUSTRY

The first commercial brewery in Minnesota preceded statehood by nine years, although the home brewing of beer was surely occurring almost as soon as the first EuroAmerican settlers set foot on the future state's soil. After coming to the United States in 1845 during a substantial wave of German immigration, Bavarian native Anthony Yoerg settled in St. Paul in 1848. There, he opened the first brewery in the region during the spring of 1849, just as the wave of immigration was being bolstered by a failed revolutionary movement to unify the German states overseas (Bonney 1981:20; Levine

1992:9; Hoverson 2007:14, 17-19). One year later, in 1850, John Orth, coming from Alsace, “a region under French control at the time but with an equally strong German cultural tradition that honored brewing” (Hoverson 2007:18), established the first commercial brewery in Hennepin County at St. Anthony. Perhaps because St. Anthony did not initially attract as many Germanic peoples as did St. Paul, it was another seven years before Orth would see local competition with any staying power with the establishment of Gluek’s brewery in Minneapolis by his former employee Gottlieb Gluek, who hailed from Wurttemberg, Germany (Dick 1981:85; Hoverson 2007:249). Although Germanic peoples were not the only brewers or consumers of beer in the Territory or early state of Minnesota, they were certainly the majority, with only one of the commercial brewers in the state between 1849 and 1860 having a distinctly non-German heritage. Furthermore, all of the brewers established their operations in areas of concentrated German settlement to exploit a ready market (Dick 1981:89, 204; Worcester 1993:14-15; United States Department of Commerce Bureau of the Census [U.S. Census] 1860, 1880; Minnesota Territorial Census Schedule 1857).

The German influence on the rise of Minnesota’s brewing industry stemmed from a strong adherence, at least initially if not longer, to German cultural traditions by Germanic-American immigrants and their descendants, traditions in which alcohol was not perceived as immoral, brewing was a craft and a source of pride, and of which “saloons and beer gardens were seen as indispensable elements” (Ensslen 1988:160). As the growth of the United States meant the integration of populations with varying ethnic backgrounds, so too did it result in the cross-exposure of cultural traditions. With Germanic peoples making up the largest population of foreign-born peoples in Minnesota from 1860 to 1905 (Johnson 1981:153), German “drinking habits [began] to spread to the rest of Minnesota’s population, fostered by the growth of the saloon” (Dick 1981:89), which in turn fostered the popularity of beer. In the interest of promoting their products, breweries often owned one or more saloons and established beer gardens on their grounds, as well as at their saloons. Although brewery ownership of saloons was illegal in Minneapolis, financial and contractual workarounds were used to accommodate the operation of saloons by breweries, so that by 1908, at least 59 percent of Minneapolis’ 432 saloons were under local brewery control (Hoverson 2007:55-56, 106-108).

Although not as many as those of St. Paul, the commercial breweries of Minneapolis remained a German-dominated enterprise into the 1880s and beyond, as evidenced by the continued operations of the Orth and Gluek breweries and the new major breweries that sprang up between 1860 and 1890. The Kranzelein and Mueller brewery was established by John G. Kranzelein (Bavaria) and John B. Mueller (Bavaria) in 1867 (U.S. Census 1870, 1880). In 1874, the brewery was purchased from Kranzelein by Mueller and his new partner, John Heinrich (Germany), whose son Adolph would purchase Mueller’s share of the brewery in 1884, when the company became the Heinrich Brewing Association (U.S. Census 1880; Worcester 1993:29). The Zahler brewery was founded by Anton Zahler (Bavaria) in 1874, who was joined in the business by Frederick D. Noerenberg (Germany) three years later, Noerenberg taking over the company in 1880 when Zahler passed away (U.S. Census 1870, 1880; Worcester 1993:30). In 1884, John B. Mueller, formerly of Kranzelein and Mueller, partnered with Herman A. Westphal

(Prussia) to build what would become the Germania brewery sometime between that year and 1887 (U.S. Census 1880; Worcester 1993:31).

The period between 1880 and 1890 witnessed the beginning of the concentration of Minnesota's breweries into the state's urban centers due to a variety of conditions, including a dramatic increase in urban populations, the failure of some once-promising small towns and thus their local breweries, and the advent of the railroad, which gave urban breweries ready access to formerly inaccessible peripheral markets (Dick 1981:103; Hoverson 2007:65). This period additionally saw the brewing industry nationwide start to become big business, as technological advances led to the ability for significantly increased production levels, which required moving operations out of small, family-run systems, and for transporting beer further distances from the brewery without spoilage, which allowed breweries to go national. Wisconsin brews began to infiltrate the Minneapolis beer market during this decade, with companies such as Blatz, Anheuser-Busch, Phillip Best (Pabst), and Schlitz all maintaining a presence in the city by 1890 (Hoverson 2007:65-78), and companies from several other states showing an interest in doing the same. In that year, likely with the aim of countering extra-local competition, four of Minneapolis' largest breweries (the fifth being G. Gluek and Sons), consolidated to become the Minneapolis Brewing and Malting Company, later the Minneapolis Brewing Company, and ultimately Grain Belt Breweries, Inc. (*Minneapolis Tribune* 1890; Hoverson 2007:86-88).

FORMATION OF THE MINNEAPOLIS BREWING AND MALTING COMPANY

Born of the Orth, Heinrich, Noerenberg, and Germania brewing interests, the Minneapolis Brewing Company relied on the production of the breweries of these four companies, some longer than others, until it completed the construction of its main facility at the location of Orth's brewery in July of 1892. The following year, the Minneapolis Brewing Company launched its signature brand of beer, Golden Grain Belt. By 1901, the company was producing an annual capacity of 500,000 barrels, making it easily the largest producer of beer in the city, and one of the two leading producers of beer in the state (Dick 1981:113). With the exception of the Prohibition period, which included a shutdown of the Minneapolis Brewing Company lasting from 1927¹ until the amendment was repealed in 1933, the Minneapolis Brewing Company would retain its dominance in Minnesota's brewing industry for several decades. While its primary market was the upper Midwest, the brewery's range of distribution extended to the West Coast and Alaska, and by 1960, its production had increased to 800,000 barrels. The ensuing decade saw the Minneapolis Brewing Company work to increase its national presence, at which time it abandoned its locally connotative name and became Grain Belt Breweries, Inc. Grain Belt Breweries went on to become a dominant regional brewer and the eighteenth largest brewer in the United States, reaching a variety of new markets and an annual capacity of two million barrels before a combination of conditions forced the brewery to shut down in 1975 (Dick 1981:156, 165; Hoverson 2007:119, 163-164;

¹ According to the National Register nomination, the brewery closed in 1927 (Koop 1988:8.1), which is the end date for the brewery's period of significance, however, other sources give the year of closure as 1929 (Hoverson 2007:248).

August Schell Brewing Company 2010a, 2010b). Prior to the original consolidation, it is unlikely that any of the original four breweries could have conceived of the future extent of its success, or, in particular, that John Orth could have imagined the rise of the Minneapolis Brewing Company on the site that he selected for his brewery in 1850.

JOHN ORTH BREWING COMPANY

With its establishment in 1850 in St. Anthony, the John Orth Brewing Company (1850-1890) became the second brewery to operate in Minnesota, then a territory, and the first to commercially produce beer in Hennepin County.

The brewery's proprietor, John Orth, was born on May 20, 1821 at Rott in the Alsace region of France (Worcester 2006:29). During the mid nineteenth century, overpopulation and economic downturns within Alsace contributed to a large exodus of the region's citizens. Brewer John Orth was among those who chose to emigrate, leaving Alsace for the United States in 1849. Briefly settling in Erie, Pennsylvania, he there met and married Prussian-born Mary Caroline Weinell (Wennell) (Worcester 2006:29). By 1850, the couple had moved west to the village of St. Anthony on the Mississippi River. That fall, their first son, John William Orth, was born on September 9. Between 1850 and 1861, the Orths would have six children, four boys (John W., Charles, Edward, and Alfred) and two girls (Sophia and Virginia) (Figure 3; Ancestry 2011a). Charles succumbed to illness at the age of seven, but the remaining children all grew to adulthood (Table 2).



FIGURE 3. 1857 DAGUERREOTYPE OF THE ORTH FAMILY: JOHN ORTH WITH ELDEST SON JOHN W., AT LEFT, AND MARY ORTH WITH SON EDWARD AND DAUGHTER SOPHIA, AT RIGHT.

TABLE 2. ORTH FAMILY HOUSEHOLD IN STATE AND FEDERAL CENSUS RECORDS, 1850-1900

Year/Source	Age	Occupation	Relationship	Comments
1850 Territorial Census		St. Anthony		RE \$300
John Orth	29	Brewer	[head/self]	b. France
Mary Orth	21		[wife]	b. Prussia
John Orth	1/12		[son]	b. Minn Terry
1860 Federal Census		St. Anthony		RE \$40,000 / PE \$3,000
John Orth	39	Brewer and lumberman	[head/self]	b. France
Mary C. Orth	30		[wife]	b. Germany
John W. Orth	10		[son]	b. St. A. Minn
Sophia A. Orth	6		[daughter]	b. St. A. Minn
Edward F. Orth	4		[son]	b. St. A. Minn
Virginia Orth	1		[daughter]	b. St. A. Minn
Philip Winel, Sr.	70	Ship carpenter	[father-in-law]	b. Germany
Catherine Winel	60		[mother-in-law]	b. Germany
Nicholas Cayley	26	Teamster		b. Switzerland
1870 Federal Census		St. Anthony		RE \$20,000 / PE \$5,000
John Orth	49	Brewer	[head/self]	b. Germany
Mary Orth	39	Keeps house	[wife]	b. Germany
John Orth	20	Clerk in brewery	[son]	b. Minnesota
Sophia Orth	16		[daughter]	b. Minnesota
Edward Orth	14		[son]	b. Minnesota
Virginia Orth	12		[daughter]	b. Minnesota
Alfred Orth	10		[son]	b. Minnesota
Philip Wernal	81	At home	[father-in-law]	b. Germany
Catherine Wernal	79	At home	[mother-in-law]	b. Germany
Agnes Blomgust	23	Domestic servant		b. Holland
1880 Federal Census		1228 Marshall, E. Minneapolis		
John Orth	59	Brewer		b. Alsace
Mary Orth	50	Keeping house	wife	b. Prussia
Virginia Orth	21	At home	daughter	b. Minnesota
Alfred Orth	19	Laborer	son	b. Minnesota
Mary Weirs	19	House keeper	servant	b. Wisconsin
Mary Gilles	20	House keeper	servant	b. Minnesota
1900 Federal Census		1207 Marshall, Minneapolis		
Mary C. Orth	70	Keeping house	head	b. Germany
Sophia Alta Alther	45	At home	daughter	b. Minnesota
Alpha Oitha [Alfred Orth]	39	Laborer	son	b. Minnesota
Hugene A. Alther	22		son [grandson]	b. Minnesota
John Orth	11	Bookkeeper	grandchild	b. Minnesota
John Alpha Orth	28	Dentist (student)	grandson	b. Minnesota
Mary Ensich	25	Servant	servant	b. Wisconsin
Josephine Nerlinger	28	Servant	servant	b. Germany

Upon his arrival in St. Anthony, Orth quickly set about establishing a brewery within the burgeoning town. He initially constructed an 18-by-30-ft. wood frame building to house his brewery. The brewery began operations with a 2.5-barrel brew kettle, and used caves excavated into the bedrock at the north end of Nicollet Island to cool the beer during the fermentation and conditioning phase (Warner and Foote 1881:420). In the December 17, 1850 edition of the *Minnesota Democrat*, Orth announced that his wares were ready for sale.

MINNESOTA BREWERY, AT ST.
ANTHONY FALLS – I am now
ready to supply the citizens of the
Territory with Ale and Beer, which
will be found equal – yes, superior –
to what is brought from below. I am
now demonstrating that malt liquors
of the very best quality can be
manufactured in Minnesota. Try my
Ale and Beer and you will be
convinced of the fact.

JOHN ORTH

Orth's brewery met with immediate success, the citizens of St. Anthony consuming the initial batch of beer in a month's time. By 1861, the original wood-frame brewery had been removed, and a substantial (~55 x 90 ft.), three-story brew house with a stone first story and wood frame upper stories (see Figure 2) built on the same site (Warner and Foote 1881:420). Orth steadily grew his brewery, and in 1875, "13 men besides the proprietors [were] kept steadily employed about the establishment" (*Minneapolis Tribune* 1875). Teams of wagons were "kept constantly going delivering beer at the different saloons of the city and at the depots for shipment to points as far north as Breckenridge and as far south as the State line" (*Minneapolis Tribune* 1875). Orth's beer was particularly in "good demand in the Minnesota Valley," and it was often "found impossible to fill the many orders from abroad" (*Minneapolis Tribune* 1875). Two reporters from the *Minneapolis Tribune* toured the brewery in 1875 and provided the following description of the brewery's operations. An 1874 image of the brewery not only serves to illustrate the parts of the brewery described in the article, but how Orth's brewery complex had expanded since 1861 (Figure 4; Andreas 1874).

Four things conspire to make good beer: Good barley, good hops, the best of water and long experience.

Mr. Orth purchases his barley for the greater part, in the Minnesota Valley. The hops used are grown in Oneida county, New York. Wisconsin hops are not in great demand in this section, and Minnesota hops are, for the most part, considered an inferior article. The Englishman who declared that good beer could not be made in America, "because, you know, you 'aven't got the 'ops" died before Oneida county became celebrated. Hops are now worth fifty cents a pound. But recently they could be bought for twenty cents. Barley is worth, per bushel of forty-eight pounds, from \$1.25 to \$1.30.

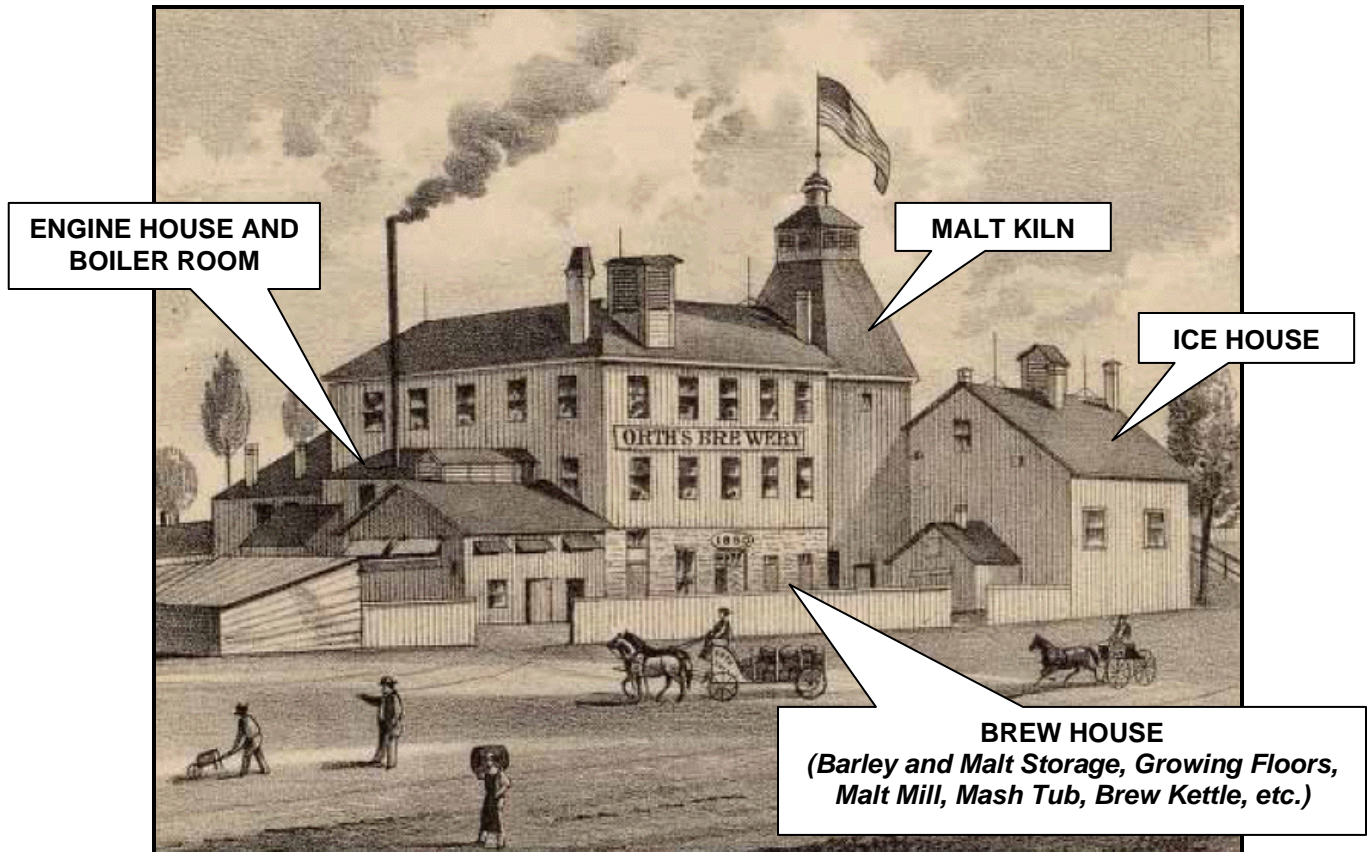


FIGURE 4. 1874 ILLUSTRATION OF THE ORTH BREWERY COMPLEX, VIEW TO SOUTHEAST

The water which enters in the composition of Orth's beer is supplied by a running artesian well eighty-seven feet deep, and is considered the purest water in the city. Mr. Orth, before this well was sunk, tried river water, and then water procured from various springs and wells, but the beer then was from necessity inferior to that made now.

MAKING THE MALT

The barley is taken as it comes from the storehouse and placed in a large tub where it is allowed to soak for several hours, the water being drawn and replaced twice.

The soaked barley is then taken and spread six or eight inches deep on the floors of the sprouting cellars, the largest of which will sprout at a time 150 bushels, and the other five cellars 50 to 60 bushels apiece.

By the process of sprouting much of the flour of the barley is eliminated and the sugar, the spirit element, remains. In making starch the process is reversed, the object being to eliminate the sugar of the grain used and to leave the flour or starch.

The barley after many days sprouting, is taken to the drying kiln and thoroughly dried. It is then malt, and is stored away for future use. Malt has a peculiar flavor, and is very sweet. About 6,000 bushels of prepared malt are always kept stored in the loft.

THE BREW

On brewing day a certain number of bushels of malt are run through the malt machine, which thoroughly cleans the grain, taking off the sprouts and finally cracking the kernel.

The prepared malt is then run to the first floor, and introduced to the large mash tub, into which boiling water is poured. This process is called "taking a mash," and two mashes are taken from the same malt. Some brewers take three mashes, but the third mash makes beer, in the parlance, "rough." Some also use cold water in taking a mash, and beer made in that way contains an inordinate amount of "headache." The bottom of the mash tub is of perforated iron, and cost along \$600.

The juices of the mash are pumped by steam into the "beer kettle," an enormous cauldron with a capacity of ninety barrels. It is the largest kettle in the State. The bottom of the kettle is covered with tallow to keep the beer from burning. The juices of the kettle are gradually heated until a high temperature is attained, and are kept boiling until they are said to "break," or become of crystal clearness. Then the hops are added and the brewing effected.

FERMENTATION

The beer is taken from the kettle to the cooling platforms, located under the roof of the wash house, and then drips down slowly over a patent cooling apparatus, consisting of zinc pipes through which cold water is made to run. Beer at 80° temperature is cooled to 40° in passing over this apparatus.

It is then pumped by steam to the fermenting cellars and placed in large tubs where it remains from twenty to twenty-two days. Here the yeast is added, called "stock" yeast, which is nothing more nor less than beer drippings. Beer which will not make its own yeast is of very inferior quality.

THE CELLARS

The beer vaults of Orth's brewery were first located on Nicollet island, the proprietor having been to great expense to make extensive excavations in the sand-stone cliffs. He found by experience that better beer could be obtained by storing it in ice vaults. He consequently went to expense of erecting a \$13,000 stone ice vault in which is stored 2,500 tons of ice.

The beer vaults are immediately under this mass of ice, and contain 100 hogsheads, of capacity varying from 20 to 35 barrels each. The beer is kept here two months before it is ready for use. The matured beer is forced by air pumps to the place where the casks are filled and plugged by a machine designed for this special purpose. The temperature of the vaults is 40° Fahrenheit.

The best brewers now aim to work as much carbonic acid, the principle of soda water, as possible into their beer. This will have the effect of making it more healthful. Mr. Orth is satisfied that he is being successful in his efforts to attain this.

PREPARING THE CASKS

Reserve cold and hot water casks are located over the engine room. These connect with the washing room, where the casks as they are returned to the brewery are treated to thorough hot and cold water baths. Twice a year, Spring and Autumn, the casks are coated on the inside with resin and pitch, which makes them perfectly “air tight.”

The Orth brewery met with continued success and in 1878, Orth’s was the fourth most productive brewery in the state. In that year, the brewery produced 4,892 barrels followed by 6,665 in 1879 (Chamberlain 1980). In 1880, Orth further increased the capacity of his brewery, and the 11,061 barrels that he sold that year were more than any other brewery in the state (*Minneapolis Tribune* 1880) (Figure 5; Hokanson 247). In 1881, the Orth brewery was described as having “a fermenting cellar holding 1,600 barrels, storage for 3,500 barrels, two malt houses, one with a capacity for about 75,000 bushels, one holding 20,000 bushels, and cooling rooms” (Warner and Foote 1881:420). The second malt house was on the northeast corner of the intersection of Ramsey Street and 12th Avenue NE, where it was serviced by a rail siding. The stables, as well as sheds for the beer wagons, buggies, and sleighs were also located in this area, as was a warehouse and an ice house (Sanborn Map Company 1885).

Only two Sanborn fire insurance maps provide coverage of the Orth brewery. These detailed maps date to 1885 and 1890 and illustrate in plan the uses and functions of the various buildings and their floors (Figures 6 and 7). Due to their proximity in age, differences between the maps are few, with no changes occurring in the labeled uses of the buildings. The configuration of the brewery thus illustrated is nearly identical to the 1874 image of the brewery except for the construction of additional ice houses and the expansion of the boiler room and engine house (see Figure 4). Conversely, a circa-1887 illustration of the brewery differs considerably from the 1874 illustration and the plans of the Sanborn maps, suggesting that it may have been drawn with some artistic license



FIGURE 5. PRE-1890 JOHN ORTH BREWING COMPANY LABEL

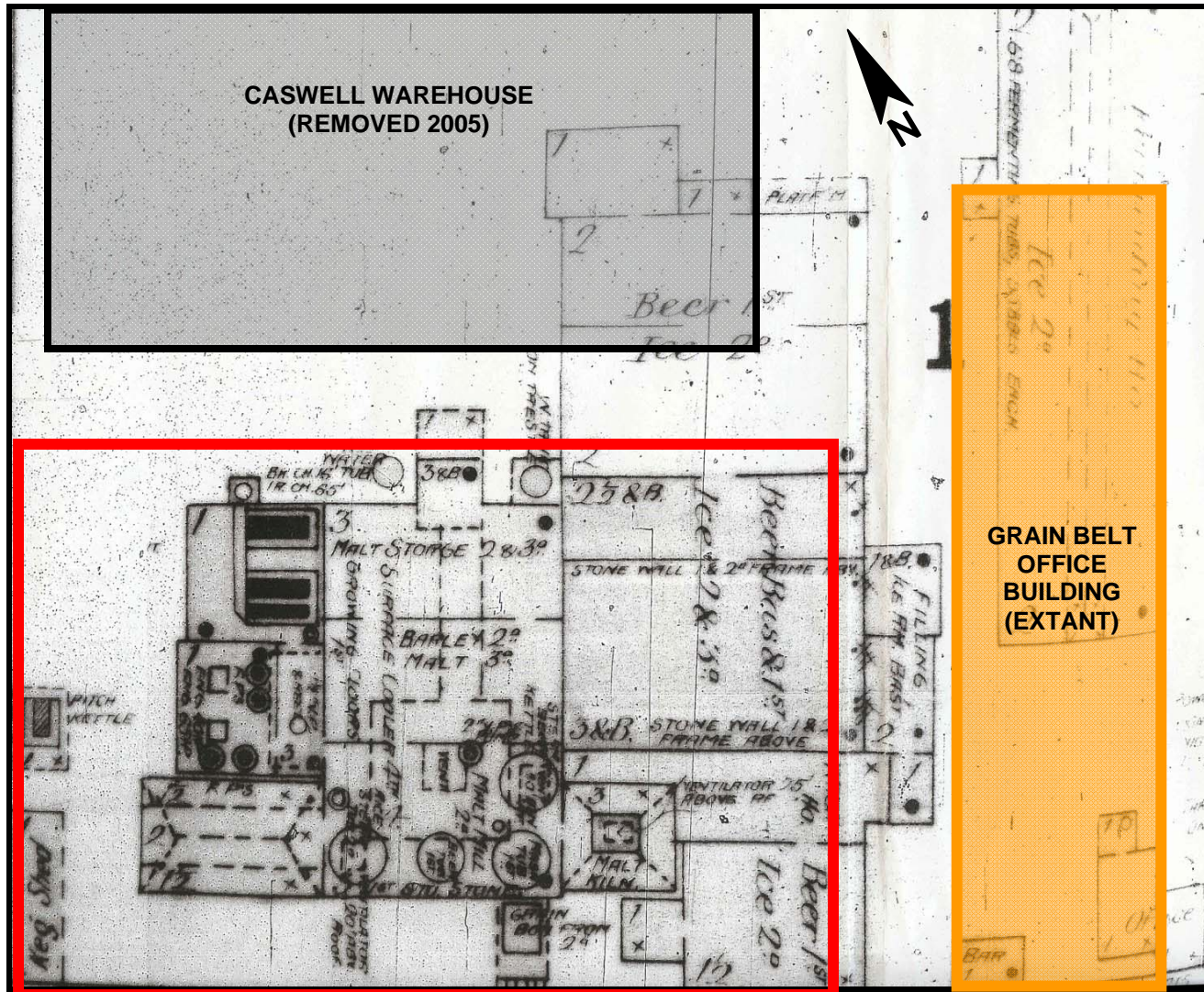


FIGURE 7. JOHN ORTH BREWING COMPANY ILLUSTRATED ON THE 1890 SANBORN FIRE INSURANCE MAP (STUDY AREA OUTLINED IN RED)



FIGURE 8. DETAIL FROM A C. 1887 ADVERTISEMENT FOR THE JOHN ORTH BREWING COMPANY

(Figure 8; Hokanson 90). The most notable differences between the two Sanborn maps are the absence on the 1890 map of the ice house and bottling house located to the north of the brewery on the 1885 map, and the presence on the 1890 map of a keg shed on the corner of 13th Avenue and Marshall Street and the Orth residence at 1207 Marshall Street, neither of which were present in 1885 (Sanborn Map Company 1885 and 1890). Prior to the construction of the 1207 Marshall Street house, located on a hill to the south of the brewery, the Orth family resided across the street from the brewery at 1228 Marshall (Davison 1882; U.S. Census 1880), moving into the new residence in 1887 (Ancestry 2011b) (Figure 9).

By this time, Orth's sons had taken active roles in the brewery's leadership, with John W. serving as vice president, Edward as secretary, and Alfred as treasurer according to the 1884-85 *Minneapolis City Directory* (Worcester 2006:32). With the success of the brewery and the ability of their sons to direct its operations, John and Mary Orth (Figure 10) traveled to Europe and other destinations. In 1887, they visited Africa and toured the Nile River. While returning home from this trip, John Orth became ill and died in Ottawa, Illinois (Worcester 2006:32). After the death of John Orth, his eldest son John W. became the president of the brewing company. Orth's wife, Mary Caroline, stepped into the role of vice-president, while Edward and Alfred maintained their respective roles as secretary and treasurer (*Minneapolis City Directory*, 1888-89).

During John W. Orth's period of leadership, the brewery merged in July of 1890 with the Heinrich, Noerenberg, and Germania breweries to form the Minneapolis Brewing & Malting Company (Worcester 2006:32). The following year, construction began on a new facility at the location of Orth's brewery with a magnificent new brew house built on the corner formerly occupied by the Orth home. While the new brewery building was under construction, Minneapolis Brewing relied on the continued operation of the founding breweries, including the John Orth brewery, which appears on an 1892 map as part of the larger Minneapolis Brewing & Malting Company complex (Figure 11). The Orth brothers continued to work for the new enterprise before leaving the brewery business in 1893 (Worcester 2006:32). Mathias Bofferding, husband of Virginia Orth, then became the president of Minneapolis Brewing.



FIGURE 9. ORTH RESIDENCE AT 1207 MARSHALL STREET (RAZED)

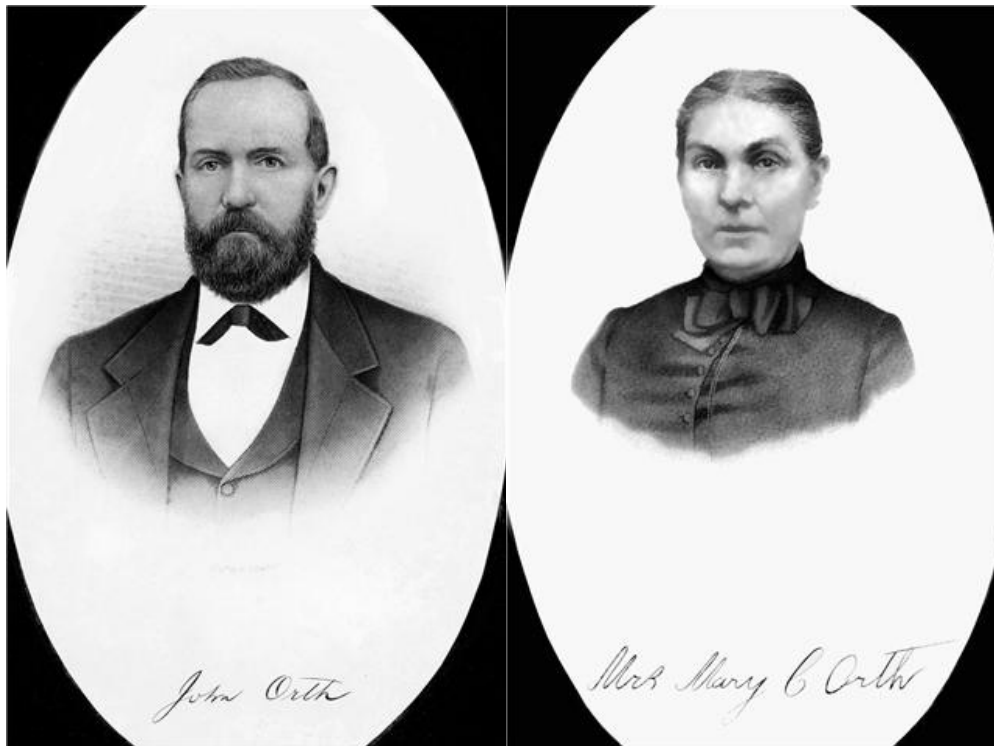


FIGURE 10. IMAGES OF JOHN AND MARY ORTH PUBLISHED IN 1895

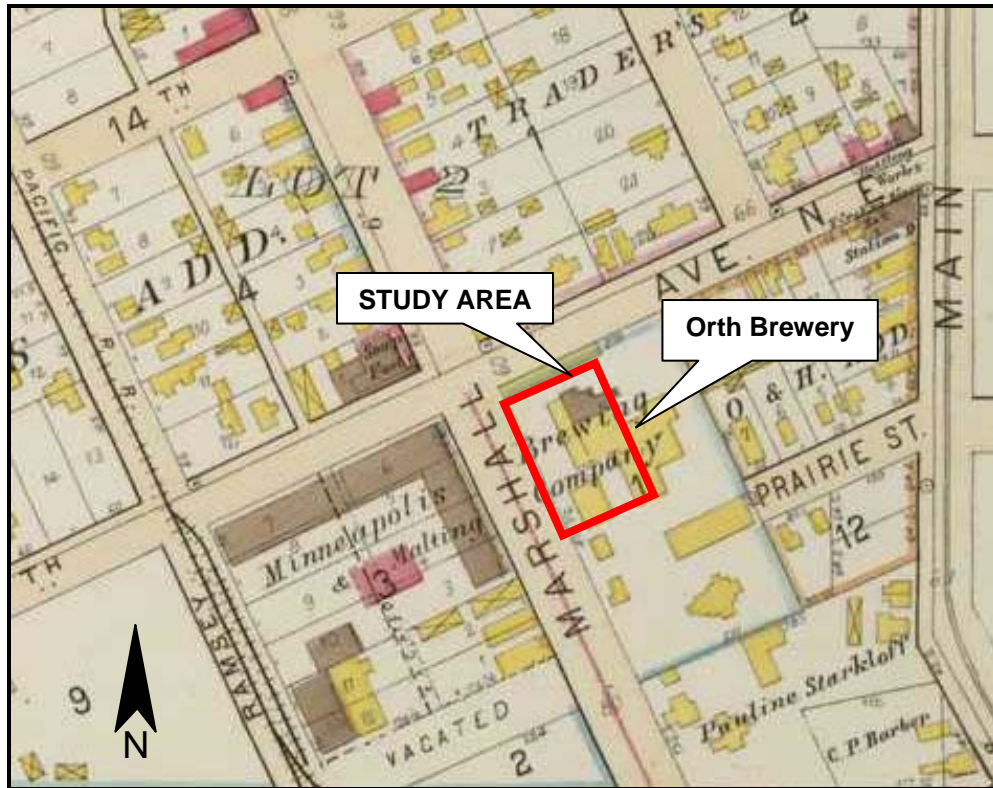


FIGURE 11. MINNEAPOLIS BREWING & MALTING COMPANY ON DETAIL FROM 1892 MAP OF MINNEAPOLIS (ORTH BREWERY COMPLEX INDICATED WITH ARROW)

Later that year, on August 13, the largest fire in Minneapolis' history nearly destroyed the brewery. The Nicollet Island-Northeast Minneapolis fire eventually burned 23 square blocks, destroyed more than 150 buildings, and consumed acres of lumber produced by the city's mills (Heath 2009). The fire spread through industrial buildings on Nicollet Island before jumping across the river to the lumber yards of the Backus Lumber Company on Boom Island. Fueled by 40-foot-high piles of lumber, the fire leapt the narrow channel separating Boom Island from northeast Minneapolis, where it began to consume additional blocks of lumber as well as lumber mills and residences. Firefighters formed a defensive line along Marshall Street between 7th and 13th Avenues where they were able to halt the fire's eastward progression; however, the fire continued to spread northward along the riverfront towards 13th Avenue NE, eventually reaching the grounds of the Minneapolis Brewing and Malting Company (Figure 12; MHS Neg. No. 63415). There the recently completed, five-story stone brew house was drenched interior and out with streams of water from fire crews that drew from the brewery's mass some shelter from the intense heat of the conflagration. Fire crews tried to hold the fire at 13th Avenue, but it continued to spread into a triangle between Ramsey Street and the river. At last, by 7:00 P.M., the northward progression of the fire was halted at 15th Avenue NE. The brewery reported \$117,000 in property losses from the fire, including the destruction of a new stable (the horses were saved); 5,000 bushels of oats; the bottling works; the malt house, its contents, and attached boiler room; and the pitch yard (*Minneapolis Times* and *Minneapolis Tribune*, August 14, 1893).

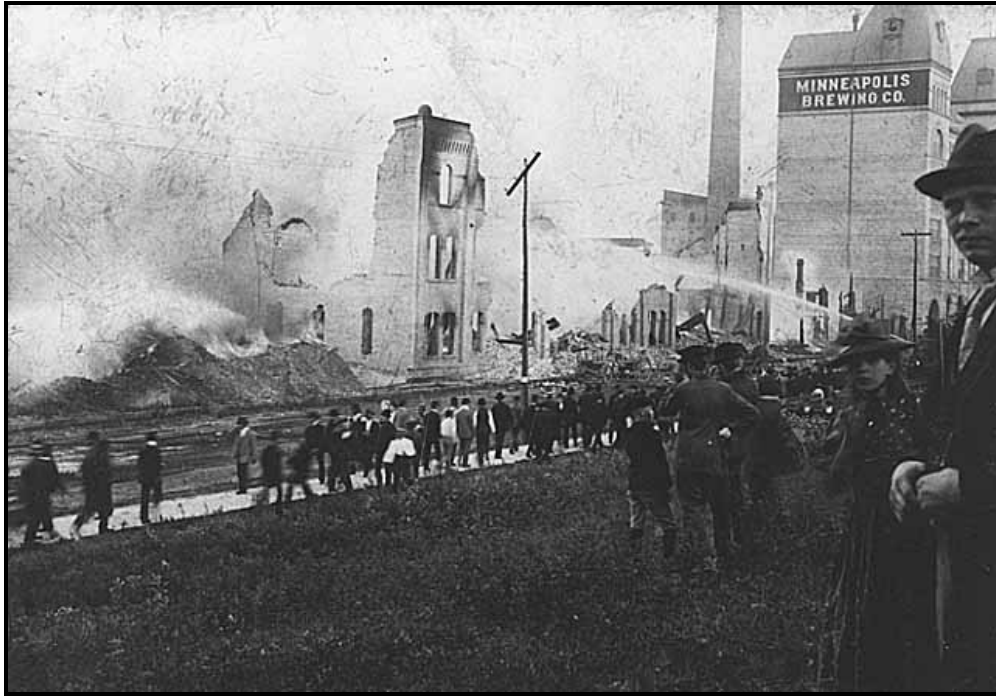


FIGURE 12. THE NICOLLET ISLAND-NORTHEAST MINNEAPOLIS FIRE DESTROYS BUILDINGS OF THE MINNEAPOLIS BREWING COMPANY, AUGUST 13, 1893, VIEW TO NORTHWEST

Fortunately, the continued operation of elements of Minneapolis Brewing's founding breweries allowed the company to quickly recover in the aftermath of the fire, for example, using "the old [Orth] brewery across the street" as a bottling house in the interim (*Minneapolis Times*, August 14, 1893). Further tragedy struck a little less than a month later, when President Bofferding, who also served as clerk at the Bank of Minneapolis, took his own life in response to a fellow employee's embezzlement, even though he was eventually cleared of any wrong doing (*Minneapolis Tribune* 1893). Bofferding's death bought to an end a half of a century of Orth family leadership in the Minneapolis brewing industry. Despite these setbacks, Minneapolis Brewing and its signature brand of beer, Golden Grain Belt, continued to grow, becoming a leading regional beer in the twentieth century. From a humble, wood-frame, 18-by-30-ft. brewery, John Orth created a successful business that had a significant influence on the local brewing industry and a lasting legacy now preserved in the Minneapolis Brewing Company Historic District.

STUDY AREA DURING THE TWENTIETH CENTURY

When the buildings of the former Orth Brewing Company were no longer of use to Minneapolis Brewing, they were removed. By 1900, the study area on the southeast corner of Marshall Street NE and 13th Avenue NE was an open lot (MHS Neg. No. 30184) (Figure 13). While a one-and-a-half-story building used for general storage was



FIGURE 13. MINNEAPOLIS BREWING COMPANY BREW HOUSE WITH THE STUDY AREA IN THE FOREGROUND AND THE OFFICE BUILDING AT LEFT, VIEW TO WEST, C. 1900

constructed on Block 1 between 1903 and 1914, it was built well to the east of the present study area (Minneapolis Real Estate Board 1903, 1914) (Figure 14). According to a 1938 aerial photograph, the study area was lightly treed and was being used for parking in that year. By 1947, the trees had been removed, and the lot continued to be used as parking. In 1951, a non-brewery related garage/warehouse building, later known as the Caswell Warehouse, was constructed to the northeast of the Minneapolis Brewing Company's office building on portions of Block 1 of Orth's Addition and Block 11 of Orth & Hechtman's Addition (Sanborn Map Company 1952). The study area continued to be used as parking and as access to a loading dock on the west side of the warehouse. The Caswell Warehouse building was removed in 2005.

CURRENT SITE CONDITIONS

The former location of the main building complex of the Orth Brewery is presently a surface parking lot and open space on the southeast corner of the intersection of Marshall Street NE and 13th Avenue NE (Figure 15; Bing Maps). The south edge of the parking lot is defined by a grade change that separates it from the drive/access located to the immediate north of the extant office building.

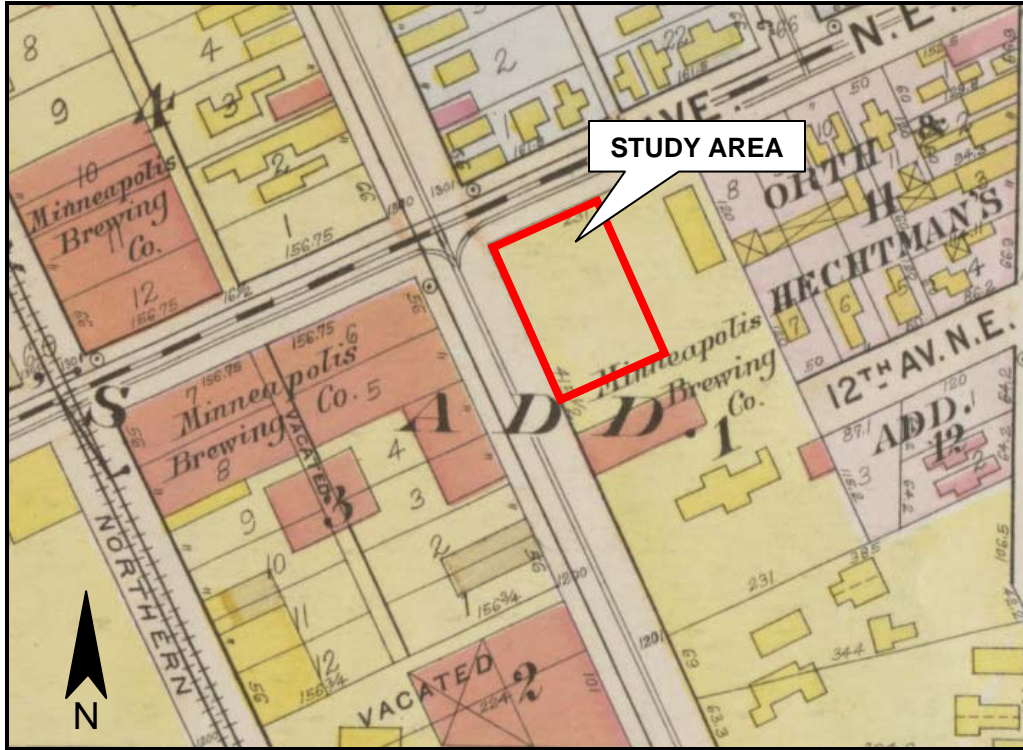


FIGURE 14. STUDY AREA OUTLINED ON DETAIL FROM 1914 CITY ATLAS



FIGURE 15. CURRENT AERIAL VIEW OF STUDY AREA (OUTLINED), VIEW TO SOUTH

PREVIOUS INVESTIGATIONS AND DESIGNATIONS

MINNEAPOLIS BREWING COMPANY HISTORIC DISTRICT

The majority of the John Orth Brewing Company site (21HE0318) is situated within the Minneapolis Brewing Company (or Grain Belt Brewery) Historic District (1891-1927) (HE-MPC-2244) (see Figure 1). The Grain Belt Brewery was placed on the “Minnesota Inventory of Historic and Prehistoric Places” on October 19, 1972 (Charles Nelson, SHPO Architectural Historian, to William Scott, HPC Chairman, letter, March 24, 1977, on file at the SHPO). The brew house (1220 Marshall Street NE) and the office building (1215 Marshall Street NE) were designated local historic landmarks in 1977, and the brewery complex was listed on the National Register in 1990 (Koop 1988).

According to the 1990 National Register registration form, the Minneapolis Brewing Company Historic District encompasses six contributing buildings (brew house, power station, wagon shed, office, bottling house, and warehouse), a contributing structure (railroad spur), and the vacant lot that is the current study area. The district’s period of significance commences with the construction of the brewery complex in 1891 and continues through 1927, at which time prohibition forced the temporary closure of the brewery until 1933. The district is significant for its representation of the brewing industry’s importance in the Upper Midwest, as well as for the Minneapolis Brewing Company’s role as one the leading businesses in Minneapolis (Criterion A). The complex is also significant in the area of industrial architecture (Criterion C), particularly for its expression of the Richardsonian Romanesque style.

Properties within the Minneapolis Brewing Company Historic District are subject to review by the SHPO and the Minneapolis HPC.

PROGRAMMATIC AGREEMENT

Because the City anticipated receiving funds from HUD for the GBRP, the project had to comply with Section 106 of the National Historic Preservation Act of 1966, as amended. In 2000, the City entered into a PA with the SHPO in order to facilitate the Section 106 consultation process for the multi-phase, multi-year, GBRP project. The MCDA, the Minneapolis HPC, and the Sheridan Neighborhood Organization were concurring parties to the PA. The PA for the GBRP project has since expired (B. Bloomberg, Deputy SHPO, to C. Lutz, City of Minneapolis-CPED, letter, November 16, 2009, on file at the SHPO). The City of Minneapolis is seeking new proposals for the purchase and development of a housing/mixed-use project on the “Grain Belt Marshall Street Site” (1215-1219 Marshall Street NE). Proposals will undergo cultural resource review as a stand-alone undertaking (C. Lutz, City of Minneapolis-CPED, to D. Gimmestad, SHPO – Review and Compliance Officer, letter, September 16, 2008, on file at the SHPO).

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

In 2000, in fulfillment of Stipulation 5 of the PA, the MCDA contracted with Hemisphere Field Services (Hemisphere) to conduct archaeological investigations for the GBRP. Per

the PA, the focus of these investigations was the remains of the Orth Brewery contained within the northwest quarter of Block 1 and Lots 11 and 12 of Block 3 of Orth's Addition.

In January of 2001, Hemisphere conducted limited archaeological testing of the area where the Orth Brewery's main complex was formerly located in Block 1 "in order to determine the presence/absence of the original historic brewery foundations and/or basements intact under the present ground surface" (Fassler and Johnson 2001:ii). Hemisphere selected as the target of their investigations the main brew house building (Fassler and Johnson 2001:8). Through the excavation of three trenches, Hemisphere located foundation segments and adjacent flooring on three sides (north, west, and south) of the supposed original Orth Brewery building (Fassler and Johnson 2001:ii). These excavations confirmed that foundations of the brewery building remained intact, but did not determine the horizontal limits of the remains. Hemisphere staff also did not verify the location of the east wall of the building through archaeological investigations, but rather inferred an eastern boundary for a rectangle outlining "the original brewery" in their report (Fassler and Johnson 2001:Figure B-2).

A month earlier, in December of 2000, Hemisphere also conducted limited archaeological testing at the location of one of the Orth Brewery's ice houses within Lots 11 and 12 of Block 3 of Orth's Addition (Fassler 2001). The purpose of these investigations was to determine if intact portions of the ice house were preserved beneath the ground surface. Fieldwork consisted of the excavation of a series of backhoe trenches perpendicular to the exterior walls of the former ice house and one section of trench parallel to the north foundation of the structure. These excavations revealed intact portions of the east and north walls of the former ice house, as well as remnants of another building located to the immediate north of the ice house that was identified as the blacksmith/carpenter shop according to the 1912 Sanborn fire insurance map (Fassler 2001:ii). These buildings were constructed on the foundations of Orth's secondary malt house and kiln as illustrated on the 1885 Sanborn map. The malt house was among the buildings destroyed by the August 13, 1893 fire (*Minneapolis Tribune*, August 14, 1893).

SITE 21HE0318 RECOGNIZED AS CONTRIBUTING TO HISTORIC DISTRICT

When the Minneapolis Brewing Company Historic District was nominated to the National Register, the registration form identified the vacant lot on the southeast corner of Marshall Street NE and 13th Avenue NE as non-contributing to the district (Koop 1988:7.4). At the time of the writing of the nomination, subsurface features within the historic district and their information potential (National Register Criterion D) were not considered. Based, however, on the results of Hemisphere's archaeological investigations carried out in 2001, the archaeological features of the Orth Brewery (located beneath the surface of the vacant lot) were recommended as eligible for listing in the National Register and for inclusion in the Minneapolis Brewing Company Historic District, as were the features of the ice house/former malt house (Fassler and Johnson 2001:ii). The SHPO concurred with this recommendation and concluded that the Orth Brewery Site (21HE0318) "constitutes a contributing element of the historic district" and

that “project development in this area should avoid impacting the historical elements of this site” (Dennis Gimmestad, SHPO – Review and Compliance Officer, to Jerry LePage, MCDA, letter, April 23, 2001).

SITE BOUNDARY

The boundary of the John Orth Brewing Company site (21HE0318) encompasses the main brewery complex, located on the southeast corner of the intersection of Marshall Street NE and 13th Avenue NE, the site of Orth’s second malt house and kiln (later modified into an ice house and blacksmith/carpenter shop), located to the west of Marshall Street NE, and the locations of the Orth family’s former residences (Figure 16).

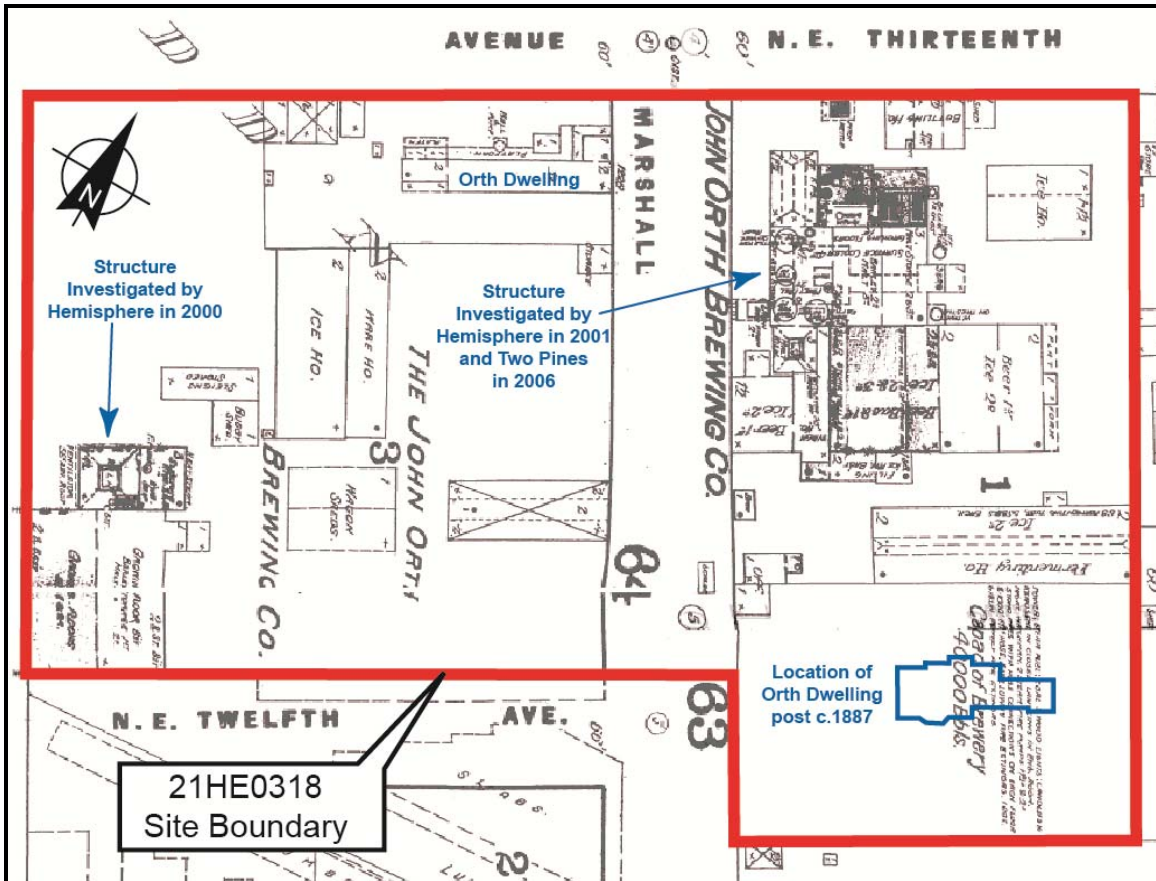


FIGURE 16. BOUNDARY OF SITE 21HE0318 ON THE 1885 SANBORN FIRE INSURANCE MAP

ARCHAEOLOGICAL FIELDWORK

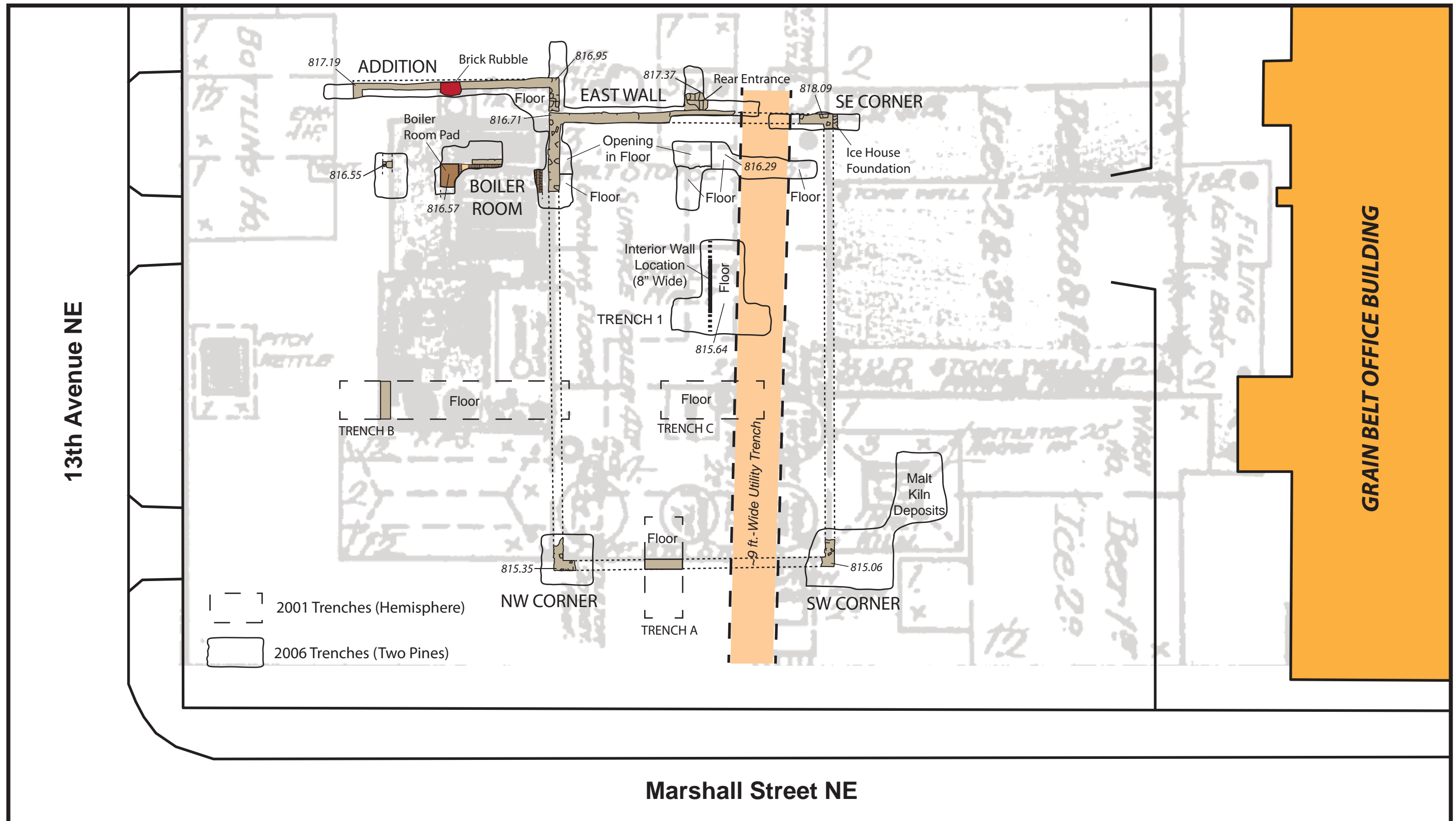
Site 21HE0318 is located within an area where a plaza development is planned as part of the GBRP. The 2006 archaeological fieldwork was conducted at the request of the Minneapolis HPC in keeping with the stipulations of the PA, and as a condition of the Certificate of Appropriateness (COA) for the then-planned Grain Belt Premium Lofts development project, which was ultimately not constructed.

Subsequent to the completion of the Hemisphere archaeological investigations, development plans provided for the protection of a rectangular area (~90 x 100 ft.) believed to encompass the “original” Orth Brewery as described in the Hemisphere report. In reviewing the project plans, the HPC requested that the location, depth, and dimensions of the Orth Brewery foundations and their relationship to the proposed plaza design be determined by a licensed archaeologist: “If the archaeologist determines that the proposed plaza design may adversely affect the foundation, the plaza space over and inside the foundation must be modified to avoid an adverse affect to the foundation and staff must approve the revised design” (Greg Mathis, City of Minneapolis, to Ross Fefercorn, Sheridan Development Company, letter, March 24, 2006). Particular emphasis was placed on locating the eastern wall of the brewery which was most proximate to proposed development activities and which was not exposed during the 2001 field investigations.

FIELDWORK

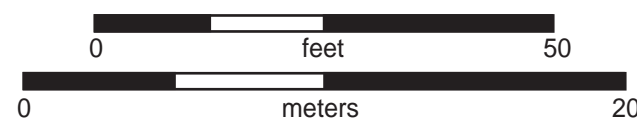
In May of 2006, Two Pines undertook an archaeological investigation of the Orth Brewery site in response to the HPC’s request for documentation of the location of the brewery’s remains. The goal of this investigation was to locate the corners of the central brew house building outlined by Hemisphere, as well as to explore the foundations of the contiguous portions of the brewery complex. Fieldwork was conducted on May 9-11, 16-18, and 22, 2006. The site was backfilled on June 20, 2006. Dr. Michelle Terrell was the Principal Investigator, and she conducted the fieldwork with Eva Terrell and Dylan Eigenberger.

Two Pines’ investigation of the Orth Brewery site commenced with a visual reconnaissance of the project area. Hemisphere’s three test trenches excavated in 2001 were still visible on the surface of the asphalt parking lot. According to Hemisphere’s report, these trenches marked the locations of the north, west, and south walls of the main brewery building. Two Pines’ fieldwork commenced with the excavation of a trench (Trench 1) 1.5 m to the east of, and parallel to, Hemisphere’s Trench C, in order to relocate the south wall of the main building (Figure 17). The excavation, however, of Trench 1 did not reveal the south wall of the brewery, but rather at a depth of 80 centimeters below the surface (cmbs) the trench revealed the broken edge of an interior floor. This break, which Hemisphere staff inadvertently identified as the south wall of the brewery, was caused by the excavation of a twentieth-century utility trench through the site (see Figures 17 and 18). Furthermore, the northernmost foundation located by



Two Pines Resource Group Field Notes, 1885 Sanborn Fire Insurance Map

JOHN ORTH BREWING COMPANY (21HE318)
 ARCHAEOLOGICAL INVESTIGATIONS
 MINNEAPOLIS, HENNEPIN COUNTY, MINNESOTA



ARCHAEOLOGICAL INVESTIGATIONS
 FIGURE 17

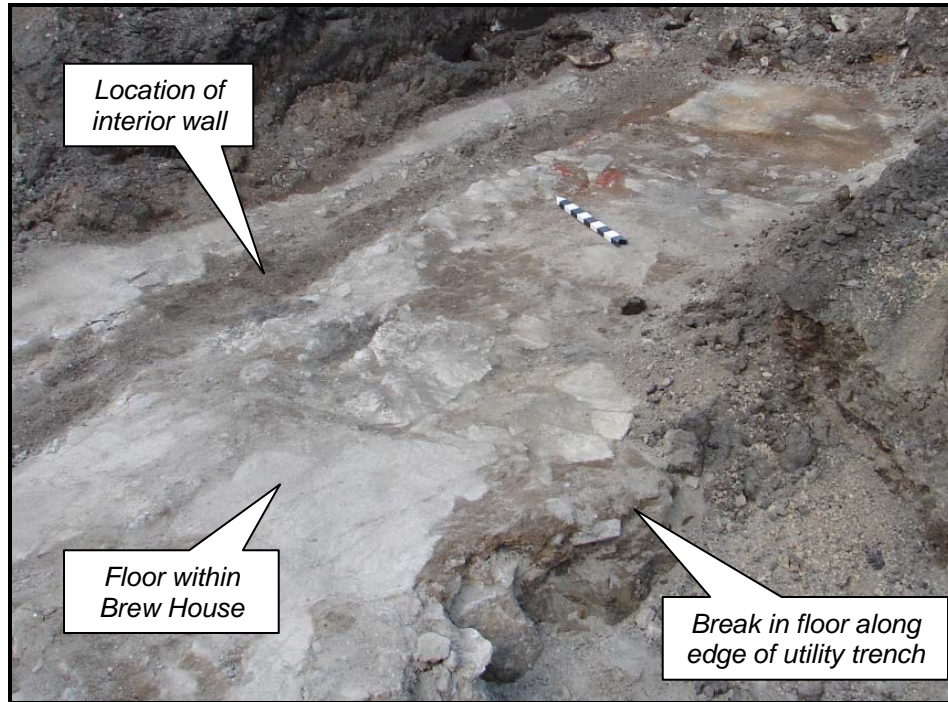


FIGURE 18. EXPOSED INTERIOR FLOOR OF THE BREW HOUSE IN TRENCH 1 WITH BREAK IN FLOOR EVIDENT IN FOREGROUND

Hemisphere was the exterior wall of the brewery's engine room, not the north wall of the main building as depicted in their report. These errors placed the brew house 20 ft. farther to the north than its actual location (Figure 19). Through additional trenching, Two Pines identified the four corners of the brew house as well as additional features of the brewery complex. It should be noted that excavations generally did not go deeper than what was necessary to expose and record the foundations so as to not disturb any intact cultural deposits surrounding the foundations.

Architectural Features

The John Orth Brewing Company complex consisted of a central industrial complex surrounded by several detached support structures. The main façade of the complex was oriented to Marshall Street. Due to the angled street grid within this portion of the city, the brewery complex is aligned 30 degrees to the west of magnetic north. Additional details of portions of the brewery complex examined during the archaeological investigations follow.

Brew House Building

Orth's initial brewery building was as an 18-by-30-ft. wood structure, the precise location of which is unclear, although it is known to have been on the same site as Orth's second brewery, built by 1861 (Warner and Foote 1881:420). This second brewery was a substantial (~55 x 90 ft.), three-story brew house with a stone first story and wood frame upper stories (see Figure 2). During the archaeological investigations, Two Pines located all four corners of this brew house and exposed the entire length of the east wall of the

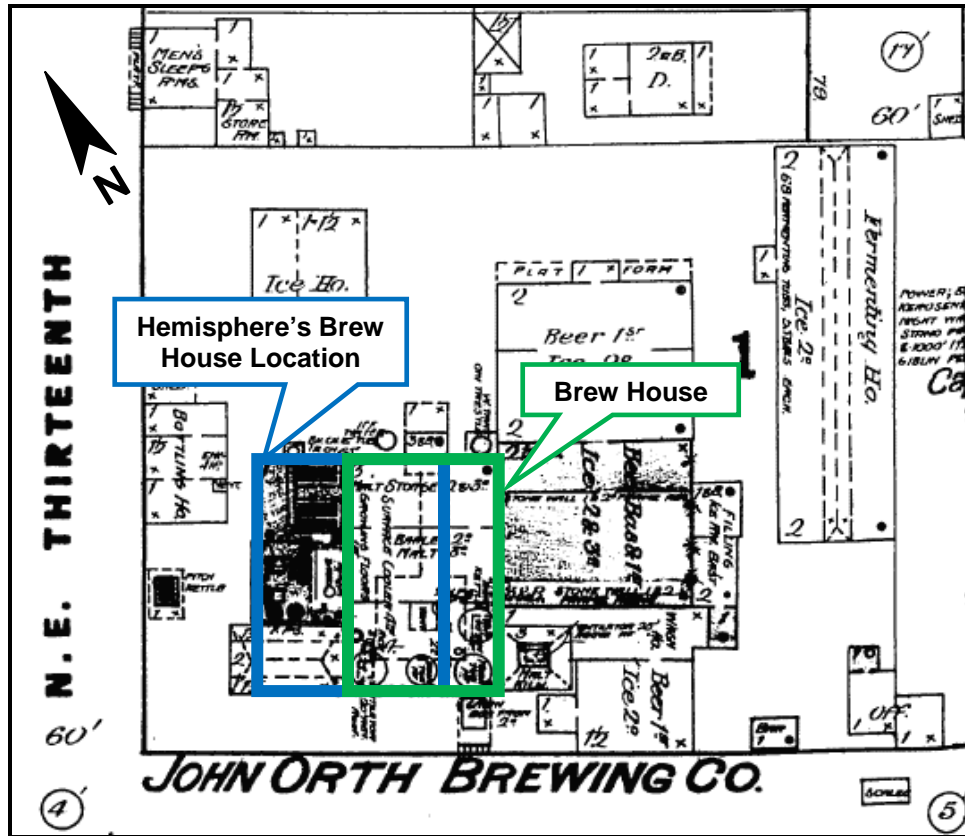


FIGURE 19. 1885 SANBORN FIRE INSURANCE MAP WITH HEMISPHERE'S "ORIGINAL BREWERY" AND THE ACTUAL BREW HOUSE LOCATIONS OUTLINED

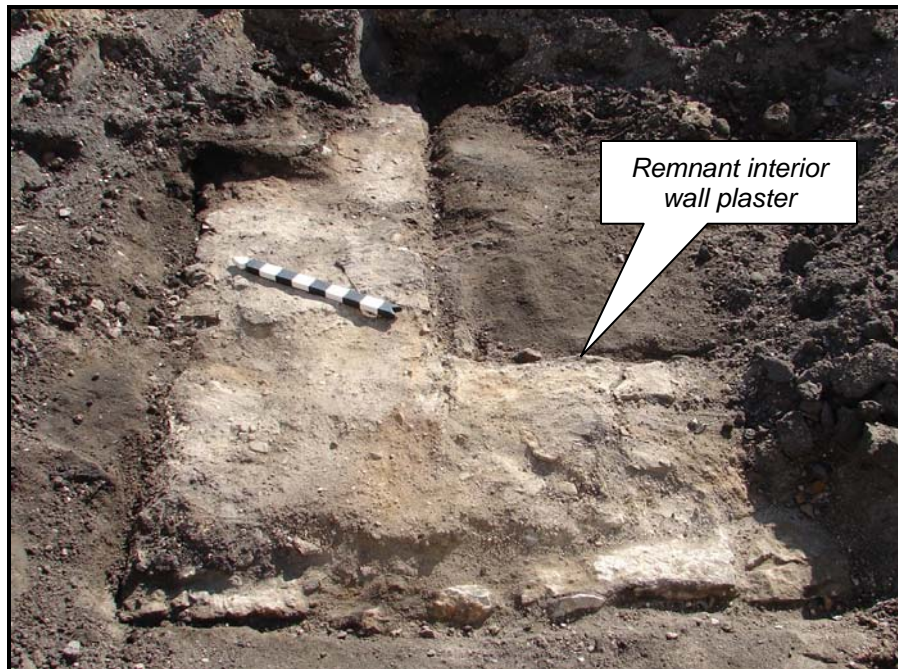


FIGURE 20. NORTHWEST CORNER OF THE ORTH BREW HOUSE



FIGURE 21. SOUTHWEST CORNER OF THE ORTH BREW HOUSE

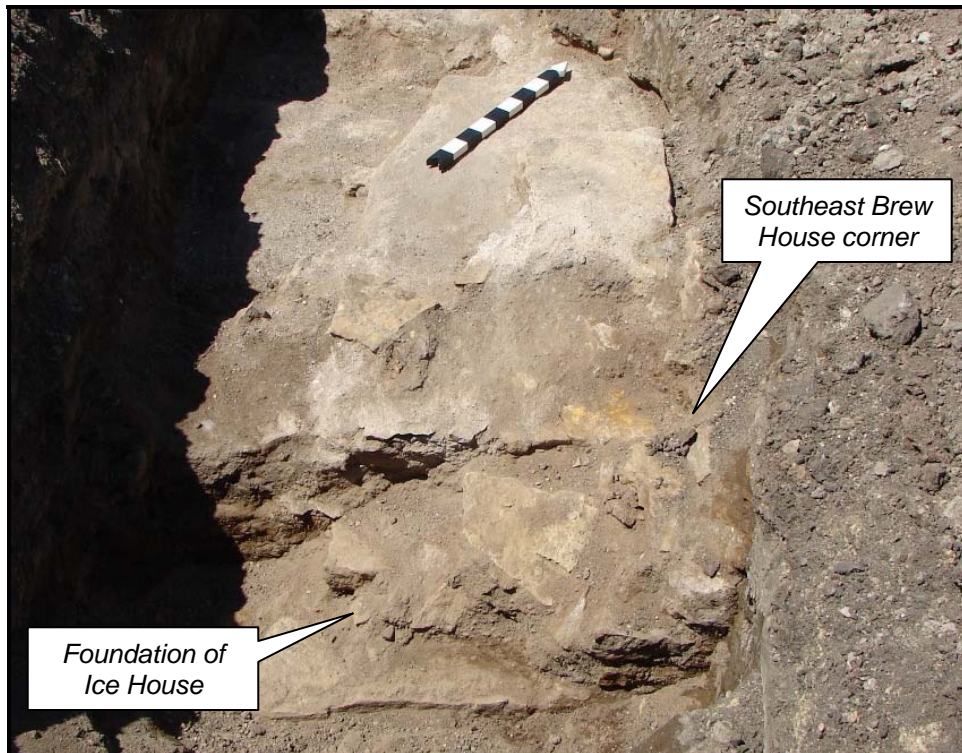


FIGURE 22. SOUTHEAST CORNER OF THE ORTH BREW HOUSE

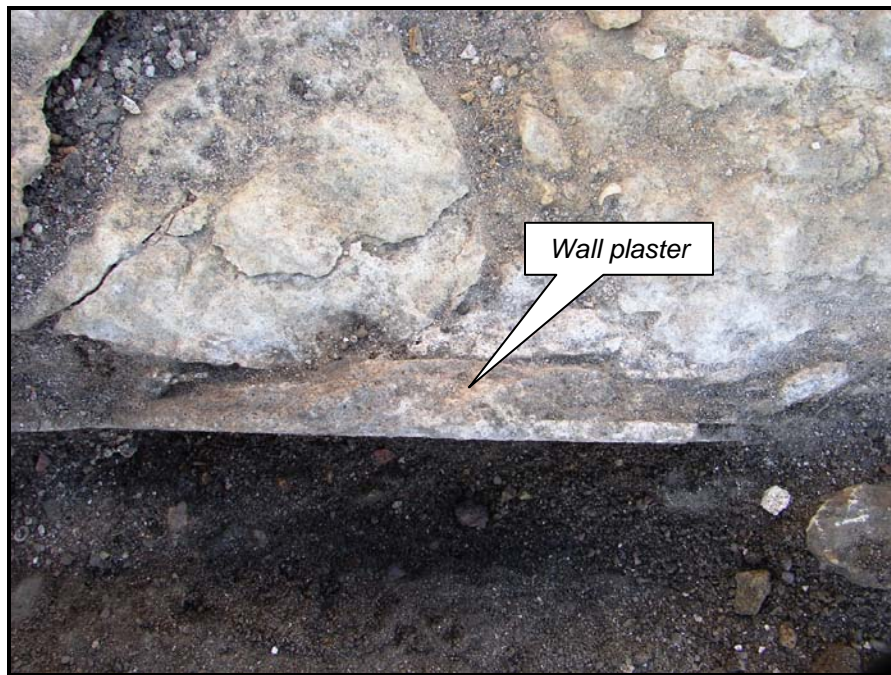


FIGURE 23. NORTHEAST CORNER AND EXPOSED SECTION OF EAST WALL OF THE ORTH BREW HOUSE, VIEW TO SOUTHEAST



FIGURE 24. REAR ENTRANCE OF ORTH BREW HOUSE

building, including elements of the rear entrance (Figures 20-24). The exterior foundations of the brew house are constructed of limestone and are 2 ft. thick. Interior floors consist of smoothed lime pours over stone rubble with occasional brick underlayment (see Figure 18). In the area of the utility trench that had broken through the first floor of brew house, the exposed edge of the interior floor consisted of a 3-cm-thick lime wash over a rubble sub-floor. The floor was constructed atop a bed of sand directly overlaying a dark grayish brown (10YR 4/2) subsoil mottled with inclusions. The growing floors, where the barley was sprouted, were located in the rear two-thirds of the first floor of the building and it is probable that this activity occurred directly atop the preserved interior floor surfaces. The presence of a 2-cm-thick, smooth plaster facing on the interior vertical surfaces of the first floor of the brewery was also noted during excavation of the northwest corner of the brew house (see Figures 20 and 25). During the excavation of Trench 1, an 8-in-wide gap marking the former location of an interior wall of the brew house was also documented (see Figure 18).



**FIGURE 25. PLAN VIEW OF REMNANT INTERIOR WALL PLASTER NEAR
NORTHWEST CORNER OF BREW HOUSE**

Boiler Room

The boiler room for the brewery was located immediately adjacent to the northeast corner of the brew house. Within Trenches 4 and 5, portions of the east and south walls of the brick chamber for the boilers were encountered. The visible portions of the brick chamber are constructed of flat-laid, yellow brick (4 x 8.5 x 2.25 in.) (Figure 26). A 12-in.-wide limestone foundation was present along the east edge of the boiler chamber. To the immediate north of the boiler chamber was a paving of soot-stained, edge-laid, yellow brick (Figure 27). This worn surface was the exposed floor of the boiler room on which workers stood while stoking the boilers. *In situ* nails with attached oxidized wood

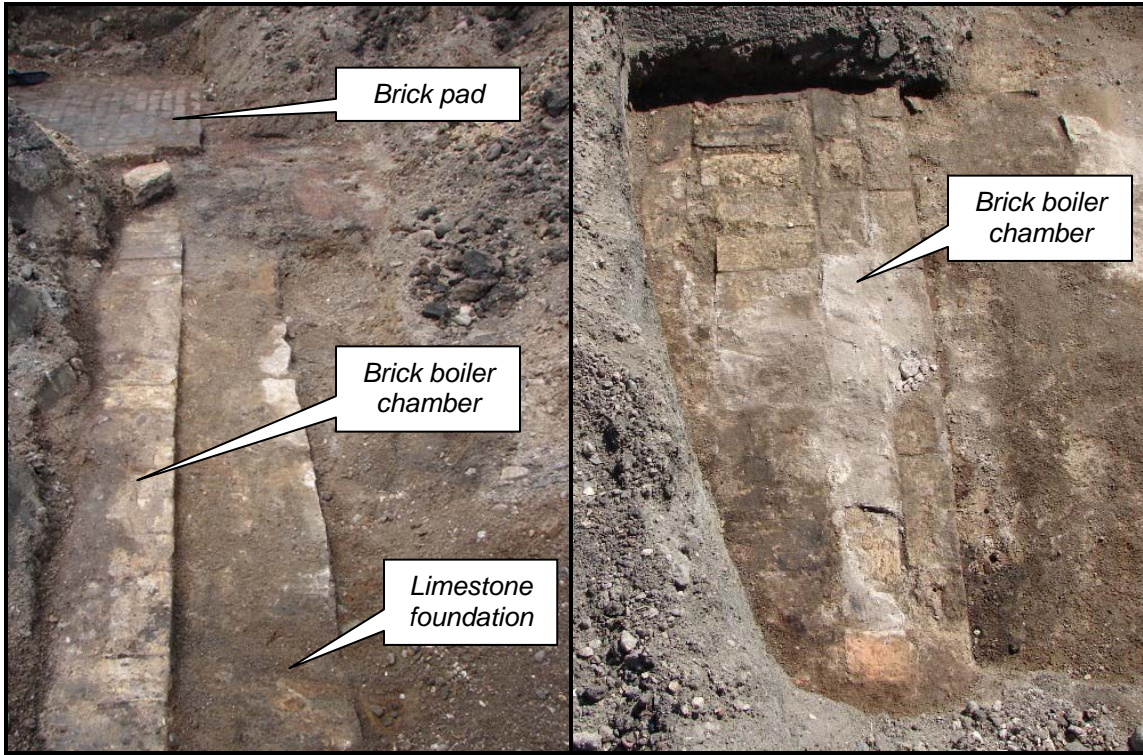


FIGURE 26. ELEMENTS OF THE EAST (LEFT) AND SOUTH (RIGHT) WALLS OF THE BOILER ROOM



FIGURE 27. BOILER ROOM PAD, VIEW TO SOUTH-SOUTHWEST

fragments were present to the north and southeast of this brick pad, indicating the presence of former wood framing elements.

Malt Kiln

Testing was also conducted in the vicinity of the malt kiln in order to assess if there were intact deposits present associated with this feature. A trench was excavated to a depth of 75 cm below the surface, at which depth intact cultural deposits (a layer of cinders and wood) were encountered and the excavation was halted. These deposits were protected by a 19-cm-thick layer of demolition debris containing limestone and brick fragments together with occasional artifacts (53-72 cmbs).

Addition

While clearing the northeast corner of the brew house, an additional unanticipated limestone foundation was uncovered (Figure 28). This 2-ft.-wide foundation abuts the northeast corner of the brew house, indicating that its construction post-dates that of the brew house. The foundation extends the north wall of the brewery approximately 6.5 ft. to the east (4.5 ft. of interior space) and then proceeds northward. The interior space consists of a smoothed lime floor. The entire 44-ft. length of this foundation was exposed. Approximately half-way along the length of the foundation, a pile of red brick rubble was encountered. This brick likely resulted from the demolition of the 15-ft.-tall brick foundation of the boiler room chimney documented on the Sanborn fire insurance maps. This foundation does not directly correspond to any features documented on the Sanborn maps, although it may be related to the former bottling house.

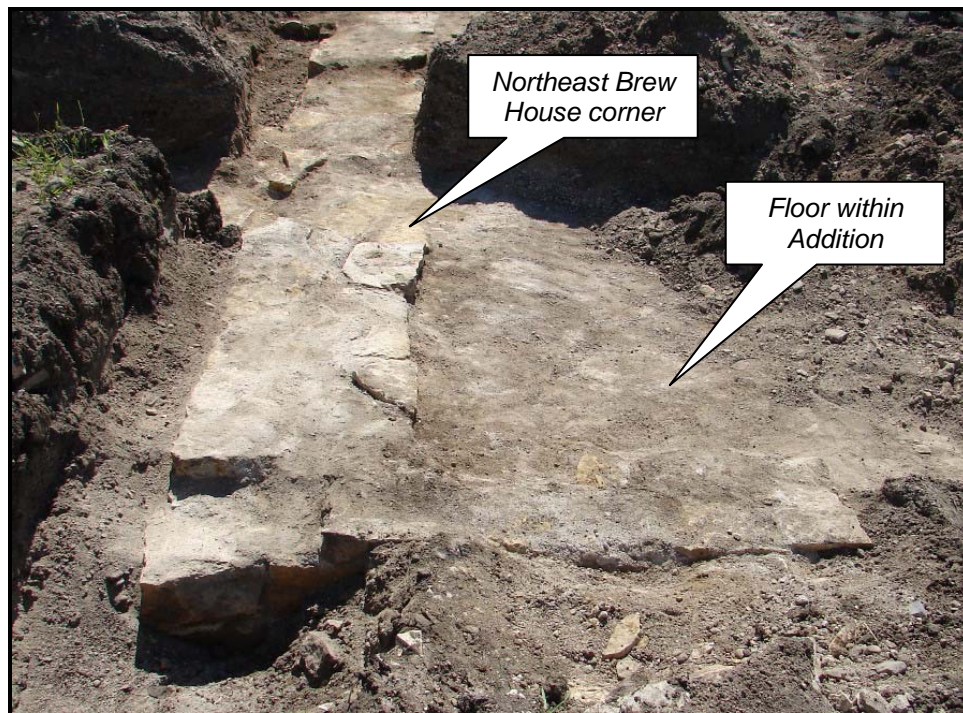


FIGURE 28. SOUTHEAST CORNER OF ADDITION, VIEW TO SOUTHWEST

Ice House

Ice houses were an integral part of the brewing process allowing the cellars to be kept at the cool temperatures necessary for cold fermentation to occur. The Orth brewery complex included several ice houses of varying capacities, some contiguous to the brew house, and others stand-alone, detached structures (see Figures 6 and 7). During the archaeological investigations, a portion of the foundation of one of the attached ice houses was exposed immediately adjacent to the southeast corner of the main brew house (see Figure 22). The foundation is constructed limestone and is 13 in. wide.

Site Stratigraphy

The typical soil profile over the foundations consists of a 5-cm (2-in.)-thick layer of asphalt over 10 to 20 cm (4 to 8 in.) of yellow (10YR 7/6), Class 5 gravel, which gives way to a laminated, black (10YR 2/1), oily loam indicative of a former parking lot surface. This oily layer varies in thickness from 10 to 30 cm (4 to 12 in.) and is thicker towards the east side of the study area. In the eastern portion of the site, the oily loam gives way to a very dark grayish brown (10YR 3/2) to brown (10YR 4/3), coarse sand fill containing cobbles. This coarse sand fill layer varies in thickness from 10 to 35 cm (4 to 14 in.) and gives way to a 10- to 25-cm (4 to 10 in.)-thick layer of very dark grayish brown (10YR 3/2) to brown (10YR 4/3), sandy loam that directly overlies the foundations in some areas. In other areas, a black (10YR 2/1), 10-cm (4-in)-thick layer of debris is present above the foundations.

In the soil profile of the trenches for the northwest and southwest corners of the main building, the oily loam stratum was underlain by a thin lens of light brownish gray (10YR 6/2), silty sand that gave way to a 15 to 20 cm (6 to 8 in.) thick, very dark grayish brown (10YR 3/2), sandy loam debris layer containing brick fragments and rubble. This debris layer directly overlay the foundations.

The stratigraphic profile indicates that after the demolition of the brewery, the site was exposed for a period of time and accumulated a small amount of natural deposits before a fill layer of sand and cobbles was introduced for the purpose of leveling the site. A circa-1900 photograph in the MHS collections indicates a level and grassy lot that resulted from this fill episode (MHS Negative No. 30184). Subsequent to the introduction of the fill, the newly leveled lot was used for a parking lot as evidenced by the oiled surface and confirmed by aerial photographs from 1938 and later.

Artifacts

Few artifacts were present in the fill and demolition strata above the foundations; however, artifacts (nails, glass, wood, etc.) were observed on the surfaces of the strata immediately surrounding the foundations. For example, *in situ* wood elements with distinguishable nail patterns were discovered adjacent to the boiler room foundations. These elements were plan-mapped and photographed, but not removed.

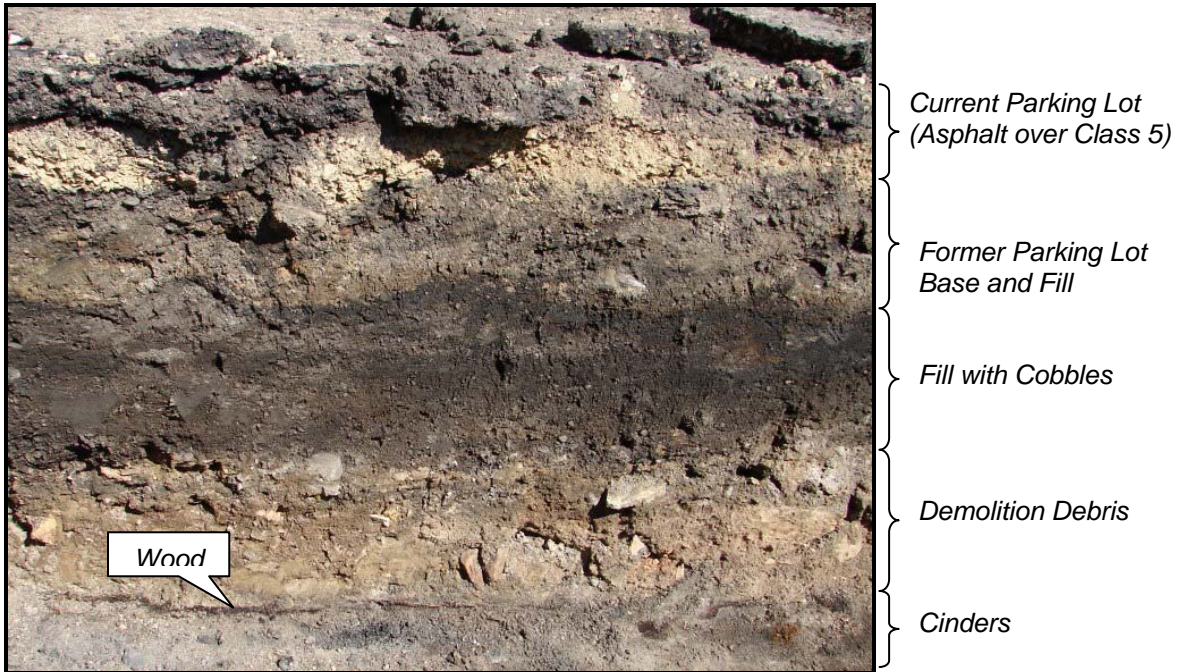


FIGURE 29. STRATIGRAPHIC PROFILE IN THE VICINITY OF THE MALT KILN

FEATURE ELEVATIONS

The archaeological investigations revealed that elements of the Orth Brewery are located proximate to the surface of the existing parking lot (Table 3). As the surface of the current asphalt parking lot atop the site slopes towards Marshall Street, the amount of fill over the foundations is less to the west. For example, only 45 to 50 cm (~18 to 20 inches [in.]) of fill are present over the foundations at the southwest and northwest corners of the main building, while there are 80-90 cm (~32-36 in.) of fill over the majority of the eastern foundations. Near the southeast corner of the brew house, however, the foundations rise to within 16 in. of the lot’s surface.

TABLE 3. ELEVATIONS OF BREWERY ELEMENTS

BREWERY ELEMENT	ELEVATION (FASL) (LOUCKS ASSOC.)	GENERAL DEPTH BELOW SURFACE
Brew House (NW Corner)	815.35	18 in. (46 cm)
Brew House (SW Corner)	815.06	20 in. (52 cm)
Brew House (SE Corner)	817.58	-----
Brew House (NE Corner)	816.71	-----
High Point on Foundation Near SE Corner	818.09	16 in. (40 cm)
Interior Floor of Brew House	815.64	31 in. (80 cm)
Boiler Room Brick Paving	816.63	30 in. (77 cm)
Intact Malt Kiln Deposits	814.60	28 in. (72 cm)

SUMMARY

The 2006 archaeological investigations indicate that the Grain Belt Marshall Street study area contains the remains of the John Orth Brewing Company's main brewery complex, which are much more expansive and multifaceted, as well as located farther to the south and east than previous archaeological research had concluded. Documented features are located at a shallow depth below the existing grade; for example, the southeast corner of the main building is located within 16 in. of the existing parking lot's surface, while 45 to 50 cm (~18 to 20 in.) of fill are present over the foundations at the southwest and northwest corners of the main building.

The brewery site exhibits excellent archaeological integrity and preservation in keeping with a site that has been capped since its demolition. Not only are the foundations of the brewery complex well preserved, but the presence of *in situ* structural materials, artifacts, and kiln deposits were also noted. Intact soils and living surfaces were also documented proximate to the remains of the buildings. A 9-ft.-wide twentieth century utility trench that serviced the former Caswell Warehouse building was the only significant disturbance noted during the investigations. Stratigraphy in the vicinity of the rear entrance and northeast corner indicates that the area to the exterior of the east wall of the brewery has been impacted by the construction of the Caswell Warehouse, but these impacts have not disturbed the foundations of the brewery, as the entirety of the east wall was intact with the exception of the area removed by the above-mentioned utility trench. The site also contains previously unanticipated features, such as a 44-ft. long section of foundation that was encountered that is not documented on available images or fire insurance maps. Furthermore, fieldwork findings combined with historical research suggest that the entirety of the study area has the potential to contain significant intact archaeological features and deposits associated with the brewery (see Figures 6 and 7).

SUMMARY AND RECOMMENDATIONS

In May of 2006, Two Pines performed an archaeological investigation within the boundary of the John Orth Brewing Company site (21HE0318) in Minneapolis, Hennepin County, Minnesota. This work was undertaken at the request of the Minneapolis HPC in keeping with the stipulations of the PA, and as a condition of the Certificate of Appropriateness for the then-planned Grain Belt Premium Lofts development, which was ultimately not constructed. The City of Minneapolis is seeking new proposals for the purchase and development of a housing/mixed-use project on the Grain Belt Marshall Street Site (1215-1219 Marshall Street NE). The objective of the archaeological investigations undertaken in 2006 was to document the location, depth below grade, and general dimensions of those portions of the Orth Brewery site located within the Grain Belt Marshall Street study area in order that potential adverse effects to the site could be assessed. Additional significant archaeological features may be located within other portions of 21HE0318, but are outside the scope of the current study.

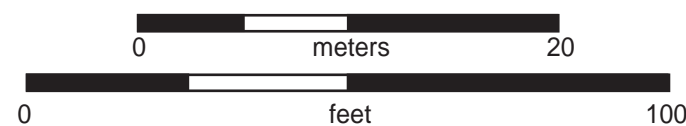
The 2006 archaeological investigations indicate that the Grain Belt Marshall Street study area contains the remains of the John Orth Brewing Company's main brewery complex, which are much more expansive and multifaceted, as well as located farther to the south and east, than previous archaeological research had concluded. The brewery site exhibits excellent archaeological integrity and preservation in keeping with a site that has been capped since its demolition. Not only are the structural foundations well preserved, but the presence of *in situ* structural materials, artifacts, and kiln deposits were also noted. Intact soils and living surfaces were also observed proximate to the remains of the buildings. Furthermore, the brewery complex is more expansive than the central brew house, and the entirety of the study area has the potential to contain significant intact archaeological features and deposits associated with the brewery (see Figures 6, 7, and 17). Documented features are located at a shallow depth below the existing grade; for example, the southeast corner of the main building is located within 16 in. of the existing parking lot's surface, while 45 to 50 cm (~18 to 20 in.) of fill are present over the foundations at the southwest and northwest corners of the main building.

The majority of the John Orth Brewing Company site (21HE0318) is situated within the Minneapolis Brewing Company Historic District and the site has been recognized as a contributing element to the district. The Orth brewery is significant not only as the initial brewery within Hennepin County, but for its contributions to the growth of the brewing industry in Minneapolis and its eventual merger with three other breweries to form the Minneapolis Brewing and Malting Company (National Register Criterion A). The brewery site also contains significant information potential (National Register Criterion D). As the early history and development of the John Orth Brewing Company are not well-documented, the preserved archaeological remains of the brewery serve to document the brewery's structural elements, including how the brewery complex was built and evolved over time. For these reasons, per the SHPO, "project development in this area should avoid impacting the historical elements of this site" (Dennis Gimmestad, SHPO – Review and Compliance Officer, to Jerry LePage, MCDA, letter, April 23, 2001, on file at the SHPO) (Figure 30).



Two Pines Resource Group, 06/03/11

JOHN ORTH BREWING COMPANY (21HE318)
 ARCHAEOLOGICAL INVESTIGATIONS
 MINNEAPOLIS, HENNEPIN COUNTY, MINNESOTA



AREA OF ARCHAEOLOGICAL CONCERN
 FIGURE 30

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